MARYLAND DEPARTMENT OF THE ENVIRONMENT

AIR AND RADIATION ADMINISTRATION
APPLICATION FOR A PERMIT TO CONSTRUCT

DOCKET #08-26

COMPANY: Energy Transfer Marketing & Terminals, LP

LOCATION: 2155 Northbridge Avenue, Baltimore, MD 21226

APPLICATION: Modification of Tank No. 3 to store petroleum products, the installation of piping connections for ethanol transfer, and the addition of propane assist gas to the existing vapor combustion unit.

ITEM	DESCRIPTION
1	Notice of Application and Informational Meeting
2	Permit to Construct Application Forms – Forms 5, 5T, 5EP, and 6, site plan, process flow diagram, emissions calculations, toxics modeling.
3	MDE Score and Screening Report
4	Evidence of Zoning Approval

DEPARTMENT OF THE ENVIRONMENT
AIR AND RADIATION ADMINISTRATION

NOTICE OF APPLICATION AND INFORMATIONAL MEETING

The Maryland Department of the Environment, Air and Radiation Administration (ARA) received a permit-to-construct application from Energy Transfer Marketing & Terminals, LP on May 7, 2026, for the modification of Tank No. 3 to store petroleum products, the installation of piping connections for ethanol transfer, and the addition of propane assist gas to the existing vapor combustion unit. The proposed installation and modifications will be located at the Baltimore Terminal at 2155 Northbridge Avenue, Baltimore, MD 21226.

Copies of the application, the MDE EJ Screening Tool Report (which includes the score), and other supporting documents are available for public inspection on the Department's website at https://mde.maryland.gov/programs/Permits/AirManagementPermits/Pages/index.aspx (click on Docket Number 08-26). Any applicant-provided information regarding a description of the environmental and socioeconomic indicators contributing to that EJ score can also be found at the listed website. Such information has not yet been reviewed by the Department. A review of the submitted information will be conducted when the Department undertakes its technical review of all documents included in the application.

In accordance with HB 1200/Ch. 588 of 2022, the applicant provided an environmental justice (EJ) Score for the census tract in which the project is located. The EJ Score, expressed as a statewide percentile, was shown to be 98.8, which the Department has verified. This score represents a combined measure of pollution and the potential vulnerability of a population to the effects of pollution.

Pursuant to the Environment Article, Section 1-603, Annotated Code of Maryland, an Informational Meeting has been scheduled so that citizens can discuss the application and the permit review process with the applicant and the Department. The meeting will be held on August 25, 2026, from 6:00 pm to 7:30 pm at the Curtis Bay Recreation Center, 1630 Filbert Street, Baltimore MD 21226**.** You may also participate virtually. Please register to attend using the following link:

https://forms.gle/YyMVhtVhDf3gyzXQ7

Registered attendees will receive instructions on how to join the virtual meeting using a computer and internet connection or telephone on the day of the meeting.

This meeting location is accessible to individuals with disabilities as defined under the Americans with Disabilities Act (ADA). Individuals who require reasonable accommodation or a language interpreter to participate in the meeting should contact the Department by email at mde.accommodations@maryland.gov or call 410-537-3152 (MD Relay TTY: 7-1-1) at least 5 business days in advance of the meeting.

Further information may be obtained by calling Ms. Shannon Heafey at 410-537-4433.

Christopher R. Hoagland, Director
Air and Radiation Administration

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April 2026

ENERGY TRANSFER LP
PERMIT TO CONSTRUCT APPLICATION

RAMBOLL

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TABLES

APPENDICES

1. INTRODUCTION

Energy Transfer Marketing & Terminals (herein referred to as Energy Transfer) owns and operates a facility in Wagners Point, Baltimore, Maryland located at 2155 Northbridge Avenue. Energy Transfer is requesting a permit to construct at the current facility, which maintains a Part 70 operating permit (Permit No. 24-510-0703, most recently issued September 4, 2025) in accordance with the requirements in Title 26, Subtitle 11, Chapter 2 (26.11.2) of the Code of Maryland Regulations (COMAR). Permitted sources at the facility currently include petroleum product storage tanks, cargo tank loading racks (controlled by vapor recovery unit [VRU] and vapor combustion unit [VCU]), and a pentane blending operation.

Energy Transfer is proposing modifications to existing equipment and to install new ethanol piping connection to the adjacent facility, which is owned by a separate entity. Additionally, the applicant plans to modify a current insignificant storage tank (Tank No. 3). Tank No. 3 currently storing No. 2 fuel oil but will now store petroleum products as a permitted tank. Additional details are provided in Section 2.

This application includes the following appendices:

- **Appendix 1.** Construction Permit Application Forms;
- **Appendix 2.** Process Flow Diagram and Plot Plan;
- **Appendix 3.** Detailed Emissions Calculations;
- **Appendix 4.** Toxics Modeling Reports; and,
- **Appendix 5.** Maryland EJ Screen Report

2. FACILITY AND PROJECT DESCRIPTION

The Energy Transfer facility is located at 2155 Northbridge Avenue, Baltimore, Maryland (herein referred to as the "facility,"), and the facility currently operates under a Part 70 operating permit (Permit No. 24-510-0703) most recently issued on September 4, 2025, by the Maryland Department of the Environment (MDE).

Existing emissions sources at the facility consist of petroleum product storage tanks, cargo tank loading racks (controlled by a VRU and VCU), and a pentane blending operation. The facility has additional tanks located at the facility storing No. 2 fuel oil and therefore deemed an insignificant source under COMAR 26.11.02.10.Q.6. The facility operates as a petroleum bulk storage and transfer facility, primarily transferring No. 2 fuel oil, ethanol, and gasoline.

Energy Transfer plans to modify existing tanks to better meet client demand at the facility. The project plans to modify Tank No. 3, which is currently an insignificant source storing No. 2 fuel oil to store and transfer petroleum products, including ethanol and gasoline (similar to EU-1a [Reg. No. 510-0703-9-0999] and EU-1b tanks [Reg Nos. 510-0703-9-1000 and 510-0703-9-1151]). This modification will include retrofitting Tank No. 3 from a fixed roof tank to an internal floating roof tank. Additionally, Tank No. 3 will be connected to the existing loading rack permitted under EU-4 (Reg. No. 510-0703-9-0999). No annual increase in loading throughput will be realized at the EU-4 loading rack as the facility-wide limit of 425,000,000 gallons of gasoline/ethanol and 1,386,000,000 gallons of distillate imposed by condition Table IV-5 5.1(2) remains unchanged. However, additional connections to the loading rack will feasibly increase short-term loading by 10,000 barrels per day of ethanol out of Tank No. 3.

Additionally, Energy Transfer plans to modify Tank No. 16 with an additional connection to the EU-4 loading rack. No changes to the permitted products or construction of Tank No. 16 are planned, as it will still store and transfer petroleum products as permitted. No annual increase in loading throughput will be realized at the EU-4 loading rack as the facility-wide limit of 425,000,000 gallons of gasoline/ethanol and 1,386,000,000 gallons of distillate imposed by condition Table IV-5 5.1(2) remains unchanged. However, additional connections to the loading rack will feasibly increase short-term loading by 400 barrels per day of gasoline out of Tank No. 16.

Additional short-term loading potential will require Energy Transfer to add propane assist gas to the VCU to maintain destruction efficiency. Potential assist gas required is up to 4,710,000 standard cubic feet of propane per year.

The facility plans to install a new piping connection to transfer ethanol between the facility and an adjacent facility which is owned and operated by a separate, un-related entity. This piping will allow both facilities to better manage ethanol inventory. The planned piping will connect the adjacent facility to the existing piping that fills the storage tanks from the marine dock.

Finally, as a result of product changes in Tank No. 3, the piping addition, and the additional loading rack connection from Tank No. 16, minor piping changes are expected between the aforementioned sources as well as Tank No. 13 to facilitate product transfers and maintain smooth operation of the facility. This consists of some new connections being added from tanks and some existing connections being eliminated. The expected emissions from these changes have been included as fugitive emissions.

The emissions associated with all modifications or installations at the facility are detailed in Section 3 and fall below the limits for a major modification. A process flow diagram, and a plot plan are included in **Appendix 2**.

2.1 Request for Condition Modification

Under the current permit, Permit No. 24-510-0703, Section IV, Condition 3.3(1)(i) details the required reduction of CEMS data. The current requirement requires 1-hour averages in accordance with 40 CFR §63.8. However, monitoring requirements under §63.11092(e)(4) require that the CEMS be operated in accordance with §60.504a(b), which is under NSPS Subpart XXa. Additionally, the recordkeeping requirements under §63.11094(g)(1)(ii) require that the TOC concentration be recorded as a 3-hour rolling average rather than a 1-hour average. This is further detailed in Table 3 to Subpart BBBBBB which states that operators of vapor recovery systems must (a) reduce emissions of TOC to less than or equal to 19,200 parts per million by volume as propane determined on a 3-hour rolling average considering all periods when the vapor recovery system is capable of processing gasoline vapors, including periods when liquid product is being loaded, during carbon bed regeneration, and when preparing the beds for reuse. As such, Energy Transfer is requesting that the reduction to 1-hour averages and Condition 3.3(1)(i) be removed and that language more specific to Subpart BBBBBB and XXa be included. Below find a table detailing the requirements in both Subpart BBBBBB and XXa.

