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Via E-mail and Federal Express

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RE: Targa Terminals Tentative Determination to Issue Permit to Construct Premises No. 510-3645; Docket No. 04-14

Dear Ms. Heafey:

Thank you for opportunity to comment on the Maryland Department of the Environment's ("MDE's") tentative determination to issue a Permit to Construct ("Draft Permit") to Targa Terminals, LLC ("Targa") for the addition of crude oil storage and crude oil marine vessel loading capability at Targa's existing petroleum shipment and storage terminal located at 1955 Chesapeake Avenue, Baltimore, Maryland 21226 ("Terminal" or "Targa Terminal"). These comments are submitted by the Environmental Integrity Project ("EIP"), Chesapeake Climate Action Network ("CCAN"), Chesapeake Bay Foundation, and Sierra Club ("Commenters"). We appreciate MDE's efforts to make this permit process transparent to the public, including holding a public hearing on the Tentative Determination and Draft Permit, issuing a Fact Sheet and Draft Permit for public review, and making available documents relating to the application.

Introduction

Commenters have many concerns regarding Targa's proposal to store and ship up to 383 million gallons of crude oil (9.125 million barrels) per year from the Fairfield Peninsula in the Curtis Bay area of South Baltimore.[1] This area is already heavily industrialized and exposed to pollution from multiple sources. Residents experience pollution, noise, safety, and other impacts from the heavy trucks and trains that serve the terminals and other facilities already in the area. If Targa's application is granted, it will be allowed to ship 383 million gallons of crude oil by rail through this area, which could include highly volatile and explosive crude oil from the Bakken

[1] The concerns expressed herein by Commenters are widely shared. In addition to the present comment letter and statements made at the December 1, 2014 public hearing on MDE's Tentative Determination, at least 336 Maryland residents, including 298 Baltimore City residents, have signed onto an abbreviated version of these comments.

shale of North Dakota. Such trains have been known to leak benzene, which is a carcinogen. Targa will also be permitted to transport up to 7,686,000 gallons per year of non-crude petroleum products by truck[2] through this area. Although we recognize that MDE has limited authority to consider truck, train, and ship emissions in its review of this application, this fact should lead MDE to look very closely at the emissions over which it does have authority.

Commenters are also extremely concerned about Targa's request to be treated, for regulatory purposes, as a "synthetic minor source." A synthetic minor source is one that avoids compliance with important Clean Air Act requirements for "major" pollution sources because the operator accepts permit limits intended to keep the facility's potential emissions below "major source thresholds."[3] The distinction between a major source and a minor source is a very important one, especially in Maryland, because of the requirements that are avoided due to minor source status. In order to operate, major sources must obtain a federal Title V operating permit, which is enforceable by citizens and the U.S. Environmental Protection Agency (EPA), and must require pollution monitoring that assures compliance with permit limits. In addition, Title V permits must be renewed every five years, and the public has the right to receive notice about these permit renewals and participate in the renewal process. Conversely, for minor sources in Maryland, the public has no right to participate in the permit renewal process, and pollution monitoring requirements need not meet the same strict standards.

For either a new source or a source that modifies its facility, the difference between major and minor source requirements is even starker. A new major source or major modification must undergo close review of the effect that its pollution will have on air quality and the applicant must show that it will install pollution control technology meeting federal Best Available Control Technology (BACT) or Lowest Achievable Emissions Rate (LAER) standards. If the source will produce pollution for which the surrounding area does not meet federal health-based air quality standards (a "nonattainment area"), the applicant must purchase pollution offsets for the nonattainment pollutant and its precursors. However, a new minor source or minor modification is not subject to these requirements.

The two pollutants that the Targa Terminal will produce in the greatest amounts are volatile organic compounds (VOCs) and nitrogen oxides (NO_x), which are the two pollutants that contribute to ground-level ozone, or smog. Ozone can worsen symptoms of respiratory diseases such as asthma, and Baltimore is currently designated as a nonattainment area for ozone. Targa's potential VOC and NO_x emissions are, depending on which numbers one relies upon from its application, either just below or over the major source thresholds for NO_x and VOC. For all of these reasons, MDE must take a very close look at the representations made by Targa with respect to potential VOC and NO_x emissions from the Terminal and whether permit conditions will ensure that potential emissions are below major source thresholds.

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[2] Draft Permit at 10 (setting truck loading throughput of 6,300,000 gallons per year for asphalt and 1,386,000 gallons per year for residual fuel oils, distillate fuel oils, and heavy distillates).

[3] Fact Sheet at 2.

Project Background

Targa purchased the Terminal from Chevron in 2011.[4] It has received permit approval to make a number of changes to the Terminal since that time and is now seeking approval for more changes. The equipment for which the Terminal is currently permitted are: (1) a marine loading rack for loading liquid asphalt, No. 6 fuel oil, diesel, and various grades of distillates and fuel oils; (2) a rail unloading rack for asphalt;[5] (3) a two-lane truck loading rack for asphalt; (4) six storage tanks with a combined capacity of 21.02 million gallons; (5) two natural gas heaters for heating oil; and (6) a natural gas boiler.[6]

The changes for which Targa currently seeks approval are as follows:

For crude oil:

- Add crude storage capability to two existing storage tanks (601 and 602), each capable of storing 6.3 million gallons, and install internal floating roofs on these tanks;
- Add rail unloading capability for crude oil to the existing rail unloading rack;
- Add crude oil loading capability to the existing marine loading rack and install a marine vapor combustion unit (MVCU) to control emissions from marine loading of crude oil (but not other petroleum products, which, according to Targa, lack the proper heat content for their vapors to be burned in the MVCU). The MVCU will be equipped with two burners, each rated for 40.9 MmBtu/hr; and
- Install additional piping at the rail unloading rack to handle crude oil and fuel oil.

For other petroleum products:

- Install a boiler rated 9.97 MMBtu/hr to the rail unloading rack to heat asphalt for rail unloading;
- Add the capability to load fuel oil, different grades of distillates and fuel oils, and heavy distillates, via the existing truck loading rack with combined throughput of 33,000 barrels per year; and
- Remove a 1,000 gallon diesel storage tank (151) from service.[7]

Of these changes, MDE notes in the Fact Sheet that a permit to construct is required only for the addition of crude oil storage and crude oil marine vessel loading capability at the Terminal. The other proposed changes "do not separately require a permit to construct but are included as part of the permit modification because Targa . . . has requested limits on the throughput of these materials so that premises wide emissions of [VOC] will be less than the major source threshold of 25 tons of VOC per year."[8]

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[4] Sky-High Terminal Price Deal Turn Heads, After Valuations, TankTerminals.com, available at https://www.tankterminals.com/news_detail.php?id=1433.

[5] It appears that the rail unloading rack for asphalt and truck loading rack for asphalt are allowed without a permit pursuant to a permit exemption. See Targa February 21, 2014 Permit to Construct Application ("February 2014 Application") at 1-1.

[6] February 2014 Application at 1-1; Fact Sheet at 1-2.

[7] August 26, 2014 Revisions to Application ("August 2014 App. Revisions") at 1-1. Attached hereto as Appendix A.

[8] Fact Sheet at 2.

The proposal set forth in Targa's initial February 2014 Application was revised several times before MDE issued the Tentative Determination and Draft Permit. MDE's fact sheet states that application revisions and amendments were received on March 31, 2014; June 20, 2014; June 28, 2014; July 8, 2014; and August 26, 2014.[9] A complete set of revised application materials was never submitted by Targa. Instead, revisions to the application were made in a piecemeal fashion. On August 26, 2014, Targa submitted certain revised pages of its application that appear intended to address all proposed changes up to that point. Commenters' statements refer to the August 26, 2014 information and calculations, unless the information referred to was submitted by Targa in an earlier set of materials and never updated.

I. MDE Should Require Targa to Maintain and Submit Records to MDE that Show the Monthly Throughput of Crude Oil for Rail Unloading, Marine Loading, and Tank Storage, and Identify the Origin of the Crude Oil

As mentioned by numerous residents of Baltimore City at the public hearing on the Tentative Determination on December 1, 2014, there is significant public concern about Targa's proposal to ship crude oil, which could include explosive Bakken crude oil, by train through Baltimore communities on its way to the Terminal. The shipment of crude oil from the Canadian tar sands presents another set of concerns because it is extremely difficult to clean up when spilled in water. If a spill were to occur from a marine vessel transporting tar sands oil, this could cause substantial damage to the fragile ecosystems of Baltimore Harbor and the Chesapeake Bay.

Additionally, the origin of the crude oil influences the amount of VOCs that it will emit. Bakken crude is more volatile, and, therefore, contributes to greater VOC emissions. For all of these reasons, Targa should be required to submit records to MDE on a monthly basis showing monthly throughput of crude oil for rail unloading, tank storage, and marine vessel loading. It should further be required to identify the origin of the crude oil and to state how many gallons per month are Bakken crude oil and Canadian tar sands crude oil. Commenters also respectfully request that MDE consider setting permit limits for Bakken crude throughput and tar sands crude throughput at the Terminal.

II. MDE May Not Issue a Synthetic Minor Permit That Limits Emissions on a Premises-Wide Basis Without Explaining That Decision and Making Facility-Wide Emissions Figures Available in Its Fact Sheet

MDE's Fact Sheet does not explain MDE's decision to treat the Targa Terminal as a synthetic minor source of air pollution and does not include any information on MDE's calculations of facility-wide emissions or applicable thresholds. MDE must revise its Fact Sheet to explain this determination and re-issue the Fact Sheet and Draft Permit for public review.

When MDE issues a tentative determination to issue a permit to construct, it must provide a "brief explanation of the Department's tentative determination."[10] Here, MDE is not only authorizing Targa to make the modifications for which approval is requested. It is also

[9] Fact Sheet at 1.
[10] COMAR 26.11.02.11(H)(3); Md. Code Ann., Environ., § 1-604(a)(i)(iii).

proposing to issue a permit that governs emissions from the Terminal as a whole, which, if finalized in its current form, will allow Targa to avoid the obligation to obtain a Title V Permit. The Draft Permit sets a premises-wide VOCs limit for the Terminal, to which the Terminal is already subject in an existing permit to construct, and establishes a new facility-wide limit on NO_x emissions. The Draft Permit expressly states that "[c]ompliance with the[] premises wide emission limits [for VOC and NO_x] precludes applicability of major New Source Review (NSR) requirements, federal Title V- Part 70 Operating Requirements, and the Marine Vessel Loading VOC requirements of COMAR 26.11.13.18."[11]

However, there is no discussion of how MDE reached the conclusion that these limits are sufficient to keep potential emissions below major source thresholds. This is particularly problematic because, as discussed in Section IV below, MDE has calculated potential emissions from the proposed modification as being higher than the emissions calculated by Targa. When MDE's numbers for emissions from the proposed changes to the Terminal are added to Targa's numbers for emissions from existing equipment, the total Terminal emissions are over major source thresholds for both VOC and NO_x. However, citizens have no way of knowing why this is and whether it renders the Draft Permit a "sham permit"[12] or whether there is a sufficient explanation because MDE has not explained its decision to permit the Terminal as a synthetic minor source. MDE must revise the Fact Sheet to include an explanation of its decision to permit the Targa Terminal as a synthetic minor source of air pollution and re-issue the Fact Sheet and Draft Permit.

III. The Modification for Which Targa Seeks Approval is Substantially Related to Other Recent Changes to the Terminal and Cannot be Reviewed as a Separate Modification for Purposes of New Source Review

Targa has improperly submitted separate permit applications for changes that must all be considered part of the same modification. MDE must review all changes to the Terminal that are substantially related to one another as one modification for purposes of NSR. At the very least, the changes to the Terminal that were permitted on August 6, 2013 and all subsequent changes to the Terminal up to the present date must be reviewed as one modification because they are substantially related. If any additional permit approvals have been sought since Targa purchased the Terminal in 2011, those changes must also be considered part of the same modification.

The D.C. Circuit case known as New York II[13] holds that the definition of modification requires "EPA [to] apply NSR whenever a source conducts an emission increasing activity that fits within one of the ordinary meanings of 'physical change.'"[14] Because "[s]ubstantially related, nominally separate changes can be seen as one change when viewed as a whole," the EPA views "[a]ggregation of nominally separate changes that are substantially related as

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[11] Draft Permit at 10.

[12] See discussion of "sham" synthetic minor source permits. "[W]here EPA can demonstrate an intent to operate the source at major source levels, EPA considers the minor source construction permit void ab initio and will take appropriate enforcement action to prevent the source from constructing or operating without a major source permit." EPA, Limiting Potential to Emit (PTE) in New Source Review (NSR) Permitting, available at http://www.epa.gov/reg3artd/permitting/limitPTEmmo.htm.

[13] State of New York v. EPA, 443 F.3d 880, 890 (DC Cir. 2006), cert. den. 127 S. Ct. 2127 (2007).

[14] 443 F.3d at 885.

'fit[ting] within one of the ordinary meanings of physical change.'" Thus, aggregation is required if a collection of projects are "substantially related."[15]

Targa possesses, and claims to be currently operating under,[16] a permit to construct issued on August 6, 2013, which treats the Terminal as a synthetic minor source for VOCs by setting a premises-wide VOC emission limit.[17] Commenters have an application from Targa dated July 2013 that requests a permit to construct to use the marine loading rack for No. 6 fuel oil.[18] Targa's July 2013 Application is attached hereto as Appendix B.[19] The July 2013 Application does not mention the Terminal's synthetic minor status or seek any synthetic minor emissions limit. Presumably, Targa agreed to accept the 25 tpy premises-wide VOCs limit at some point between submitting the July 2013 Application and the issuance of the August 6, 2013 Permit to Construct.

Approximately seven months after submitting the July 2013 Application, Targa submitted the current application, requesting a permit to add crude oil handling capability to the marine loading rack, to install an emissions control unit on the marine loading rack, and to make a number of additional changes to the Terminal, such as installation of a heater to "heat asphalt to the required temperature for rail unloading."[20] In the interim, on January 31, 2014, Targa sought confirmation from MDE that that it could install rail unloading capability for asphalt at the Terminal, which it received on February 6, 2014.[21]

These changes are all substantially related to one another and must be treated as part of the same modification for NSR purposes. A handout provided by Targa at the December 8, 2014 public hearing on the Tentative Determination further reinforces this fact. That handout states:

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[15] Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Aggregation; Reconsideration, 75 Fed. Reg. 19571 (April 15, 2010) (to be codified at 40 CFR pt. 51 and 52).