Standard	Averaging Period	Data Method	Emission Standard
Part 60 Subpart XXa	Rolling 3-hours	Arithmetic mean of the previous thirty-six 5-minute periods of valid operating data collected. Data collected while the monitoring system is out of control, conducting repairs, or conducting QA/QC is excluded. Data should be consecutive, but not necessarily continuous.	5,500 ppmv
Part 63 Subpart BBBBBB	Rolling 3-hours	Arithmetic mean of the previous thirty-six 5-minute periods of valid operating data collected. Data collected while the monitoring system is out of control, conducting repairs, or conducting QA/QC is excluded. Data should be consecutive, but not necessarily continuous.	19,200 ppmv

As the standard promulgated in Subpart XXa is more stringent than that in Subpart BBBBBB, Energy Transfer requests the language of Subpart XXa be reflected in the monitoring conditions of the permit.

3. EMISSIONS CALCULATIONS

This section summarizes the emission calculation methodologies for the project. A more detailed set of documented emission calculations is presented in **Appendix 3** of the application.

3.1 Emission Calculation Methodology

Energy Transfer have provided emissions from the project and for the entire facility to demonstrate compliance with Maryland's toxics program. While Tank No 16 is being transferred from ethanol service to gasoline service, the tank is currently permitted to process both products. As a result, this change will not result in an increase in facility-wide potential emissions; however, Energy Transfer has included the associated projected actual emission increase from the operational change as part of the project emissions. Detailed emissions from each aspect of the project are included below and in further detail in **Appendix 3**.

3.1.1.1 Tank No. 3

Tank No. 3 was previously included as an insignificant source as it stored No. 2 fuel oil and was therefore deemed insignificant. This modification will allow Energy Transfer to process petroleum products through the tank. As gasoline is a worst case product, emissions from Tank No. 3 have been calculated using methodology from AP-42 7.1 Organic Liquid Storage Tanks using gasoline as the product.

3.1.1.2 Tank No. 16

Tank No. 16 has stored and transferred ethanol over the last 10 years. While the existing permit does permit storage and transfer of gasoline at the current time, Energy Transfer has provided emission calculations for the planned change in operation as part of the project emissions. As such, emissions from Tank No. 16 have been calculated using methodology from AP-42 7.1 Organic Liquid Storage Tanks using gasoline as the product.

3.1.1.3 Loading Rack (EU-4)

While the loading rack is being modified as part of this project with additional connections from the tanks to the loading rack, the facility-wide throughput limit of 425,000,000 gallons of gasoline/ethanol and 1,386,000,000 gallons of distillate is not changing. As such, the potential emissions of the loading rack are not changing as a result of the modification. Energy Transfer has included the associated short-term potential loading emissions as part of this project due to the increase in short term loading capacity; however, annual emissions remain unchanged as part of this project. Loading emissions are calculated based on milligram per liter VOC permit limits and industry standards for truck vapor tightness. The assumed split of control by the VCU and the VRU is based on historical usage over the past three years.

3.1.1.4 Assist Gas

The proposed project will introduce up to 4,710,000 standard cubic feet per year of propane assist gas to assist the VCU. Emissions from the assist gas are calculated in accordance with typical loading emissions from the VCU for VOC and with other pollutants from combustion being calculated in accordance with combustion emission methodology in AP-42 1.4 for gas combustion. VOC emissions from the assist gas are separated out from the VOC emissions from loading in the detailed emissions provided in **Appendix 3**.

3.2 Site-Wide Emissions Summary

A summary comparing the project's emission is presented in **Table 1** below. Detailed site-wide emissions are included in **Appendix 3**.

Table 1. Project Emissions Summary

Pollutant	Project Emissions (tpy)	Exceeds Major Modification?
VOC	7.91	No
NO_X	0.72	No
CO	1.79	No
PM	0.02	No
PM_{10}	0.02	No
$PM_{2.5}$	0.02	No
SO_2	0.01	No

4. TOXIC AIR POLLUTANT ANALYSES

This project emits toxic air pollutants regulated under COMAR 26.11.15 and COMAR 26.11.16. As such, the facility is obligated to demonstrate that the updated facility-wide emissions will not unreasonably endanger human health. This requirement is satisfied with a screening analysis to evaluate potential toxic effects in line with MDE requirements promulgated in COMAR 26.11.16. The air toxics compliance demonstration is provided in **Appendix 4**.

4.1 Background

The MDE's *Demonstrating Compliance with the Ambient Impact Requirement under the Toxic Air Pollutant (TAP) Regulations (COMAR 26.11.15.06) Guidance Document* states that each TAP subject to the ambient impact requirement must be evaluated to determine that the emissions of the TAP will not endanger public health. The evaluation consists of a series of tests described below. Once a TAP passes a test in the series, compliance is demonstrated, and no further analysis is required.

Energy Transfer evaluated premise-wide emissions for all TAPs emitted from the tanks, loading operations, the VCU assist gas, and fugitive sources. All toxics emitted at the facility are below the Premise-wide Allowable Emission Rate (AER) for demonstrating compliance with the Ambient Impact Requirement under the TAP Regulations (COMAR 26.11.15.06), with the exception of benzene. Benzene emissions were modeled in the detailed toxics emission calculations presented in **Appendix 4**. Accordingly, Energy Transfer prepared a Toxic Impact Assessment (TIA) demonstrating that benzene emissions from the facility would comply with MDE TAP regulations and would not have the potential to adversely affect public health.

4.2 Toxic Impact Assessment

Benzene is subject to the ambient impact requirement, which involves a series of evaluation steps. Once a toxic air pollutant (TAP) passes any step in the process, compliance is demonstrated, and no further analysis is needed for that pollutant.

4.2.1 Test 1: Evaluation of Benzene Allowable Emissions

Energy Transfer calculated facility-wide benzene emissions by summing the potential emissions from the existing and modified units in the facility. The potential emissions from the emissions sources are provided in the emissions calculations in **Appendix 3**. **Table 2** shows that total estimated premise-wide benzene emissions are above the allowable emission rate based on Maryland screening levels, requiring additional analysis. The detailed toxics impact analysis calculations are provided in **Appendix 4**.

Table 2. Potential Emissions of Benzene

Pollutant	Emissions from the Existing Modified Installation	Total Premise Wide Emissions		Above Standard?
	(lb/hr)	(lb/hr)	(lb/yr)	
Benzene	0.39	0.39	3,406	**YES**

Notes:

1. Benzene emissions from all tanks, loading operations, and fugitive sources.
2. The Premise-wide Allowable Emission Rate (AER) for benzene is 0.29 lb/hr for the 1-hour average, 0.06 lb/hr for the 8-hour average, and 47.45 tpy for the annual average. These are calculated based on the equations governing the charts in COMAR 26.11.16.02, which determine the maximum allowable premise-wide emission rate of each TAP based on a shorter stack, possible downwash, or fugitive emissions. Benzene premise-wide emissions exceed the Allowable Emission Rate for the 1-hour, 8-hour, and annual averages; therefore, the emissions are above the standard and further analysis is required.

4.2.2 Test 2: Hand Dispersion Calculations using Technical Memorandum TM 86-02
According to MDE, while this option is still available for use, it is recommended that this test be skipped to proceed to the simple computer screening model step (Test 3 below). As such, Energy Transfer skipped to Test 3.

4.2.3 Test 3: SCREEN3 Modeling
The maximum ground-level concentration (MGLC) of benzene at the facility was derived using the USEPA's SCREEN3 dispersion model. The SCREEN3 model uses simple algorithms and conservative techniques to determine a conservative impact for a single source.

For the modeled benzene emissions, all tanks, loading operations, VRU, VCU, and fugitive sources were combined and modeled as a single volume source, with the source height calculated as an emissions-weighted average of all contributing sources. The volume source was positioned within the facility such that the exclusion zone[1] falls within the property boundary, where no receptors are placed, and the minimum distance from the center of the volume source to the property boundary was used to perform the SCREEN3 analysis. **Table 3** shows the parameters for the volume source used in the model.

Table 3. SCREEN3 Volume Source Stack Parameter Inputs

Input Prompts	Sitewide	Reference
Source Type	V	P = Point Source, A= Area Source, V=Volume Source
Emission Rate (g/s)	4.90E-02	g/s
Release Height (m)	3.20	From Client
Initial lateral dimension (σy_0)	57.54	From Client
Initial vertical dimension (σz_0)	2.98	From Client
Receptor Height (m)	0	Worst-case
Urban/Rural	U	Assumption, worst-case
Complex Terrain	N	Assumption
Simple Terrain	Y	Assumption
Meteorology	1	Assumption
Automated Distance Array	Y	Assumption
Min Distance (m)	157	Assumption - Shortest distance of source from the fenceline.
Max Distance (m)	10,000	Assumption
Discrete Distances	N	Assumption
Fumigation Calculations	N	Assumption

SCREEN3 outputs the maximum 1-hour unit impact of benzene from each source. 8-hour and annual unit impacts ($\mu g/m^3$) were obtained by multiplying the highest modeled 1-hour unit impact by a scaling factor of 0.7 and 0.08, respectively.[2] The MGLC for the volume source was compared to the respective MDE benzene allowable concentration.

As shown in **Table 4**, the total 1-hour, 8-hour and annual total MGLCs were less than the respective MDE benzene allowable concentration levels. The detailed toxics impact analysis calculations methodology is provided in **Appendix 4**.