[16] It is unclear whether Targa is, as it claims, operating the existing Terminal equipment at present. If it is not, and the Terminal has been inactive for some time, it may be necessary to consider the Terminal as a new source instead of a modified source. As of June 2, 2014, Targa did not have a permit to operate for the terminal, which it must have in order to operate. COMAR 26.11.02.13(A) states that "a person may not operate or cause to be operated any of the following sources without first obtaining, and having in current effect, a State permit to operate as required by this regulation . . . (60) A source for which the owner or operator requests a State permit to operate in order to make the permit federally enforceable under Regulation .03 of this chapter. On May 3, 2014, EIP Attorney Leah Kelly requested information from MDE under the Maryland Public Information Act, including Targa's permit to operate the Terminal and any emissions certification reports (ECRs) filed for emissions from the Terminal since January 1, 2009. In response, MDE stated that "Targa Terminals is still in the process of working to obtain a Permit to Operate. There are no Emissions Certifications available, neither Targa Terminals or Chevron were required to submit ECRs for this facility." June 2, 2014 email from Daniel P. Davis, MDE ARMA PIA Liaison, to Leah Kelly (Appendix C).

[17] August 2014 App. Revisions at 1-1 ("Targa currently operates the following equipment at the Baltimore Terminal.").

[18] It appears that Targa also contemplated using the marine loading rack for other materials but a permit to construct was required only for marine shipment of No. 6 fuel oil.

[19] Commenters received Targa's August 6, 2013 Permit to Construct just before these comments were submitted. The August 6, 2013 Permit to Construct is attached hereto as Appendix L.

[20] February 2014 Application at 1-1.

[21] Id.

In late 2011, Targa purchased what was once part of the old Chevron Fairfield refinery and terminal. At the time of the purchase, the refinery was shut down and dismantled and the terminal tankage remained. Targa continued employment for all of the former Chevron employees, began a master plan of revitalization, and implemented a complete facility upgrade for safety and operations.

After an initial investment of millions of dollars, Targa is now seeking regulatory approval for an air emissions permit to expand operations and grow our business in Baltimore. Specifically, Targa proposes the following:

- Install a new modern rail terminal to allow offloading of crude oil and various grades of fuel oil
- Install equipment to facilitate loading of various grades of fuel oil to trucks
- Install new technology to reduce emissions during marine loading by 99%
- Repurpose two existing storage tanks, including installing modern emissions controls.[22]

This language makes it clear that all of these changes are part of one project and may not be reviewed separately for NSR purposes. MDE must consider the aggregate emissions from the changes permitted on August 6, 2013 and all subsequent proposed changes through the present application when determining whether this constitutes a minor modification under the Clean Air Act. This will be even more important if Targa continues to seek modifications that gradually increase facility emissions while attempting to avoid Clean Air Act major source requirements by relying on synthetic minor emission limits.

IV. The Targa Terminal is Not a Synthetic Minor Source for NO_x or VOC, and MDE Must Remove the Premises-Wide NO_x and VOC Limits from the Draft Permit and Require Targa To Obtain a Title V Operating Permit

Emissions information submitted by Targa show that facility-wide emissions after the modification will be over major source thresholds for VOC and NO_x. Therefore, MDE may not issue a permit with premises-wide limits for these pollutants and may not exempt Targa from the requirement to obtain a Title V Permit.

A major source is defined as follows:

> 'Major source' means a stationary source or group of stationary sources that are located on one or more contiguous or adjacent properties, and are under common control of the same person, or persons under common control, belonging to a single major industrial grouping and that is described as follows:
>
> (c) . . . [A]ny stationary source which emits or has the potential to emit:
> (i) 25 tons per year or more of VOC or NO_x for sources located in Baltimore City.[23]

[22] Targa Public Hearing Handout (Appendix D).
[23] COMAR 26.11.02.01(C) (emphasis added).

"Potential to emit" (PTE) is defined as follows:

> (a) [PTE] means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design.
> (b) Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design only if the limitation or the effect it would have on emissions is federally enforceable.[24]

A. Potential VOC Emissions from the Terminal are Over The Major Source Threshold of 25 Tons Per Year

The major source threshold for VOC in Baltimore City is 25 tpy.[25] According to emissions information submitted by Targa, the Terminal will no longer be a synthetic minor source of VOCs after the modification. MDE has determined that the potential VOC emissions from the current proposed modification are 8.3 tpy.[26] Targa's number for the current modification is slightly lower, at 8.18 tpy. As discussed in Section V below, Commenters believe that MDE and Targa have failed to account for certain emissions sources that must be included in the modification. However, assuming *arguendo* that MDE's number is correct, in order to ensure potential facility emissions of 24.99 tpy or less, the potential emissions not included in the modification would have to be 16.69 tpy or less. This does not appear to be the case.

According to emissions information submitted by Targa, potential emissions from already permitted equipment are as follows:

- The three tanks not included in the "modification" – 603, 605, and 11 – have the potential to emit 10.78 tpy of VOCs. Tanks Emissions Summary, Page 2 of 19, Appendix A to February 2014 Application (Appendix E).
- Potential VOC emissions from marine loading of No. 6 fuel oil, the petroleum product with apparently the second highest VOCs content after crude oil, at maximum permitted throughput are 4.95 tpy. Loading Rack Emissions, Aug. 2014 App. Revisions (Appendix A).
- Potential VOC emissions from the two existing heaters are 0.65 tpy. Existing Heaters, Page 9-10 of 19, February 2014 Application (Appendix E).
- Potential VOC emissions from the existing boiler are 0.19 tpy. Existing Boiler, Pages 11-12 of 19; Total Existing Heaters & Boilers, Page 13 of 19, February 2014 Application (Appendix E).

[24] COMAR 26.11.17.01(B)(21); see 40 C.F.R. § 52.21(b)(4); 40 C.F.R. § 51.165(a)(iii).
[25] COMAR 26.11.02.01(C)(c)(i).
[26] Fact Sheet at 6.

- Potential VOC emissions from existing emission leaks are 0.286 tpy. Component Count – Existing, Page 5 of 19, February 2014 Application (Appendix E).[27]

Thus, the total potential VOC emissions from Terminal equipment that is not part of the current modification are 16.856 tpy. When added to MDE's number for the current modification, the total is 25.156 tpy, which is over the major source threshold. The total Terminal emissions are also over the 25 tpy threshold when using Targa's calculation of emissions from the modification: 8.18 tpy. Thus, the modified Terminal will be a major source for VOC. MDE may not include a premises-wide 25-tpy limit in the Permit and must require Targa to obtain coverage under a Title V Operating Permit.