[1] APCD Santa Barbara County Modeling Guidelines for Air Quality Impact Assessments (February 2025) (https://www.ourair.org/wp-content/uploads/aqia.pdf)

[2] Screening Procedures for Estimating the Air Quality impact of Stationary Sources Revised, USEPA, October 1992

Table 4. MGLC Values Modeled with SCREEN3 Compared to MDE Allowable Concentrations

Modeled 1-hour Standard

Source	Modeled 1-hour Concentration	Allowable 1-hour Concentration	Above Standard?
	($\mu g/m^3$)	($\mu g/m^3$)	1-hour
Sitewide	15.49	79.87	NO

Modeled 8-hour Standard

Source	Modeled 8-hour Concentration	Allowable 8-hour Concentration	Above Standard?
	($\mu g/m^3$)	($\mu g/m^3$)	8-hour
Sitewide	10.84	15.97	NO

Modeled Annual Standard

Source	Modeled Annual Concentration	Allowable Annual Concentration	Above Standard?
	($\mu g/m^3$)	($\mu g/m^3$)	Annual
Sitewide	1.24	1.3	NO

CONCLUSIONS

Energy Transfer calculated the facility-wide PTE of benzene emissions for the facility to be 0.39 lb/hr. This PTE exceeded MDE's initial allowable emission rates based on screening levels, so a screening (SCREEN3) analysis was conducted to obtain the MGLC of benzene at the facility. The off-site concentration per screening analysis (SCREEN3) is less than the screening level of the benzene for the appropriate averaging times. Therefore, the emissions of the TAP is in compliance with the ambient impact requirement, and further refined computer modeling (e.g., AERMOD) is not required. Therefore, according to *MDE's "Demonstrating Compliance with the Ambient Impact Requirement under the Toxic Air Pollutant (TAP) Regulations (COMAR 26.11.15.06)" Guidance Document*, no further assessment is required, and the TIA is complete.

5. FEDERAL AND STATE REGULATORY APPLICABILITY

The following sections outline the federal and state air regulations potentially applicable to the proposed project. Specifically, potentially applicable requirements under New Source Review (NSR), Title V of the Clean Air Act Amendments, New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAP), Compliance Assurance Monitoring (CAM), and COMAR Title 26, Subtitle 11 are discussed herein.

5.1 New Source Review

The federal NSR permitting program regulates emissions from major stationary sources of regulated air pollutants. The federal NSR program is comprised of two elements: Nonattainment NSR (NNSR) and Prevention of Significant Deterioration (PSD). NNSR permitting is applicable in areas that have been designated as nonattainment for a regulated pollutant under the National Ambient Air Quality Standards (NAAQS). PSD permitting applies in areas that have been designated as attainment or unclassifiable. The facility is located in Baltimore City, which has been designated as a moderate nonattainment area for 2008 8-hour ozone, a serious nonattainment area for 2015 8-hour ozone, and attainment or unclassifiable for all other criteria pollutants. Ozone NNSR is attributable to emissions of NO_X and VOC, which are precursors to ground-level ozone formation. As such, NNSR is the relevant NSR permitting program for ozone and PSD is the relevant NSR permitting program for all other criteria pollutants.

The ozone NNSR major source thresholds from NO_X and VOC are 25 tpy each for sources in Baltimore City. The PSD major source threshold for all other regulated criteria pollutants is 100 tpy, since petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels are on the list of 28 sources for which there is a lower PSD major source threshold. The facility is classified as an existing major stationary source for NSR. If the proposed project meets the definition of a major modification, the full PSD and NNSR permitting requirements will apply to that pollutant. In Baltimore City, the significant emission rates are 25 tpy for NO_X and VOC, 10 tpy for $PM_{2.5}$, 40 tpy for SO_2, 0.6 tpy for lead, 15 tpy for PM_{10} and 100 tpy for CO. To simplify the permitting process, Energy Transfer will evaluate the combined potential emissions to compare project emissions with the major modification thresholds. The combined project net emissions for this facility, shown in **Table 1**, are less than the NNSR major modification thresholds for NO_X and VOC and are less than the PSD major modification thresholds for all other regulated pollutants. As such, the facility will not trigger PSD or NNSR permitting.

5.2 Title V Operating Permits

The Title V operating permits program, promulgated in 40 CFR 70, requires a facility to obtain a Title V operating permit if it has potential emissions of a regulated criteria pollutant exceeding 100 tpy, of any single HAP exceeding 10 tpy, or of the aggregate of all HAP exceeding 25 tpy.

This facility is required to obtain a Title V operating permit due to its status as an NSR major source. Energy Transfer was issued a Title V operating permit most recently in September 2025.

5.3 New Source Performance Standards

NSPS, promulgated in 40 CFR 60, provide emissions standards for criteria pollutant emissions from new, modified, and reconstructed sources. NSPS standards are developed for particular industrial source categories, and applicability can be readily ascertained based on the source category covered.

Currently the facility is subject to 40 CFR Subpart Kb (Volatile Organic Liquid Storage Vessels [Including Petroleum Liquid Storage Vessels] for Which Construction, Reconstruction, or Modification

Commenced After July 23, 1984, and On or Before October 4, 2023. Modification of tanks as part of this project will subject those tanks to Subpart Kc (Volatile Organic Liquid Storage Vessels [Including Petroleum Liquid Storage Vessels] for Which Construction, Reconstruction, or Modification Commenced After October 4, 2023. The following sections discuss the applicable NSPS standards for the proposed modification.

5.3.1 40 CFR 60 Subpart A – General Provisions

NSPS Subpart A provides generally applicable requirements for testing, monitoring, notifications, and recordkeeping. Any source that is subject to another subpart under 40 CFR 60 is also subject to Subpart A, unless otherwise stated in the specific subpart.

5.3.2 40 CFR 60 Subpart Kc – Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After October 4, 2023

Subpart Kc, applies to new tanks and/or tanks modified or reconstructed after October 4, 2023, that have the capacity to store greater than 20,000 gallons of volatile organic liquid. Tank No. 16 is currently permitted to store both ethanol and gasoline. This application does not modify Tank No. 16 as there is no change in permitted operation. Tank No. 3 is the only modified tank as part of this application and thus is the only tank subject to Subpart Kc.

5.3.3 40 CFR 60 Subpart XXa – Bulk Gasoline Terminals that Commenced Construction, Modification, or Reconstruction After June 10, 2022

Subpart XXa, applies to new gasoline loading racks at a bulk gasoline terminal that delivers liquid product into gasoline cargo tanks modified after June 10, 2022. The subpart applies to the loading racks, the vapor collection systems, and the vapor processing system. For purposes of this Subpart, modification means any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emissions of any air pollutant (to which a standard applies) into the atmosphere not previously emitted, as defined in 40 CFR 60.2. Additionally, the determination of a modification under 40 CFR 60.14 applies. 40 CFR 60.14 describes a modification as any physical or operational change to an existing facility which results in an increase in the emission rate (expressed as kg/hr) to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of section 111 of the Act. While changes to the loading rack as part of this project will not increase annual emissions as they are bound by the existing 425,000,000 gallon gasoline limit, short-term emissions could increase due to the additional loading arm connections from Tank No. 3 and Tank No. 16 being installed as part of the project. As such, this will deem the project a modification to the loading rack under Subpart XXa and subject the existing loading rack, EU-4, to Subpart XXa. Energy Transfer currently operates a VRU and VCU as controls for EU-4.

5.4 National Emission Standards for Hazardous Air Pollutants

The NESHAP, promulgated in 40 CFR 63, regulates emissions of HAPs from specific source categories. A facility that has potential emissions exceeding 10 tpy for any individual HAP and/or emissions exceeding 25 tpy for the sum of all HAPs is classified as a major source of HAP emissions. A facility that is not a major source of HAPs is classified as an area source. The combined potential emissions of HAPs from facility are less than the HAP major source thresholds. As such, the facility is considered an *area source* of HAP emissions. The following sections discuss the potentially applicable NESHAP standards to the proposed project at the multi-product specialty inorganic chemicals manufacturing facility.

5.4.1 40 CFR 63 Subpart A – General Provisions

NESHAP Subpart A provides generally applicable requirements for testing, monitoring, notifications, and recordkeeping. Any source that is subject to another subpart under 40 CFR 63 is also subject to Subpart A, unless otherwise stated in the specific subpart.

5.4.2 40 CFR 63 Subpart BBBBBB – Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities

Subpart BBBBBB (6B), Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities, applies to new and existing area source bulk gasoline terminals that are not subject to the control requirements of 40 CFR Part 63, Subpart R or Subpart CC. The existing facility is currently subject to Subpart 6B and the modifications requested in this application will not change that applicability. Table IV-1 Condition 1.1(3)(b) of the Title V permit indicates that while Tank No. 16 is currently subject to Subpart 6B, compliance was not required until gasoline was stored within Tank No. 16 as previously stated ethanol had been stored in the tank. As part of this project, gasoline will begin being stored within Tank No. 16. Tank No. 3 is not currently subject to Subpart 6B as it stored No. 2 fuel oil. Following this modification, Tank No. 3 will be subject to Subpart 6B.

5.4.3 Non-Applicability of All Other NESHAP

NESHAP standards are developed for particular industrial source categories, and applicability can be readily ascertained based on the source category covered. All NESHAP other than those addressed in this report categorically do not apply to the proposed project.

5.5 Compliance Assurance Monitoring

The requirement to develop CAM plans under 40 CFR 64 is applicable for emission units that are located at a Title V major source and that meet all the following criteria:

- The unit is subject to an emission limit for a regulated air pollutant;
- The unit uses a control device to achieve compliance with the emission limit; and
- The pre-control potential emissions for that pollutant are greater than the Title V major source threshold from the emission unit.

For emission units with post-control emissions of the pollutant that are less than the Title V major source threshold, the CAM plan must be submitted as part of an application for renewal of the Title V permit.

The facility currently operates a CAM plan for the VCU that is included in the issued Title V operating permit. The proposed project involves modification to EU-4, which is controlled by the VCU. Energy Transfer does not propose any changes to the CAM plan as part of this project.

5.6 Code of Maryland Regulations (COMAR) Applicability

Maryland's state requirements for sources of regulated air contaminants are codified under Subtitle 11 of Title 26 of the Code of Maryland Regulations (COMAR 26.11). Specific applicability criteria for all MDE regulations that are not generally applicable (i.e., General Provisions) are covered in the following subsections.