B. Potential NO_x Emissions from the Terminal are Over The Major Source Threshold of 25 Tons Per Year

The major source threshold for NO_x in Baltimore City is 25 tpy.[28] The most recent set of emission calculations submitted by Targa, in the August 2014 App. Revisions, identifies the following for NO_x: 15.36 tpy of emissions from the current Terminal equipment, 8.95 tpy of emissions from modification, and 24.31 tpy of emissions from the post-modification Terminal. However, MDE's Fact Sheet states that potential NO_x emissions from the modification are 10.1 tpy.[29] When this number is added to Targa's calculation of existing facility emissions, the total NO_x emissions are 25.46 tpy. This is over the major source threshold for NO_x in Baltimore City, and the Terminal cannot be permitted as a synthetic minor source. MDE must revise the Draft Permit to remove the 25 tpy limit and must require Targa to obtain coverage under a federal Title V Operating Permit.

C. A Premises-Wide Emissions Limit is Not Sufficient, By Itself, to Render a Facility a Synthetic Minor Source

As discussed above, based on potential emissions numbers provided by Targa, the operational and throughput limits included in the Draft Permit are not sufficient to render the Terminal a synthetic minor source for VOC or NO_x. MDE may not treat the Terminal as a synthetic minor source solely on the basis of premises-wide emission limits for these pollutants. In order for a synthetic minor limit to be valid, it must be not only federally enforceable but also "enforceable as a practical matter…A permit requirement may purport to be federally enforceable, but, in reality cannot be federally enforceable if it cannot be enforced as a practical matter." [30] Blanket emission limits are not sufficient to limit PTE below major source thresholds. As EPA notes on its "Limiting PTE" webpage:

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[27] Commenters are aware that a number of application revisions were submitted since Targa's initial application in February 2014. Commenters have reviewed the additional information submitted by Targa and found no revised emissions calculations for existing equipment leaks, existing heaters, existing boiler, or tanks 603, 605, and 11. Each time it revises an application, Targa should be required to submit an updated table that accounts for all potential Terminal emissions, before and after the proposed modification, and does not omit important VOCs data from the summary emissions table as it does in Table 2-2 of the Aug. 2014 App. Revisions (Appendix A).

[28] COMAR 26.11.02.01(C)(c)(i).

[29] Fact Sheet at 6.

[30] EPA, Limiting Potential to Emit (PTE) in New Source Review (NSR) Permitting, at http://www.epa.gov/reg3artd/permitting/limitPTEmmo.htm (citing United States v. Louisiana-Pacific Corp., 682 F.

In United States v. Louisiana-Pacific Corporation, 682 F. Supp. 1122 (D. Colo. Oct. 30, 1987) and 682 F. Supp. 1141 (D. Colo. March 22, 1988), Judge Alfred Arraj discussed the type of permit restrictions which can be used to limit a source's potential to emit. The Judge concluded that:

...not all federally enforceable restrictions are properly considered in the calculation of a source's potential to emit. While restrictions on hours of operation and on the amount of materials combusted or produced are properly included, blanket restrictions on actual emissions are not.[31]

Thus, MDE may not treat the Terminal as a synthetic minor source.

V. MDE and Targa Have Not Included Certain Required Emissions in PTE Calculations

As stated above, Commenters do not have MDE's premises-wide calculations for the Targa Terminal as that information was not provided in the Fact Sheet. However, based on the emissions information that Targa submitted with the application, it appears that potential emissions from certain sources were not included when calculating the Terminal's potential to emit.

A. MDE May Not Calculate Emissions from Marine Loading of Crude Oil Based on 100 Percent Capture Efficiency of the MVCU Without Requiring Additional Design Information and Revising the Permit to Ensure That the Required Design Criteria are Met

Targa has calculated potential VOC emissions from marine loading of crude oil (the only material for which vapor combustion will be used during marine loading) based on certain assumptions regarding the control efficiency of the Marine Vapor Combustion Unit (MVCU). Specifically, it has assumed a VOC destruction efficiency of 99.9%, in accordance with a vendor guarantee by ABUTEC.[32] Targa also assumes a vapor capture efficiency of 100% in its calculations, "per [the Texas Commission on Environmental Quality's (TCEQ's)] guidance on marine loading."[33] However, 100% capture efficiency may not be assumed without the provision of additional information from the vendor.

The TCEQ guidance cited by Targa, called "Marine Loading Barges and Ships of Crude Oil and Condensate," refers the reader to a separate guidance document in the case of vapor recovery units, which describes a number of design requirements that must be met in order for 100% capture to be assumed when using a mechanical vapor recovery unit (mVRu).[34] However,

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Supp. 1122, 1133 (D. Colo. Oct. 30, 1987). See also United States v. Louisiana-Pacific Corp., 682 F. Supp. 1141 (D. Colo. Mar. 22, 1988).

[31] Id.

[32] "Loading Rack Emissions," Aug. 2014 App. Revision (Appendix A); ABUTEC guarantee (Appendix F).

[33] "Loading Rack Emissions," Aug. 2014 App. Revision (Appendix A).

[34] Id.

assuming that it is proper to refer to TCEQ's guidance on "Marine Loading Barges and Ships of Crude Oil and Condensate," that document also does not permit assumption of 100% capture efficiency without assurance that certain design criteria are met. In that document, TCEQ states:

> 100% capture/collection efficiency [is] recognized only when a blower system is installed which will produce a vacuum in the barge/ship during all loading operations. The blower system should include a pressure/vacuum gauge on the suction side of the loading rack blower system adjacent to the barge/ship being loaded to verify a vacuum in that vessel. Loading shall not occur unless there is a vacuum of at least 1.5 inch water column being maintained by the vacuum-assisted vapor collection system when loading. The vacuum should be recorded every 15 minutes during loading. This information is referenced in the draft TCEQ Guidance Document entitled "Loading Operations" dated October 2000 and the previous version dated January 1995.[35]

As far as Commenters are aware, Targa has not submitted any information showing that these design criteria will be met. Commenters have submitted Public Information Act (PIA) requests for all information associated with this application. These requests elicited only one vendor data sheet for the MVCU, which is attached as Appendix F. This vendor sheet guarantees destruction and removal efficiency (DRE) of 99.9% but does not address capture efficiency, and does not provide any information about the design of the unit. Without significant additional information from the vendor showing that the design requirements discussed above are met, MDE has no basis for accepting 100% capture efficiency in calculations of potential VOC emissions from marine loading of crude oil.

Furthermore, the guarantee sheet provided by ABUTEC does not state which model or type of equipment the emissions guarantee is for. Presumably, the guarantee is for any of ABUTEC's Marine Vapor Control Systems (MVCSs), which are described on its website as follows:

> ABUTEC has carved a niche by providing turnkey MVCS solutions to the midstream sector. This sector typically utilizes our High Temperature Flares (HTF) in conjunction with Berthside Safety Units and Blower Skids, providing the industry's lowest emission vapor combustion solution.[36]

ABUTEC provides a 99.9% control efficiency number for this system on its website. However, Targa's application consistently refers to a Marine Vapor Combustion Unit, not a system, and there is no condition in the Draft Permit requiring Targa to install and operate the ABUTEC MVCS and all of its components. Additionally, in the February 2014 Application, Targa states that the manufacturer of the MVCU will be Jordan Technologies.[37]

MDE must require Targa to submit additional information showing that the MVCU will meet design requirements to ensure that it operates at 100% capture efficiency. Additionally,

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[35] Id. at 2.
[36] ABUTEC, Marine Loading Terminal, at http://abutec.com/products/midstream-oil-gas/marine-loading-terminal/.
[37] New MVCU Emissions – Project, Page 15 of 19, February Application (Appendix E).

MDE must revise the Draft Permit to include conditions ensuring that these detailed and specific requirements will be met on an ongoing basis. [38] Without this, the MVCU cannot be treated as performing at100% capture efficiency for purposes of calculating the Terminal's permit to emit. The MVCU "may be treated as part of [the Terminal's] design only if the limitation or the effect it would have on emissions is federally enforceable."[39]

B. MDE Must Include Emissions from Equipment Startup, Shutdown, Malfunction, and Maintenance Events in PTE Calculations or Revise the Draft Permit to Prohibit Emissions During These Events

Targa's application materials do not appear to provide any information regarding startup, shutdown, malfunction, or maintenance emissions from the MVCU, tanks, or any other equipment at the Terminal, with the possible exception of the existing heaters and the existing boiler. It is possible that there will be no excess emissions during these events from any other equipment or that these emissions are already accounted for in the existing PTE calculations provided by Targa. However, given that Targa is requesting to be permitted as a synthetic minor source for NO_x and VOCs in an ozone nonattainment area, and that potential emissions already appear to be over major source thresholds for both pollutants, MDE should seek written confirmation from Targa of this fact. If no additional emissions are expected during these activities, then MDE should revise the Draft Permit to include a condition that prohibits emissions of VOC or NO_x during startup, shutdown, malfunction, or maintenance.

This is of particular concern with respect to the MVCU and the storage tanks. The MVCS described on the ABUTEC website relies upon a high temperature flare to control vapor, and flares are often associated with startup, shutdown, and malfunction emissions. Additionally, emissions from tank maintenance appear to be unaccounted for in Targa's application, which relies on EPA's TANKS software program and includes only "working losses, which occur due to vapor replacement during the filling and emptying of the tank, and breathing losses, which are caused by expansion and contraction due to temperature variation."[40] However, in a recent application to TCEQ by CCI Corpus Christi, LLC ("CCI"), tank maintenance emissions are treated as separate from, and in addition to, tank emissions from normal operations calculated using EPA's TANKS 4.09d software.[41] In that application, CCI states the following under a section titled "Planned Maintenance, Startup, and Shutdown (MSS) Emissions":

> Emissions to the atmosphere from planned MSS events will occur from the clearing of equipment and from inspection or cleaning of storage tanks . . . . Isolated vessel and tank vapors will be cleared to control until the VOC concentration inside is ≤10,000 ppmv VOC or 10% of the lower explosive

[38] The Draft Permit includes an Operating and Monitoring Condition 7, which requires the Permittee to "operate the MVCU such that the exhaust gases from the loading of crude oil into marine vessels vent through the MVCU prior to discharging into the atmosphere." Draft Permit at 11. However, this is not sufficient to ensure 100% capture efficiency, it is not identified as a federally enforceable limit as required, and it does not ensure that the design requirements set forth in TCEQ guidance are met.

[39] See COMAR 26.11.17.01(B)(21); 40 C.F.R. § 52.21(b)(4); 40 C.F.R. § 51.165(a)(iii).

[40] February 2014 Application at 2-4.

[41] CCI, Application for an Initial New Source Review Permit and Prevention of Significant Deterioration Permit (Rev. April 2014) ("CCI Application"). Excerpts from the CCI Application are attached hereto as Appendix H.

> limit. Emissions from equipment clearing were calculated using equipment volumes and assuming the entire [condensate splitter phase of the operation] will be shut down three times per year. Emissions from the flare, as a result of the MSS activities, are discussed in Section 3.2.
>
> Emissions from the clearing of floating roof tanks will occur during five distinct processes, as applicable: standing idle (roof landed on legs), cleaning, degassing, forced ventilation, and refilling. Emissions from the clearing of the fixed roof tanks will occur during three processes: cleaning, degassing, and forced ventilation. Emissions for all processes except for forced ventilation and degassing were based on equations from EPA's AP-42 Chapter 7.1, "Organic Liquid Storage Tanks" (November 2006).[42]

Emissions calculation information, which treats tank maintenance emissions separately from emissions calculated using TANKS 4.09d reports, are also included in the CCI Application and attached hereto in Appendix H.

As stated above, it does not appear that Targa accounted for maintenance emissions from tanks in its potential emissions calculations. MDE should require Targa to confirm that its tank emissions calculations include all potential emissions, including those from maintenance activities. If these emissions are not already included, MDE must revise its PTE calculations to account for them or revise the Draft Permit to expressly prohibit them.

C. Potential VOC Emissions from Storage Tanks are Likely Undercounted, and MDE Should Require Site-Specific Emissions Factors for Tanks 601 and 602

Potential VOC emissions from the five storage tanks (601, 602, 603, 605, and 11) that will be permitted at the Terminal after the modification are almost certainly undercounted because Targa based its emissions calculations on EPA's AP-42 factors, which direct monitoring studies have shown drastically undercount VOC emissions from storage tanks. MDE has acknowledged that reference documents show this discrepancy to be especially problematic in the context of volatile grades of crude oil, such as Bakken crude, which may be stored at tanks 601 and 602 at the Targa Terminal. For this reason, MDE should require Targa to submit site-specific emissions factors for tanks 601 and 602.

The existing AP-42 emissions factors for storage vessels drastically underestimate real-world emissions. As part of its recent review of emissions factors for petrochemical facilities, EPA reviewed several studies.[43] Each concluded that emissions from storage vessels emit more VOCs than predicted by emission factors, specifically:

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[42] CCI Application Excerpts at 3-5 (Appendix H).

[43] EPA, DRAFT EPA Review of Available Documents for Developing Proposed Emissions Factors for Flares, Tanks, and Wastewater Treatment Systems, 30 (Aug. 2014), available at http://www.epa.gov/ttn/chief/consentdecree/draft_report_review.pdf.

- The Alberta Differential Absorption Light Detection and Ranging ("DIAL")[44] study "extrapolated VOC emissions for [a] refinery's storage tanks were projected to be 5,090 tonnes/yr compared to 153 tonnes/yr as reported by Canada's National Pollution Release Inventory."[45]
- The BP Texas City DIAL Study[46] found that the measured emissions from storage tanks were generally substantially higher than emission factors would predict. Based on EPA's analysis, DIAL measurements were more than 2 times higher than the estimated amount at 5 out of 8 of the tank groupings. Furthermore, only two of the measurements fell within the estimated range of emissions.[47]
- The Shell Deer Park DIAL Study[48] found that the measured emissions at the storage vessel groups were greater than the estimated emissions 100 % of the time. Moreover, in 6 out of 9 of the data points, the measured emissions were more than the estimated emissions by a factor of ten.