5.6.1 COMAR 26.11.02.09 – Sources Subject to Permits to Construct and Approvals (APPLICABLE)

COMAR 26.11.02.09 specifies that construction or modification of any of the specified subset of regulated sources may not be commenced without first obtaining, and having in current effect, the specified permits to construct and associated approvals. Pursuant to COMAR 26.11.02.09A(1), 26.11.02.09A(3), 26.11.02.09A(4) and 26.11.02.09A(6), installation of the piping and modification

of tanks requires an appropriate permit to construct prior to commencement of construction activities.

5.6.2 COMAR 26.11.02.11 – Procedures for Obtaining Permits to Construct Certain Significant Sources (NOT APPLICABLE)
COMAR 26.11.02.11 delineates specific procedures governing applications for permits to construct for certain significant sources of regulated air pollutants as defined under COMAR 26.11.02.11A(1). Since this application for construction is not for a new source, there is no reconstruction or replacement that qualifies per COMAR 26.11.02.11(A)(2)(b), and the emissions will remain below major permitting thresholds, the proposed modifications are not subject to the provisions under this regulation. Modifications to Tank No. 16 and the loading rack are minor. Tank No. 3 is not currently a permitted source, but is represented as an insignificant source. As such, modification of Tank No. 3 is not considered under COMAR 26.11.02.11(A)(2)(b).

5.6.3 COMAR 26.11.02.12 – Procedures for Obtaining Approvals of PSD Sources, and NSR Sources, Permits to Construct, Permit to Construct MACT Determinations on a Case-by-Case Basis in Accordance with 40 CFR Part 63, Subpart B, and Certain 100-ton Sources (APPLICABLE)
COMAR 26.11.02.12 lays out specific procedures governing permit to construct applications submitted by a discrete subset of regulated sources under the jurisdiction of MDE. As discussed in **Section 5.1** of this application, the facility is an existing NSR source. Therefore, pursuant to COMAR 26.11.02.12A(1), the applicable procedures put forth under COMAR 26.11.02.12 are applicable to the proposed project

5.6.4 3.4.4. COMAR 26.11.02.13 – Sources Subject to State Permit to Operate (NOT APPLICABLE)
Per COMAR 26.11.02.13A, a state permit to operate is not required for sources covered by a Part 70 permit. The facility has a Part 70 permit, and as such, is not subject to the requirement to obtain a state permit to operate per COMAR 26.11.02.13A.

5.6.5 COMAR 26.11.02.14 – Procedures for Obtaining State Permits to Operate and Permits to Construct Certain Sources and Permits to Construct Control Equipment on Existing Sources (NOT APPLICABLE)
COMAR 26.11.02.14 lays out specific procedures that apply to any source or activity that is not regulated under COMAR 26.11.02.11A or COMAR 26.11.02.12, or that constitutes air pollution control equipment for which a permit to construct is required and will control an existing source. This permit to construct application is being submitted in accordance with the applicable requirements of COMAR 26.11.02.12. Therefore, pursuant to COMAR 26.11.02.14A(2), the applicable procedures put forth under COMAR 26.11.02.14 are not applicable to the proposed project.

5.6.6 COMAR 26.11.03 – Permits, Approvals, and Registration – Title V Permits (APPLICABLE)
As stated above, the Facility has a current Title V permit. Therefore, pursuant to COMAR 26.11.03.01(A)(1), the applicable procedures put forth under COMAR 26.11.03 are applicable to the proposed project.

5.6.7 COMAR 26.11.13 – Control of Gasoline and Volatile Organic Compound Storage and Handling (APPLICABLE)
COMAR 26.11.13 regulates the storage of gasoline and volatile organic compounds on site. All permitted petroleum tanks onsite are subject to this regulation. The regulation establishes standards for VOC emissions, compliance, and recordkeeping of loading operations at bulk terminals as well as tank equipment requirements for the storage of volatile material in large tanks (greater than 40,000 gallons).

5.6.8 COMAR 26.11.15 – Toxic Air Pollutants (APPLICABLE)

The provisions of COMAR 26.11.15 regulate emissions of any Class I or Class II toxic air pollutant (TAP) into the ambient air from any installation or new source if the source meets certain applicability criteria under the regulation. The facility is subject to requirements under 40 CFR 63. Therefore, pursuant to COMAR 26.11.15.03(A)(4), the applicable procedures put forth under COMAR 26.11.15 are applicable to the proposed project.

5.6.9 COMAR 26.11.17 – Nonattainment Provisions for Major New Sources and Major Modifications (NOT APPLICABLE)

The provisions of COMAR 26.11.17 describe the procedures and conditions for sources that are applying as major new sources or making major modifications in an area of nonattainment. The proposed project, as demonstrated in **Section 3.2**, does not qualify as a major modification. Therefore, pursuant to COMAR 26.11.17.02(A)(1), the applicable procedures put forth under COMAR 26.11.17 are not applicable to the proposed project.

6. PUBLIC ENGAGEMENT AND ENVIRONMENTAL JUSTICE

6.1 Public Engagement

Maryland offers public participation opportunities on specific permits as promulgated in Maryland Environment Code §1-601. For air Permits to Construct, the list of permits subject to public participation is in accordance with §2-404 which applies to three types of permits:

1. Construction of a new source;
2. Replacement of components of an existing permitted source, if the fixed capital cost of the replacement components exceeds one-half of the fixed capital cost that would be required to construct a new source comparable in process to the existing source; and
3. Modification of an existing permitted source by making a physical or operational change to the source that will result in a significant net increase (1 tpy) in emissions of any pollutant from that source.

As the proposed modification will exceed 1 ton per year of emissions, the proposed modification will require public engagement. Energy Transfer will engage the local community concurrently to the State's review of this application.

6.2 Maryland EJ Screen Report

House Bill 1200 (HB1200) mandates that permit applications that require public notice and participation must include an EJ Score for the census tract where the applicant is seeking the permit in the permit application package to MDE. The Department recommends using the Maryland EJ Tool to assess the EJ Score within a 1-mile radius of the facility. As public participation is a requirement of this application as detailed in **Section 6.1**, Energy Transfer has included reports from the Maryland EJ Tool.

To further understand the current socioeconomic and environmental conditions in the community, Energy Transfer has included an analysis of the socioeconomic and environmental indicators provided by the screening tool. The full Maryland EJ Screen Report can be found in **Appendix** 5.

APPENDIX 1
CONSTRUCTION PERMIT APPLICATION FORMS

AIR QUALITY PERMIT TO CONSTRUCT APPLICATION CHECKLIST

OWNER OF EQUIPMENT/PROCESS	
COMPANY NAME:	Energy Transfer Marketing & Terminals, LP
COMPANY ADDRESS:	1300 Main St, Houston, TX 77002
LOCATION OF EQUIPMENT/PROCESS	
PREMISES NAME:	Energy Transfer Marketing & Terminals, LP - Baltimore Terminal
PREMISES ADDRESS:	2155 Northbirdge Avenue, Baltimore, MD 21226
CONTACT INFORMATION FOR THIS PERMIT APPLICATION	
CONTACT NAME:	Jessica Gamez
JOB TITLE:	Senior Engineer
PHONE NUMBER:	713-989-5145
EMAIL ADDRESS:	Jessica.Gamez@ENERGYTRANSFER.COM
DESCRIPTION OF EQUIPMENT OR PROCESS	
Modification of storage tanks, installation of piping, and increase of short term loading capacity	

Application is hereby made to the Department of the Environment for a Permit to Construct for the following equipment or process as required by the State of Maryland Air Quality Regulation, COMAR 26.11.02.09.

Check each item that you have submitted as part of your application package.

☒ Application package cover letter describing the proposed project

☒ Complete application forms (Note the number of forms included or NA if not applicable.)

No. 5 Form 5
No. 3 Form 5T
No. 5 Form 5EP
No. 2 Form 6
No. _____ Form 10
No. _____ Form 11
No. _____ Form 41
No. _____ Form 42
No. _____ Form 44

☐ Vendor/manufacturer specifications/guarantees

☒ Evidence of Workman's Compensation Insurance

☐ Process flow diagrams with emission points

☒ Site plan including the location of the proposed source and property boundary

☐ Material balance data and all emissions calculations

☐ Material Safety Data Sheets (MSDS) or equivalent information for materials processed and manufactured.

☐ Certificate of Public Convenience and Necessity (CPCN) waiver documentation from the Public Service Commission (1)

☒ Documentation that the proposed installation complies with local zoning and land use requirements (2)

(1) Required for emergency and non-emergency generators installed on or after October 1, 2001 and rated at 2001 kW or more.

(2) Required for applications subject to Expanded Public Participation Requirements.

MARYLAND DEPARTMENT OF THE ENVIRONMENT

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FORM 5
APPLICATION FOR
PROCESSING OR MANUFACTURING EQUIPMENT/PROCESS

☑ Permit to Construct ☐ Registration Update ☐ Initial Registration

1. Owner Information

Owner Name: Energy Transfer Marketing & Terminals, LP
Owner Street Address: 1300 Main St
City/State/Zip Code: Houston, TX 77002

2. Location of Equipment/Process

☑ Check if different from above. If checked, complete the following:
Premises Name: Energy Transfer Marketing & Terminals, LP - Baltimore Terminal
Premises Street Address: 2155 Northbridge Avenue
City/State/Zip Code: Baltimore, MD 21226

3. Contact Information

Contact Name: Jessica Gamez
Job Title: Senior Engineer
Phone Number: 713-989-5145
Email Address: Jessica.Gamez@ENERGYTRANSFER.COM

4. Workers' Compensation Coverage Information

Before a Permit to Construct may be issued by the Department, the applicant must provide the Department with proof of worker's compensation coverage as required under Section 1-202 of the Workers' Compensation Act.