This data demonstrates that the emission factors used to estimate emissions from storage tanks are not accurate and dramatically undercount emissions. Additionally, a more recent study performed using a combination of Solar Occultation Flux ("SOF"), Mobile Differential Optical Absorption Spectroscopy ("Mobil DOAS"), Mobile Extractive Fourier Transform Infrared ("Me FTIR"), and Mobile White Cell DOAS ("MW-DOAS"), found that VOC emissions from storage vessels are about four to eight times higher than what is reported using standard emission factors.[49] Also, emissions testing using temporary total enclosures ("TTE") at the Sprague Operating Resources tank terminal in Searsport, Maine found that measured emissions from two tanks were "much higher than expected, based on Sprague's emission inventory estimates for the years 2006-2009."[50]

MDE has recently acknowledged that certain studies are particularly relevant in the context of crude oil, especially unstable types of crude. Crude oil from the Bakken shale in North Dakota is especially volatile, and Targa has stated that it may store and ship Bakken crude at the Terminal.[51] In response to EIP's comments on the inadequacy of EPA's AP-42 emissions factors for estimating VOC and Hazardous Air Pollutant (HAP) emissions from the Citgo/ARC Petroleum Terminal in Baltimore City, MDE stated: "With regard to storage tanks, the reference

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[44] Allan Chambers and Mel Strosher, Refinery Demonstration of Optical Technologies for Measurement of Fugitive Emissions and for Leak Detection (2006) ("Alberta DIAL Study").
[45] Alberta DIAL Study at 17, tbl. 8.
[46] EPA, Critical Review of DIAL Emission Test Data for BP Petroleum Refinery in Texas City, Texas, EPA 453/R-10-002 (Nov. 2010) ("BP Texas City DIAL Study").
[47] BP Texas City DIAL Study, tbl D.
[48] "Measurement and Analysis of Benzene and VOC Emissions in the Houston Ship Channel Area and Selected Surrounding Major Stationary Sources Using DIAL (Differential Absorption Light Detection and Ranging) Technology to Support Ambient HAP Concentrations Reductions in the Community (DIAL Project) (Jul. 2011) ("Shell Deer Park DIAL Study").
[49] FluxSense, Pilot Study to Quantify Industrial Emissions of VOCs, NO_2, and SO_2 by SOF and Mobile DOAS in the Carson Area, 4, tbl. E1. (Mar. 27, 2014) ("Carson Area SOF Study").
[50] EPA, DRAFT EPA Review of Available Documents for Developing Proposed Emissions Factors for Flares, Tanks, and Wastewater Treatment Systems, 30 (Aug. 2014), available at http://www.epa.gov/ttn/chief/consentdecree/draft_report_review.pdf.
[51] Email from Melanie Roberts, Targa Resources, to Suna Yi Sariscak, Suna Yi Sariscak, Unit Lead Engineer Chemical Unit - Air Quality Permits Program, MDE (June 11, 2014) (Appendix I).

documents[52] indicate that remote sensing technologies have detected greater emissions of VOC and HAP from storage of unstable crude oil or varying grades of crude oil than estimated emission using EPA established emission factors."[53]

For these reasons, MDE should not allow Targa to estimate emissions from tanks 601 and 602, in which Targa would be permitted to install crude oil including volatile Bakken crude, using AP-42 factors. Instead, Targa should be required to estimate monthly emissions from tanks 601 and 602 using site-specific emission factors based on site-specific conditions and applicable monthly parameters.

D. MDE Must Consider Dockside Marine Vessel Emissions in PTE Calculations

MDE and Targa have not considered emissions from marine vessel boilers in PTE calculations for the Terminals. The EPA has stated that emissions produced by external combustion engines on marine vessels while at berth are considered stationary source emissions.[54] In a response to a letter from a permit applicant regarding inclusion of vessel emissions in NSR calculation, EPA has noted that the Clean Air Act's definition of "stationary source" excludes only emissions from internal combustion engines, and "[t]hus, a vessel powered by external combustion engines would be a 'stationary source' for permitting purposes."[55] Furthermore, EPA stated that, while "to and fro" emissions from marine vessels are properly treated as non-stationary source emissions,

> We . . . intend to consider . . . the emissions from activities in support of the port's function – i.e., those related to processing and transferring gas at the port, regardless of whether they occur on the metering platform or on marine vessels propelled by external combustion engines, as stationary emissions of the port for [Clean Air Act] Title I and Title V purposes. The nature of controls, if any, EPA will propose to impose on those emissions will be reflected in a draft preconstruction/Title V permit.[56]

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[52] EIP cited to the following documents in its comments on the Citgo/ARC Terminal Permit: (1) a U.S. EPA Technical Memorandum (EPA Docket No. EPA-HQ-OAR-2003-0146); (2) the Shell DIAL Study; (3) Alex Cuclis, Why Emission Factors Don't Work at Refineries and What to do about it, Presentation/Paper for the EPA at the Emissions Inventory Conference in Tampa, Florida on August 13-16, 2012; (4) EPA, Critical Review of DIAL Emissions Test Data for BP Petroleum Refinery in Texas City, Texas, EPA 453/R-10-002, ES-2, Table 1 (Nov. 2010); and (5) Emissions Estimation Protocol for Petroleum Refineries (Submitted by RTI International to EPA office of Air Quality Planning and Standards) (Version 2.1.1 -- May 2011).

[53] MDE Air and Radiation Management Administration (ARMA) Response to Public Comments to the Draft Part 70 Operating Permit Renewal for the Citgo/Arc Terminal (Permit No. 24-510-0119) (Nov. 12, 2014) (Appendix J).

[54] Letter from Charles J. Sheehan, Regional Counsel, U.S. EPA Region VI, to Michael Cathey, Managing Director, El Paso Energy Bridge Gulf of Mexico, L.L.C at 9 (October 28, 2003) (Appendix K).

[55] Id. at 9.

[56] Id. at 10; see also EPA New Source Review Workshop Manual ("NSR Manual") at A.18 ("As a result of a court decision in NRDC v. EPA, 725 F.2d 761 (D.C. Circuit 1984), emissions from vessels at berth ("dockside") [sic] not to be included in the determination of secondary emissions but are considered primary emissions for applicability purposes."); Texas Commission on Environmental Quality (TCEQ) Air Permit Reviewer Reference Guide, Major New Source Review – Applicability Determination (APDG 5881) ("TCEQ NSR Guide") ("Certain emissions from ships and barges located at berth are considered to be primary emissions and must be included in the PTE determination. These emissions include . . . the emissions from the ship's boilers used to support the transfer of materials between the vessel and shore facilities while the ship is docked.") (Emphasis added).

Targa fails to account for emissions from marine vessel boilers in its application. MDE must require Targa to submit information on all anticipated marine vessel boiler emissions and to include dockside emissions in the PTE calculations. At the very least, such emissions must be included in the PTE calculations if they are generated by external combustion engines.

E. It Is Unclear Whether Emissions from Rail Unloading Were Considered in PTE Calculations

It is also unclear whether rail unloading emissions were considered in PTE calculations. It appears that these may be accounted for as emissions from "equipment leaks." MDE should clarify whether rail unloading emissions have been accounted for in PTE calculations.