Company Name: Ace American Insurance Company
Binder/Policy Number: WLR C72798090 Expiration Date: 9/15/2026

5. Person Installing Equipment/Process (if different from 1 above)

Installer Name and Title:
Installer Company Name:
Installer Street Address:
City/State/Zip Code:
Phone Number:

6. Description of Major Activity, Product, or Service of Company at this Location (include applicable SIC code)

Energy Transfer owns and operates the Terminal as a petroleum bulk storage and transfer facility. Petroleum products are received at the facility via pipeline and barge, stored in tanks, and loaded into cargo tanks from an eight-bay loading rack.

7. Installation Type

☐ New Equipment/Process
☑ Modification to Existing Equipment/Process
☐ Existing Equipment/Process

8. Projected Construction/Existing Operation Dates

Projected Construction Start Date: Dec 2026
Projected Construction End Date: Apr 2027
Projected Operating Date of New/Modified Equipment/Process: Apr 2027
Existing Equipment/Process Initial Operating Date: N/A

9. Description of the Equipment/Process (include make, model, manufacturer, rated capacity, as applicable)

This equipment will consist of piping from existing piping to a neighboring facility to allow for improved management of ethanol inventory at both facilities.

10. Supplemental Equipment/Process Information

Number of Pieces of Identical Equipment Units to be Registered/Permitted at this Time: 0

Number of Stack/Emission Points Associated with the Equipment/Process:
Fugitive Emissions Source? ☑ Yes ☐ No
Note: Complete a Form 5EP for each stack/emission point or fugitive discharge area.

11. Control Devices Associated with this Equipment/Process

Note: Complete a Form 6 for each control device.

☑ None ☐ Baghouse/Fabric Filter ☐ Cyclone ☐ Electrostatic Precipitator
☐ Dust Suppression ☐ Venturi Scrubber ☐ Adsorption System ☐ Spray Tower/Packed Bed
☐ Oxidizer ☐ Nitrogen Oxides Reduction ☐ Other, specify:

12. Fuel Consumption for this Equipment/Process

☐ Natural Gas _____ 1000 cubic feet/year
☐ Propane/LP Gas _____ 100 gallons/year
☐ Distillate Fuel Oil _____ 1000 gallons/year
☐ Residual Fuel Oil _____ 1000 gallons/year
☐ Coal (attach fuel specifications) _____ tons/year
☐ Wood (attach fuel specifications) _____ tons/year
☐ Other (describe): _____ **(specify units)**

13. Operating Schedule for this Equipment/Process

☑ Continuous Operation
☐ Batch Process
_____ hours/batch _____ batches/week
24 operating hours/day
52 operating days/week
7 operating days/year

Seasonal Variation? ☐ Yes ☑ No
If yes, complete the following:

_____ Winter Percent _____ Spring Percent
_____ Summer Percent _____ Fall Percent
Total Seasons = 100% operating time

14. Input Materials and Usage Rates (attach additional materials as necessary)

Name of Input Material	CAS No. (if applicable)	Input Rate Per Hour	Identify Unit of Measure	Input Rate Per Year	Identify Unit of Measure
Petroleum products					

15. Output Materials and Production Rates (attach additional materials as necessary)

Name of Output Material or Product	CAS No. (if applicable)	Output Rate Per Hour	Identify Unit of Measure	Output Rate Per Year	Identify Unit of Measure
Petroleum products					

16. Waste Streams - Solid and Liquid (attach additional materials as necessary)

Name of Waste Material or Waste Product	CAS No. (if applicable)	Waste Generation Rate Per Hour	Identify Unit of Measure	Waste Generation Rate Per Year	Identify Unit of Measure

17. Total Stack Emissions for this Equipment/Process

Nitrogen Oxides	_____	lbs/operating day
Carbon Monoxide	_____	lbs/operating day
Sulfur Oxides	_____	lbs/operating day
Particulate Matter (PM-10)	_____	lbs/operating day
Particulate Matter (PM-2.5)	_____	lbs/operating day
Volatile Organic Compounds	_____	lbs/operating day
Greenhouse Gases (CO_{2e})	_____	lbs/operating day

18. Total Fugitive Emissions for this Equipment/Process

Nitrogen Oxides	_____	lbs/operating day
Carbon Monoxide	_____	lbs/operating day
Sulfur Oxides	_____	lbs/operating day
Particulate Matter (PM-10)	_____	lbs/operating day
Particulate Matter (PM-2.5)	_____	lbs/operating day
Volatile Organic Compounds	0.54	lbs/operating day
Greenhouse Gases (CO_{2e})	_____	lbs/operating day

19. Required Documents

☑ Air Quality Permit to Construct Application Checklist - Include all required items on the checklist with the Form 5 application

☐ Check this box if this application includes confidential information and submit one confidential copy of the application and one copy with all confidential information removed.

20. Responsible Party Certification Statement

"I CERTIFY UNDER PENALTY OF LAW THAT THE INFORMATION SUBMITTED IN THIS REQUEST FOR COVERAGE IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

Responsible Party Signature Michael Diel **Date** 03/31/26

Printed Name and Title MIchael Diel - Terminal Operations Director

For ARA Use Only

Date Received:	
Date Reviewed:	
Reviewed By:	
ARA Premises Number:	
Associated ARA Registration Number or Numbers:	

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FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Energy Transfer Marketings & Terminals LP

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:

non-Emission Unit (EU) piping fugitive emissions

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	**Seasonal Variation** Check box if none: ☒ Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	24	Spring Percent	
Days per week:	7	Summer Percent	
Weeks per year:	52	Fall Percent	

4. Emission Point Information

Height above ground (ft):	NA	Length and width dimensions at top of rectangular stack (ft):	Length:	Width:	
Height above structures (ft):	NA		NA	NA	
Exit temperature (ºF):	NA	Inside diameter at top of round stack (ft):		NA	
Exit velocity (ft/min):	NA	Distance from emission point to nearest property line (ft):		NA	
Exhaust gas volumetric flow rate (acfm):	NA	Building dimensions if emission point is located on building (ft)	Height: NA	Length: NA	Width: NA

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. ***A Form 6 is also required for each control device***. If none check none:

☐ None

☐ Baghouse No. _____

☐ Cyclone No. _____

☐ Elec. Precipitator (ESP) No. _____

☐ Dust Suppression System No. _____

☐ Venturi Scrubber No. _____

☐ Spray Tower/Packed Bed No. _____

☐ Carbon Adsorber No. _____

- ☐ Cartridge/Canister
- ☐ Regenerative

☐ Thermal Oxidizer No. _____

- ☐ Regenerative

☐ Catalytic Oxidizer No. _____

☐ Nitrogen Oxides Reduction No. _____

- ☐ Selective ☐ Non-Selective
- ☐ Catalytic ☐ Non-Catalytic

☐ Other No. _____
Specify:

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Particulate Matter (filterable as PM10)				
Particulate Matter (filterable as PM2.5)				
Particulate Matter (condensables)				
Volatile Organic Compounds (VOC)	0.02	0.02	0.54	0.10
Oxides of Sulfur (SOx)				
Oxides of Nitrogen (NOx)				
Carbon Monoxide (CO)				
Lead (Pb)				

Greenhouse Gases (GHG)	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Carbon Dioxide (CO_2)				
Methane (CH_4)				
Nitrous Oxide (N_2O)				
Hydrofluorocarbons (HFCs)				
Perfluorocarbons (PFCs)				
Sulfur Hexafluoride (SF6)				
Total GHG (as CO_2e)				

List individual federal Hazardous Air Pollutants (HAP) below:	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
See Appendix 3				

(Attach additional sheets as necessary.)

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FORM 5
APPLICATION FOR
PROCESSING OR MANUFACTURING EQUIPMENT/PROCESS

☑ Permit to Construct ☐ Registration Update ☐ Initial Registration

1. Owner Information

Owner Name: Energy Transfer Marketing & Terminals, LP
Owner Street Address: 1300 Main St
City/State/Zip Code: Houston, TX 77002

2. Location of Equipment/Process

☑ Check if different from above. If checked, complete the following:
Premises Name: Energy Transfer Marketing & Terminals, LP - Baltimore Terminal
Premises Street Address: 2155 Northbridge Avenue
City/State/Zip Code: Baltimore, MD 21226

3. Contact Information

Contact Name: Jessica Gamez
Job Title: Senior Engineer
Phone Number: 713-989-5145
Email Address: Jessica.Gamez@ENERGYTRANSFER.COM

4. Workers' Compensation Coverage Information

Before a Permit to Construct may be issued by the Department, the applicant must provide the Department with proof of worker's compensation coverage as required under Section 1-202 of the Workers' Compensation Act.

Company Name: Ace American Insurance Company
Binder/Policy Number: WLR C72798090 Expiration Date: 9/15/2026

5. Person Installing Equipment/Process (if different from 1 above)

Installer Name and Title:
Installer Company Name:
Installer Street Address:
City/State/Zip Code:
Phone Number:

6. Description of Major Activity, Product, or Service of Company at this Location (include applicable SIC code)

Energy Transfer owns and operates the Terminal as a petroleum bulk storage and transfer facility. Petroleum products are received at the facility via pipeline and barge, stored in tanks, and loaded into cargo tanks from an eight-bay loading rack.

7. Installation Type

☐ New Equipment/Process
☑ Modification to Existing Equipment/Process
☐ Existing Equipment/Process

8. Projected Construction/Existing Operation Dates

Projected Construction Start Date: Dec 2026
Projected Construction End Date: Apr 2027
Projected Operating Date of New/Modified Equipment/Process: Apr 2027
Existing Equipment/Process Initial Operating Date: N/A

9. Description of the Equipment/Process (include make, model, manufacturer, rated capacity, as applicable)

Tank 3. Conversion of fixed roof tank to internal floating roof tank to contain petroleum product.

10. Supplemental Equipment/Process Information

Number of Pieces of Identical Equipment Units to be Registered/Permitted at this Time: 0

Number of Stack/Emission Points Associated with the Equipment/Process:
Fugitive Emissions Source? ☑ Yes ☐ No
Note: Complete a Form 5EP for each stack/emission point or fugitive discharge area.

11. Control Devices Associated with this Equipment/Process

Note: Complete a Form 6 for each control device.

☑ None ☐ Baghouse/Fabric Filter ☐ Cyclone ☐ Electrostatic Precipitator
☐ Dust Suppression ☐ Venturi Scrubber ☐ Adsorption System ☐ Spray Tower/Packed Bed
☐ Oxidizer ☐ Nitrogen Oxides Reduction ☐ Other, specify:

12. Fuel Consumption for this Equipment/Process

☐ Natural Gas _____ 1000 cubic feet/year
☐ Propane/LP Gas _____ 100 gallons/year
☐ Distillate Fuel Oil _____ 1000 gallons/year
☐ Residual Fuel Oil _____ 1000 gallons/year
☐ Coal (attach fuel specifications) _____ tons/year
☐ Wood (attach fuel specifications) _____ tons/year
☐ Other (describe): _____ **(specify units)**

13. Operating Schedule for this Equipment/Process

☑ Continuous Operation
☐ Batch Process
_____ hours/batch _____ batches/week
_____ operating hours/day
_____ operating days/week
_____ operating days/year

Seasonal Variation? ☐ Yes ☑ No
If yes, complete the following:

_____ Winter Percent _____ Spring Percent
_____ Summer Percent _____ Fall Percent
Total Seasons = 100% operating time

14. Input Materials and Usage Rates (attach additional materials as necessary)

Name of Input Material	CAS No. (if applicable)	Input Rate Per Hour	Identify Unit of Measure	Input Rate Per Year	Identify Unit of Measure
petroleum product					

15. Output Materials and Production Rates (attach additional materials as necessary)

Name of Output Material or Product	CAS No. (if applicable)	Output Rate Per Hour	Identify Unit of Measure	Output Rate Per Year	Identify Unit of Measure
petroleum product					

16. Waste Streams - Solid and Liquid (attach additional materials as necessary)

Name of Waste Material or Waste Product	CAS No. (if applicable)	Waste Generation Rate Per Hour	Identify Unit of Measure	Waste Generation Rate Per Year	Identify Unit of Measure

17. Total Stack Emissions for this Equipment/Process

Nitrogen Oxides	_____	lbs/operating day
Carbon Monoxide	_____	lbs/operating day
Sulfur Oxides	_____	lbs/operating day
Particulate Matter (PM-10)	_____	lbs/operating day
Particulate Matter (PM-2.5)	_____	lbs/operating day
Volatile Organic Compounds	_____	lbs/operating day
Greenhouse Gases (CO_{2e})	_____	lbs/operating day

18. Total Fugitive Emissions for this Equipment/Process

Nitrogen Oxides	_____	lbs/operating day
Carbon Monoxide	_____	lbs/operating day
Sulfur Oxides	_____	lbs/operating day
Particulate Matter (PM-10)	_____	lbs/operating day
Particulate Matter (PM-2.5)	_____	lbs/operating day
Volatile Organic Compounds	24.61	lbs/operating day
Greenhouse Gases (CO_{2e})	_____	lbs/operating day

19. Required Documents

☑ Air Quality Permit to Construct Application Checklist - Include all required items on the checklist with the Form 5 application

☐ Check this box if this application includes confidential information and submit one confidential copy of the application and one copy with all confidential information removed.

20. Responsible Party Certification Statement

"I CERTIFY UNDER PENALTY OF LAW THAT THE INFORMATION SUBMITTED IN THIS REQUEST FOR COVERAGE IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

Responsible Party Signature Michael Diel **Date** 03/31/26

Printed Name and Title MIchael Diel - Terminal Operations Director

For ARA Use Only

Date Received:	
Date Reviewed:	
Reviewed By:	
ARA Premises Number:	
Associated ARA Registration Number or Numbers:	

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FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Energy Transfer Marketing & Terminals LP

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:

Fugitive Emissions from Tank 3

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	**Seasonal Variation** Check box if none: ☒ Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	24	Spring Percent	
Days per week:	7	Summer Percent	
Weeks per year:	52	Fall Percent	

4. Emission Point Information

Height above ground (ft):		Length and width dimensions at top of rectangular stack (ft):	Length: NA	Width: NA	
Height above structures (ft):					
Exit temperature (ºF):	Ambient	Inside diameter at top of round stack (ft):		NA	
Exit velocity (ft/min):	NA	Distance from emission point to nearest property line (ft):		200	
Exhaust gas volumetric flow rate (acfm):	NA	Building dimensions if emission point is located on building (ft)	Height 48	Length 120	Width 120

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. ***A Form 6 is also required for each control device***. If none check none:

☒ None

☐ Baghouse No. _____

☐ Cyclone No. _____

☐ Elec. Precipitator (ESP) No. _____

☐ Dust Suppression System No. _____

☐ Venturi Scrubber No. _____

☐ Spray Tower/Packed Bed No. _____

☐ Carbon Adsorber No. _____

- ☐ Cartridge/Canister
- ☐ Regenerative

☐ Thermal Oxidizer No. _____

- ☐ Regenerative

☐ Catalytic Oxidizer No. _____

☐ Nitrogen Oxides Reduction No. _____

- ☐ Selective ☐ Non-Selective
- ☐ Catalytic ☐ Non-Catalytic

☐ Other No. _____
Specify:

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Particulate Matter (filterable as PM10)				
Particulate Matter (filterable as PM2.5)				
Particulate Matter (condensables)				
Volatile Organic Compounds (VOC)	1.03	1.03	24.61	4.49
Oxides of Sulfur (SOx)				
Oxides of Nitrogen (NOx)				
Carbon Monoxide (CO)				
Lead (Pb)				
Greenhouse Gases (GHG)	**At Design Capacity (lb/hr)**	**At Projected Operations**		
		(lb/hr)	**(lb/day)**	**(ton/yr)**
Carbon Dioxide (CO_2)				
Methane (CH_4)				
Nitrous Oxide (N_2O)				
Hydrofluorocarbons (HFCs)				
Perfluorocarbons (PFCs)				
Sulfur Hexafluoride (SF6)				
Total GHG (as CO_2e)				
List individual federal Hazardous Air Pollutants (HAP) below:	**At Design Capacity (lb/hr)**	**At Projected Operations**		
		(lb/hr)	**(lb/day)**	**(ton/yr)**
See Appendix 3				

(Attach additional sheets as necessary.)

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FORM 5
APPLICATION FOR
PROCESSING OR MANUFACTURING EQUIPMENT/PROCESS

☑ Permit to Construct ☐ Registration Update ☐ Initial Registration

1. Owner Information

Owner Name: Energy Transfer Marketing & Terminals, LP
Owner Street Address: 1300 Main St
City/State/Zip Code: Houston, TX 77002

2. Location of Equipment/Process

☑ Check if different from above. If checked, complete the following:
Premises Name: Energy Transfer Marketing & Terminals, LP - Baltimore Terminal
Premises Street Address: 2155 Northbridge Avenue
City/State/Zip Code: Baltimore, MD 21226

3. Contact Information

Contact Name: Jessica Gamez
Job Title: Senior Engineer
Phone Number: 713-989-5145
Email Address: Jessica.Gamez@ENERGYTRANSFER.COM

4. Workers' Compensation Coverage Information

Before a Permit to Construct may be issued by the Department, the applicant must provide the Department with proof of worker's compensation coverage as required under Section 1-202 of the Workers' Compensation Act.

Company Name: Ace American Insurance Company
Binder/Policy Number: WLR C72798090 Expiration Date: 9/15/2026

5. Person Installing Equipment/Process (if different from 1 above)

Installer Name and Title:
Installer Company Name:
Installer Street Address:
City/State/Zip Code:
Phone Number:

6. Description of Major Activity, Product, or Service of Company at this Location (include applicable SIC code)

Energy Transfer owns and operates the Terminal as a petroleum bulk storage and transfer facility. Petroleum products are received at the facility via pipeline and barge, stored in tanks, and loaded into cargo tanks from an eight-bay loading rack.

7. Installation Type

☐ New Equipment/Process
☑ Modification to Existing Equipment/Process
☐ Existing Equipment/Process

8. Projected Construction/Existing Operation Dates

Projected Construction Start Date: Dec 2026
Projected Construction End Date: Apr 2027
Projected Operating Date of New/Modified Equipment/Process: Apr 2027
Existing Equipment/Process Initial Operating Date: N/A

9. Description of the Equipment/Process (include make, model, manufacturer, rated capacity, as applicable)

Tank 16 internal floating roof tank containing petroleum product.

10. Supplemental Equipment/Process Information

Number of Pieces of Identical Equipment Units to be Registered/Permitted at this Time: 0

Number of Stack/Emission Points Associated with the Equipment/Process:
Fugitive Emissions Source? ☑ Yes ☐ No
Note: Complete a Form 5EP for each stack/emission point or fugitive discharge area.

11. Control Devices Associated with this Equipment/Process

Note: Complete a Form 6 for each control device.