VI. MDE Must Revise the Draft Permit to Include Throughput Limits for Storage Tanks and Rail Unloading

The Draft Permit includes throughput and/or operational limits only for marine loading and truck loading.[57] There are no limits at all in the Draft Permit for tanks (including tanks 601 and 602 to which crude storage capacity is being added) or rail unloading facilities, and it does not appear that these limits exist elsewhere. However, it appears that throughput may have been used to calculate potential emissions from rail unloading and storage tanks. If that is the case, then these limits were part of MDE's determination that potential VOC and NO_x emissions are below major source thresholds, and MDE must revise the Draft Permit to include throughput limits for tanks and rail unloading. Otherwise, those limits are not federally enforceable and may not "be treated as part of [the Terminal's] design" for purposes of determining PTE."[58]

VII. MDE Must Revise the Draft Permit to Identify Throughput and Operational Limits As Federally Enforceable

As stated above, blanket emission limits, such as the premises-wide emission limits on NO_x and VOC in the Draft Permit, are not sufficient by themselves to limit PTE below major source thresholds. However, the premises-wide NO_x and VOC limits are the only limits in the Draft Permit that are identified as being "based upon applicable requirements of the Clean Air Act," making them federally enforceable.[59] MDE must revise the Draft Permit to make federally enforceable all limits that Targa must meet in order to keep PTE below major source thresholds, including all throughput limits and limits on operating hours.

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[57] Draft Permit at 10, 11.

[58] See COMAR 26.11.17.01(B)(21); 40 C.F.R. § 52.21(b)(4); 40 C.F.R. § 51.165(a)(iii).

[59] COMAR 26.11.02.03(B) ("Conditions of a permit to construct are federally enforceable if the conditions are based upon applicable requirements of the Clean Air Act.").

VIII. MDE Must Require Targa to Seek a Permit Revision or a new Permit to Construct in Order to Change Certain Permit Conditions Including Throughput Limits and Operating Hour Restrictions

There are numerous limits in the Draft Permit which it appears that Targa can seek to change in the future without requesting a permit revision. For example, Operating and Monitoring Condition 4 states:

> Loading throughput at the premises shall be less than the following limits in any rolling 12-month period unless the Permittee can demonstrate, to the satisfaction of the Department, that premises wide emissions of VOC are less than 25 tons in any rolling 12-month period at higher loading throughput rates:
>
> (a) Total crude oil loaded into marine vessels: 383,250,000 gallons
> (b) Total asphalt, residual fuel oil, distillate fuel oils, and heavy distillates loaded into marine vessels: 76,000,000 gallons
> (c) Total residual fuel oils, distillate fuel oils, and heavy distillates loaded into trucks,: 1,386,000 gallons
> (d) Total asphalt loaded into trucks: 6,300,000 gallons[60]

Text similar to that underlined above is also in the Draft Permit Condition limiting the operating hours for marine loading. In fact, the only limits for which this text is not inserted into the Draft Permit conditions is Operating and Monitoring Condition 3, which establishes the premises-wide NO_x and VOC limits.

These limits were used to calculate PTE and are being claimed as a basis for allowing Targa to avoid Clean Air Act requirements for major sources. MDE may not relax them in the future without allowing for public review of that decision. Additionally, the application and Draft Permit already raise numerous concerns with respect to how MDE can ensure that Targa is truly a synthetic minor source. MDE should not compound them by allowing Targa to seek future changes to throughput and hourly operating limits, which are supposed to be federally enforceable, without seeking a permit revision or new permit to construct. A situation in which a source accepts a synthetic minor operating limit that it later seeks to raise is precisely the type of situation about which EPA is concerned with respect to "sham permits." EPA states:

> When a source that is minor because of operating restrictions in a construction permit later applies for a relaxation of that construction permit which would make the source major, Section 52.21(r)(4) prescribes the methodology for determining best available control technology (BACT). However, it does not foreclose EPA's ability, in addition to the retroactive application of BACT and other requirements of the PSD program, to pursue enforcement where the Agency believes that the initial minor source permit was a sham. EPA will limit its activity to requiring application of 40 CFR 52.21(r)(4) only for the cases where a source legitimately changes a project after finding that the operating restrictions which were taken in

[60] Draft Permit at 10. (Emphasis added).

good faith cannot be complied with. Whether a source has acted in good faith is a factual question which is answered by available evidence in the particular case.[61]

MDE must delete the language allowing Targa to seek future changes to throughput and operational limits without seeking a permit revision or new permit to construct.

IX. MDE Should Require Direct Monitoring of Emissions from Tanks 601 and 602 as well as More Frequent Inspections of Those Tanks to Identify Gaps and Leaks

As stated above, EPA emissions have been shown to drastically undercount emissions from storage tanks, and this is particularly problematic in the case of volatile forms of crude oil, like Bakken crude, which Targa will be permitted to ship and store.

In 2011, presumably due to the inability of emission factors to yield reliable emissions information, EPA — after notice and comment — issued a guidance document that ranked direct measurement as the most accurate method for estimating emissions from storage tanks.[62] EPA listed emission factors as a less accurate method for estimating emissions from storage tanks.[63] At the same time, EPA specifically stated, when estimating emissions using the AP-42 factors, "[e]ach tank should be modeled individually using site-specific conditions" and that "storage tanks should be modeled using monthly parameters, including monthly measured tank liquid temperatures, when available."[64]

MDE should revise the Draft Permit to require direct monitoring of VOCs from storage tanks 601 and 602. If direct monitoring is considered impracticable, MDE should explain why this is the case and require Targa to (1) estimate monthly emissions using site-specific emission factors, with each tank being modeled individually using site-specific conditions and applicable monthly parameters; and (2) verify accuracy of VOC emissions estimates at least quarterly using remote sensing monitoring technologies like DIAL or SOF.[65] As an interim measure, until Targa develops site-specific emission factors, MDE should revise the Draft Permit to identify the specific emission factors the Terminal uses to calculate emissions to determine compliance and specifically require adequate monitoring and recordkeeping of process data necessary to use the provided emission factors.

MDE should also revise the Draft Permit to include monitoring requirements pertaining to the equipment and seal requirements for Tanks 601 and 602. Visual inspections are required

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[61] EPA, Limiting Potential to Emit (PTE) in New Source Review (NSR) Permitting, available at http://www.epa.gov/reg3artd/permitting/limitPTEmmo.htm.

[62] Emissions Estimation Protocol for Petroleum Refineries (Submitted by RTI International to EPA office of Air Quality Planning and Standards) (Version 2.1.1 -- May 2011) at 3-1, available at http://www.epa.gov/ttn/chief/efpac/protocol/Emission_Estimation_Protocol_for_Petroleum_Refinerie_052011.pdf

[63] Id. at 3-2.

[64] Id. at 3-2, 3-3.

[65] See EPA, VOC Fugitive Losses: New Monitors, Emission Losses, and Potential Policy Gaps (Oct. 25-27, 2006), available at http://www.epa.gov/ttnchie1/efpac/documents/wrkshop_fugvocemissions.pdf (discussing benefits of DIAL and SOF monitoring technology).

only annually and internal inspections are required once every 10 years.[66] Poor maintenance and environmental conditions cause storage tanks to leak large amounts of VOC and HAP emissions. For example, wind and rain will likely cause an increase in emissions if tank roofs shift or standing water collects on a floating roof. Thorough and routine inspections are required to ensure that equipment and seals are functioning properly and dangerous emissions are safely contained.