☑ None ☐ Baghouse/Fabric Filter ☐ Cyclone ☐ Electrostatic Precipitator
☐ Dust Suppression ☐ Venturi Scrubber ☐ Adsorption System ☐ Spray Tower/Packed Bed
☐ Oxidizer ☐ Nitrogen Oxides Reduction ☐ Other, specify:

12. Fuel Consumption for this Equipment/Process

☐ Natural Gas _____ 1000 cubic feet/year
☐ Propane/LP Gas _____ 100 gallons/year
☐ Distillate Fuel Oil _____ 1000 gallons/year
☐ Residual Fuel Oil _____ 1000 gallons/year
☐ Coal (attach fuel specifications) _____ tons/year
☐ Wood (attach fuel specifications) _____ tons/year
☐ Other (describe): _____ **(specify units)**

13. Operating Schedule for this Equipment/Process

☐ Continuous Operation
☐ Batch Process
_____ hours/batch _____ batches/week
_____ operating hours/day
_____ operating days/week
_____ operating days/year

Seasonal Variation? ☐ Yes ☑ No
If yes, complete the following:

_____ Winter Percent _____ Spring Percent
_____ Summer Percent _____ Fall Percent
Total Seasons = 100% operating time

14. Input Materials and Usage Rates (attach additional materials as necessary)

Name of Input Material	CAS No. (if applicable)	Input Rate Per Hour	Identify Unit of Measure	Input Rate Per Year	Identify Unit of Measure
petroleum product					

15. Output Materials and Production Rates (attach additional materials as necessary)

Name of Output Material or Product	CAS No. (if applicable)	Output Rate Per Hour	Identify Unit of Measure	Output Rate Per Year	Identify Unit of Measure
petroleum product					

16. Waste Streams - Solid and Liquid (attach additional materials as necessary)

Name of Waste Material or Waste Product	CAS No. (if applicable)	Waste Generation Rate Per Hour	Identify Unit of Measure	Waste Generation Rate Per Year	Identify Unit of Measure

17. Total Stack Emissions for this Equipment/Process

Nitrogen Oxides	_____	lbs/operating day
Carbon Monoxide	_____	lbs/operating day
Sulfur Oxides	_____	lbs/operating day
Particulate Matter (PM-10)	_____	lbs/operating day
Particulate Matter (PM-2.5)	_____	lbs/operating day
Volatile Organic Compounds	_____	lbs/operating day
Greenhouse Gases (CO_{2e})	_____	lbs/operating day

18. Total Fugitive Emissions for this Equipment/Process

Nitrogen Oxides	_____	lbs/operating day
Carbon Monoxide	_____	lbs/operating day
Sulfur Oxides	_____	lbs/operating day
Particulate Matter (PM-10)	_____	lbs/operating day
Particulate Matter (PM-2.5)	_____	lbs/operating day
Volatile Organic Compounds	10.12	lbs/operating day
Greenhouse Gases (CO_{2e})	_____	lbs/operating day

19. Required Documents

☑ Air Quality Permit to Construct Application Checklist - Include all required items on the checklist with the Form 5 application

☐ Check this box if this application includes confidential information and submit one confidential copy of the application and one copy with all confidential information removed.

20. Responsible Party Certification Statement

"I CERTIFY UNDER PENALTY OF LAW THAT THE INFORMATION SUBMITTED IN THIS REQUEST FOR COVERAGE IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

Responsible Party Signature Michael Diel **Date** 03/31/26

Printed Name and Title MIchael Diel - Terminal Operations Director

For ARA Use Only

Date Received:	
Date Reviewed:	
Reviewed By:	
ARA Premises Number:	
Associated ARA Registration Number or Numbers:	

MARYLAND DEPARTMENT OF THE ENVIRONMENT
Air and Radiation Management Administration ● Air Quality Permits Program
1800 Washington Boulevard ● Baltimore, Maryland 21230
(410)537-3230 ● 1-800-633-6101● www.mde.maryland.gov

FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Energy Transfer Marketing & Terminals LP

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:

Fugitive Emissions from Tank 16

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	**Seasonal Variation** Check box if none: ☒ Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	24	Spring Percent	
Days per week:	7	Summer Percent	
Weeks per year:	52	Fall Percent	

4. Emission Point Information

Height above ground (ft):		Length and width dimensions at top of rectangular stack (ft):	Length: NA	Width: NA	
Height above structures (ft):					
Exit temperature (ºF):	Ambient	Inside diameter at top of round stack (ft):		NA	
Exit velocity (ft/min):	NA	Distance from emission point to nearest property line (ft):		140	
Exhaust gas volumetric flow rate (acfm):	NA	Building dimensions if emission point is located on building (ft)	Height 47.4	Length 60	Width 60

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. ***A Form 6 is also required for each control device***. If none check none:

- ☒ None
- ☐ Baghouse No. _____
- ☐ Cyclone No. _____
- ☐ Elec. Precipitator (ESP) No. _____
- ☐ Dust Suppression System No. _____
- ☐ Venturi Scrubber No. _____
- ☐ Spray Tower/Packed Bed No. _____
- ☐ Carbon Adsorber No. _____
  - ☐ Cartridge/Canister
  - ☐ Regenerative
- ☐ Thermal Oxidizer No. _____
  - ☐ Regenerative
- ☐ Catalytic Oxidizer No. _____
- ☐ Nitrogen Oxides Reduction No. _____
  - ☐ Selective ☐ Non-Selective
  - ☐ Catalytic ☐ Non-Catalytic
- ☐ Other No. _____
  Specify:

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Particulate Matter (filterable as PM10)				
Particulate Matter (filterable as PM2.5)				
Particulate Matter (condensables)				
Volatile Organic Compounds (VOC)	0.42	0.42	10.12	1.85
Oxides of Sulfur (SOx)				
Oxides of Nitrogen (NOx)				
Carbon Monoxide (CO)				
Lead (Pb)				
Greenhouse Gases (GHG)	**At Design Capacity (lb/hr)**	**At Projected Operations**		
		(lb/hr)	**(lb/day)**	**(ton/yr)**
Carbon Dioxide (CO_2)				
Methane (CH_4)				
Nitrous Oxide (N_2O)				
Hydrofluorocarbons (HFCs)				
Perfluorocarbons (PFCs)				
Sulfur Hexafluoride (SF6)				
Total GHG (as CO_2e)				
List individual federal Hazardous Air Pollutants (HAP) below:	**At Design Capacity (lb/hr)**	**At Projected Operations**		
		(lb/hr)	**(lb/day)**	**(ton/yr)**
See Appendix 3				

(Attach additional sheets as necessary.)

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FORM 5
APPLICATION FOR
PROCESSING OR MANUFACTURING EQUIPMENT/PROCESS

☐ Permit to Construct ☐ Registration Update ☐ Initial Registration

1. Owner Information

Owner Name: Energy Transfer Marketing & Terminals, LP
Owner Street Address: 1300 Main St
City/State/Zip Code: Houston, TX 77002

2. Location of Equipment/Process

☑ Check if different from above. If checked, complete the following:
Premises Name: Energy Transfer Marketing & Terminals, LP - Baltimore Terminal
Premises Street Address: 2155 Northbridge Avenue
City/State/Zip Code: Baltimore, MD 21226

3. Contact Information

Contact Name: Jessica Gamez
Job Title: Senior Engineer
Phone Number: 713-989-5145
Email Address: Jessica.Gamez@ENERGYTRANSFER.COM

4. Workers' Compensation Coverage Information

Before a Permit to Construct may be issued by the Department, the applicant must provide the Department with proof of worker's compensation coverage as required under Section 1-202 of the Workers' Compensation Act.

Company Name: Ace American Insurance Company
Binder/Policy Number: WLR C72798090 Expiration Date: 9/15/2026

5. Person Installing Equipment/Process (if different from 1 above)

Installer Name and Title:
Installer Company Name:
Installer Street Address:
City/State/Zip Code:
Phone Number:

6. Description of Major Activity, Product, or Service of Company at this Location (include applicable SIC code)

Energy Transfer owns and operates the terminal as a petroleum bulk storage and transfer facility. Petroleum products are received at the facility via pipeline and barge, stored in tanks, and loaded into cargo tanks from an eight-bay loading rack

7. Installation Type

☐ New Equipment/Process
☑ Modification to Existing Equipment/Process
☐ Existing Equipment/Process

8. Projected Construction/Existing Operation Dates

Projected Construction Start Date: Dec 2026
Projected Construction End Date: Apr 2027
Projected Operating Date of New/Modified Equipment/Process: Apr 2027
Existing Equipment/Process Initial Operating Date: N/A

9. Description of the Equipment/Process (include make, model, manufacturer, rated capacity, as applicable)

Vapor combustion unit controlling emissions from loading operations

10. Supplemental Equipment/Process Information

Number of Pieces of Identical Equipment Units to be Registered/Permitted at this Time: 0

Number of Stack/Emission Points Associated with the Equipment/Process: 1

Fugitive Emissions Source? ☐ Yes ☑ No

Note: Complete a Form 5EP for each stack/emission point or fugitive discharge area.

11. Control Devices Associated with this Equipment/Process

Note: Complete a Form 6 for each control device.