The Permit should include requirements for more frequent inspections of tanks, and Targa should be required to use technology like Passive Optical Gas Imaging regularly to identify gaps and leaks. Accordingly, we request that MDE revise the Draft Permit to include the following minimum monitoring requirements for the equipment and seal requirements for these tanks: (1) visual inspection at least twice per year and (2) quarterly use of Passive Optical Gas Imaging or similar technology to identify gaps and leaks.

X. MDE Should Require Targa to Install Geodesic Domes on Tanks 601 and 602 to Reduce VOC Emissions

Geodesic domes should be required at the Terminal to reduce VOC emissions at tanks 601 and 602. Geodesic domes have been used and/or required for petroleum storage tanks owned by ExxonMobil, Phillips 66, ConocoPhillips and CITGO.

Geodesic domes are BACT for the Targa facility: they are feasible, effective, and widely used. In the United States, more than 10,000 aluminum geodesic domes have been installed on petrochemical storage tanks.[67] By using geodesic domes on their storage tanks, the ExxonMobil Torrance Refinery reduced VOC emissions by 80%.[68] ExxonMobil explains: "These domes, installed on tanks that are used to store gasoline and other similar petroleum-derived materials, help reduce VOC emissions by blocking much of the wind that constantly flows across the tank roofs, thus decreasing evaporation from these tanks."[69]

When Phillips 66 proposed to increase its storage capacity at its Los Angeles Carson Refinery, external floating roof tanks with geodesic domes were required for crude oil with an 11 Reid vapor pressure (RVP).[70] ConocoPhillips added a geodesic dome to an existing oil storage tank at its Wilmington Refinery to satisfy BACT.[71] Chevron proposes[72] to use domes on several

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[66] Draft Permit at 10.

[67] M. Doxey and M. Trinidad, Aluminum Geodesic Dome Roof for Both New and Tank Retrofit Projects, Materials Forum, v. 30, 2006.

[68] Torrance Refinery: An Overview of our Environmental and Social Programs, 2010, p.1, available at: http://www.exxonmobil.com/NA-English/Files/About_Where_Ref_TorranceReport.pdf.

[69] Id.

[70] See, e.g., Phillips 66 Los Angeles Refinery Carson Plant – Crude Oil Storage Capacity Project, September 6, 2013, Table 1-1, Draft Negative Declaration, available at http://www.aqmd.gov/docs/default-source/ceqa/documents/permit-projects/2014/draftnd-p66storage.pdf?sfvrsn=2.

[71] South Coast Air Quality Management District (SCAQMD) Letter to G. Rios, December 4, 2009, available at http://yosemite.epa.gov/r9/air/epss.nsf/e0c49a10c792e06f8825657e007654a3/e97e6a905737c9bd882576cd0064b56a/$FILE/ATTTOA6X.pdf/ID%20800363%20ConocoPhillips%20Wilmington%20-%20EPA%20Cover%20Letter%20%20-AN%20501727%20501735%20457557.pdf.

[72] City of Richmond, Chevron Refinery Modernization Project, Environmental Impact Report, Volume 1: Draft EIR, March 2014 (Chevron DEIR) and Volume 3: Final EIR, available at http://chevronmodernization.com/project-documents/.

existing tanks to mitigate VOC emission increases at its Richmond Refinery.[73] The U.S. Department of Justice CITGO Consent Decree required a geodesic dome on a gasoline storage tank at the Lamont, Texas refinery.[74] Furthermore, numerous vendors have provided geodesic domes for petroleum storage tanks.[75] These numerous applications of geodesic domes to control VOC emissions from storage tanks show that using geodesic domes results in "achieved in practice" emission reductions and should be required by MDE in Targa's permit.

XI. MDE Should Require Targa to Submit to MDE the Operations and Maintenance Plan, Any Revisions Thereto, and Monthly Emissions and Throughput Records

There are several important records that MDE requires Targa to either develop or maintain but proposes to allow Targa to keep on site and submit to MDE only upon request.

Operating and Monitoring Condition 2 of the Draft Permit requires Targa to:

> Establish in writing, revise as necessary, and implement an Operations and Maintenance Plan for all equipment covered by [the Draft Permit] that incorporates all of the following:
>
> (a) Information that is sufficient to demonstrate that air emissions from each emissions unit within the premises can be expected to comply with all applicable limits and standards during periods of normal operation. Examples of types of information that could be included to support the required demonstrations would be design criteria, vendor specifications and performance guarantees, approved computer modeling studies, and results of testing programs in which approved test methods and procedures were utilized.
>
> (b) Procedures that provide for proper operation and maintenance of all active emissions units and air pollution control equipment within the premises.
>
> (c) Provisions for periodic monitoring of operating parameters and emissions as necessary to determine that emissions units and air pollution control equipment are functioning properly and in a manner that minimizes leaks.

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[73] Chevron DEIR, Chapter 4.3; FEIR, p. 1-3.

[74] CITGO Petroleum Corp. Clean Air Act Settlement, available at: http://www2.epa.gov/enforcement/citgo-petroleum-corporation-clean-air-act-settlement.

[75] See, e.g., Aluminum Geodesic Dome, available at http://tankaluminumcover.com/Aluminum-Geodesic-Dome; Larco Storage Tank Equipments, available at http://www.larco.fr/aluminum_domes.html; Vacono Dome, Available at: http://www.easyfairs.com/uploads/tx_ef/VACONODOME_2014.pdf; Peksay Ltd., available at http://www.thomasnet.com/productsearch/item/10039789-13068-1008-1008/united-industries-group-inc/geodesic-aluminum-dome-roofs/; United Industries Group, Inc., available at http://www.thomasnet.com/productsearch/item/10039789-13068-1008-1008/united-industries-group-inc/geodesic-aluminum-dome-roofs/.

(d) Descriptions of procedures to be followed and corrective actions to be taken when monitoring information indicates that an emission unit or pollution control devise is not functioning properly.

(e) Provisions for developing written or printable electronic records that will show whether prescribed operating, maintenance and monitoring procedures are consistently followed, and whether timely and appropriate corrective actions are taken when malfunctions occur.[76]

As an initial matter, MDE should already have "[i]nformation . . . sufficient to demonstrate that air emissions [of VOCs and NO_x] from each emissions unit within the premises can be expected to comply with all applicable limits and standards." If it does not, it is unclear how it could determine that the Terminal's potential emissions are below major source thresholds. Additionally, Commenters are concerned by the fact that MDE proposes to allow Targa to keep this important document at the facility and to submit it to MDE only upon request.[77] Without critical information like applicable emissions factors and monitoring requirements, Commenters do not understand how MDE (or, for the federally enforceable limits, EPA or citizens) could ever enforce the provisions of the permit. MDE should revise the Draft Permit to require Targa to submit the Operations and Maintenance Plan, an any revisions thereto, to MDE.

MDE also proposes to allow Targa to keep at the facility records showing premises-wide monthly VOC and NO_x emissions, monthly and annual marine vessel loading throughput, and hours of operation for crude oil loading into marine vessels in hours per month and total hours for rolling 12-month period.[78] These records will contain information that is critical to ensuring that Targa complies with limits established to allow it to avoid Clean Air Act major source requirements. MDE should revise the Draft Permit to require Targa to submit these records to MDE.

Thank you for your consideration of our comments.

Sincerely,

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[76] Draft Permit at 9-10.
[77] Draft Permit at 16.
[78] Id.

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