☐ None ☐ Baghouse/Fabric Filter ☐ Cyclone ☐ Electrostatic Precipitator
☐ Dust Suppression ☐ Venturi Scrubber ☐ Adsorption System ☐ Spray Tower/Packed Bed
☑ Oxidizer ☐ Nitrogen Oxides Reduction ☐ Other, specify:

12. Fuel Consumption for this Equipment/Process

☐ Natural Gas _____ 1000 cubic feet/year
☑ Propane/LP Gas 354,135 100 gallons/year
☐ Distillate Fuel Oil _____ 1000 gallons/year
☐ Residual Fuel Oil _____ 1000 gallons/year
☐ Coal (attach fuel specifications) _____ tons/year
☐ Wood (attach fuel specifications) _____ tons/year
☐ Other (describe): _____ **(specify units)**

13. Operating Schedule for this Equipment/Process

☑ Continuous Operation
☐ Batch Process
_____ hours/batch _____ batches/week
_____ operating hours/day
_____ operating days/week
_____ operating days/year

Seasonal Variation? ☐ Yes ☑ No
If yes, complete the following:

_____ Winter Percent _____ Spring Percent
_____ Summer Percent _____ Fall Percent
Total Seasons = 100% operating time

14. Input Materials and Usage Rates (attach additional materials as necessary)

Name of Input Material	CAS No. (if applicable)	Input Rate Per Hour	Identify Unit of Measure	Input Rate Per Year	Identify Unit of Measure
petroleum product					

15. Output Materials and Production Rates (attach additional materials as necessary)

Name of Output Material or Product	CAS No. (if applicable)	Output Rate Per Hour	Identify Unit of Measure	Output Rate Per Year	Identify Unit of Measure
petroleum product					

16. Waste Streams - Solid and Liquid (attach additional materials as necessary)

Name of Waste Material or Waste Product	CAS No. (if applicable)	Waste Generation Rate Per Hour	Identify Unit of Measure	Waste Generation Rate Per Year	Identify Unit of Measure

17. Total Stack Emissions for this Equipment/Process

Nitrogen Oxides	3.92	lbs/operating day
Carbon Monoxide	9.81	lbs/operating day
Sulfur Oxides	0.04	lbs/operating day
Particulate Matter (PM-10)	0.12	lbs/operating day
Particulate Matter (PM-2.5)	0.12	lbs/operating day
Volatile Organic Compounds	8.08	lbs/operating day
Greenhouse Gases (CO_{2e})	5,025	lbs/operating day

18. Total Fugitive Emissions for this Equipment/Process

Nitrogen Oxides	_____	lbs/operating day
Carbon Monoxide	_____	lbs/operating day
Sulfur Oxides	_____	lbs/operating day
Particulate Matter (PM-10)	_____	lbs/operating day
Particulate Matter (PM-2.5)	_____	lbs/operating day
Volatile Organic Compounds	_____	lbs/operating day
Greenhouse Gases (CO_{2e})	_____	lbs/operating day

19. Required Documents

☑ Air Quality Permit to Construct Application Checklist - Include all required items on the checklist with the Form 5 application

☐ Check this box if this application includes confidential information and submit one confidential copy of the application and one copy with all confidential information removed.

20. Responsible Party Certification Statement

"I CERTIFY UNDER PENALTY OF LAW THAT THE INFORMATION SUBMITTED IN THIS REQUEST FOR COVERAGE IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

Responsible Party Signature Michael Diel **Date** 3/31/26

Printed Name and Title MIchael Diel - Terminal Operations Director

For ARA Use Only

Date Received:	
Date Reviewed:	
Reviewed By:	
ARA Premises Number:	
Associated ARA Registration Number or Numbers:	

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FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Energy Transfer Marketing & Terminals LP

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:
Vapor Combustion Unit (VCU)

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:
Vapor Combustion Unit (VCU) for control of vapors from gasoline loading operations

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	I	**Seasonal Variation** Check box if none: ☒ Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	24	Spring Percent	
Days per week:	7	Summer Percent	
Weeks per year:	2.6	Fall Percent	

4. Emission Point Information

Height above ground (ft):	30	Length and width dimensions at top of rectangular stack (ft):	Length:	Width:
Height above structures (ft):	30			
Exit temperature (ºF):	640	Inside diameter at top of round stack (ft):		8
Exit velocity (ft/min):	24	Distance from emission point to nearest property line (ft):		
Exhaust gas volumetric flow rate (acfm):	1,200	Building dimensions if emission point is located on building (ft)	Height	Length / Width

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. ***A Form 6 is also required for each control device***. If none check none:

- ☐ None
- ☐ Baghouse No. _____
- ☐ Cyclone No. _____
- ☐ Elec. Precipitator (ESP) No. _____
- ☐ Dust Suppression System No. _____
- ☐ Venturi Scrubber No. _____
- ☐ Spray Tower/Packed Bed No. _____
- ☐ Carbon Adsorber No. _____
  - ☐ Cartridge/Canister
  - ☐ Regenerative
- ☒ Thermal Oxidizer No. _____
  - ☐ Regenerative
- ☐ Catalytic Oxidizer No. _____
- ☐ Nitrogen Oxides Reduction No. _____
  - ☐ Selective ☐ Non-Selective
  - ☐ Catalytic ☐ Non-Catalytic
- ☐ Other No. _____
  Specify:

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Particulate Matter (filterable as PM10)	see Appendix 3			
Particulate Matter (filterable as PM2.5)	loading emissions			
Particulate Matter (condensables)				
Volatile Organic Compounds (VOC)				
Oxides of Sulfur (SOx)				
Oxides of Nitrogen (NOx)				
Carbon Monoxide (CO)				
Lead (Pb)				
Greenhouse Gases (GHG)	**At Design Capacity (lb/hr)**	**At Projected Operations**		
		(lb/hr)	**(lb/day)**	**(ton/yr)**
Carbon Dioxide (CO_2)				
Methane (CH_4)				
Nitrous Oxide (N_2O)				
Hydrofluorocarbons (HFCs)				
Perfluorocarbons (PFCs)				
Sulfur Hexafluoride (SF6)				
Total GHG (as CO_2e)				
List individual federal Hazardous Air Pollutants (HAP) below:	**At Design Capacity (lb/hr)**	**At Projected Operations**		
		(lb/hr)	**(lb/day)**	**(ton/yr)**

(Attach additional sheets as necessary.)

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FORM 5
APPLICATION FOR
PROCESSING OR MANUFACTURING EQUIPMENT/PROCESS

☐ Permit to Construct ☐ Registration Update ☐ Initial Registration

1. Owner Information

Owner Name: Energy Transfer Marketing & Terminals, LP
Owner Street Address: 1300 Main St
City/State/Zip Code: Houston, TX 77002

2. Location of Equipment/Process

☑ Check if different from above. If checked, complete the following:
Premises Name: Energy Transfer Marketing & Terminals, LP - Baltimore Terminal
Premises Street Address: 2155 Northbridge Avenue
City/State/Zip Code: Baltimore, MD 21226

3. Contact Information

Contact Name: Jessica Gamez
Job Title: Senior Engineer
Phone Number: 713-989-5145
Email Address: Jessica.Gamez@ENERGYTRANSFER.COM

4. Workers' Compensation Coverage Information

Before a Permit to Construct may be issued by the Department, the applicant must provide the Department with proof of worker's compensation coverage as required under Section 1-202 of the Workers' Compensation Act.

Company Name: Ace American Insurance Company
Binder/Policy Number: WLR C72798090 Expiration Date: 9/15/2026

5. Person Installing Equipment/Process (if different from 1 above)

Installer Name and Title:
Installer Company Name:
Installer Street Address:
City/State/Zip Code:
Phone Number:

6. Description of Major Activity, Product, or Service of Company at this Location (include applicable SIC code)

Energy Transfer owns and operates the terminal as a petroleum bulk storage and transfer facility. Petroleum products are received at the facility via pipeline and barge, stored in tanks, and loaded into cargo tanks from an eight-bay loading rack

7. Installation Type

☐ New Equipment/Process
☑ Modification to Existing Equipment/Process
☐ Existing Equipment/Process

8. Projected Construction/Existing Operation Dates

Projected Construction Start Date: Dec 2026
Projected Construction End Date: Apr 2027
Projected Operating Date of New/Modified Equipment/Process: Apr 2027
Existing Equipment/Process Initial Operating Date: N/A

9. Description of the Equipment/Process (include make, model, manufacturer, rated capacity, as applicable)

Vapor Recovery Unit controlling loading emissions to the cargo trucks.

10. Supplemental Equipment/Process Information

Number of Pieces of Identical Equipment Units to be Registered/Permitted at this Time: 0

Number of Stack/Emission Points Associated with the Equipment/Process: 1
Fugitive Emissions Source? ☐ Yes ☑ No
Note: Complete a Form 5EP for each stack/emission point or fugitive discharge area.

11. Control Devices Associated with this Equipment/Process

Note: Complete a Form 6 for each control device.

☐ None ☐ Baghouse/Fabric Filter ☐ Cyclone ☐ Electrostatic Precipitator
☐ Dust Suppression ☐ Venturi Scrubber ☑ Adsorption System ☐ Spray Tower/Packed Bed
☐ Oxidizer ☐ Nitrogen Oxides Reduction ☐ Other, specify:

12. Fuel Consumption for this Equipment/Process

☐ Natural Gas _____ 1000 cubic feet/year
☐ Propane/LP Gas _____ 100 gallons/year
☐ Distillate Fuel Oil _____ 1000 gallons/year
☐ Residual Fuel Oil _____ 1000 gallons/year
☐ Coal (attach fuel specifications) _____ tons/year
☐ Wood (attach fuel specifications) _____ tons/year
☐ Other (describe): _____ **(specify units)**

13. Operating Schedule for this Equipment/Process

☑ Continuous Operation
☐ Batch Process
_____ hours/batch _____ batches/week
_____ operating hours/day
_____ operating days/week
_____ operating days/year

Seasonal Variation? ☐ Yes ☑ No
If yes, complete the following:

_____ Winter Percent _____ Spring Percent
_____ Summer Percent _____ Fall Percent
Total Seasons = 100% operating time

14. Input Materials and Usage Rates (attach additional materials as necessary)

Name of Input Material	CAS No. (if applicable)	Input Rate Per Hour	Identify Unit of Measure	Input Rate Per Year	Identify Unit of Measure
petroleum product					

15. Output Materials and Production Rates (attach additional materials as necessary)

Name of Output Material or Product	CAS No. (if applicable)	Output Rate Per Hour	Identify Unit of Measure	Output Rate Per Year	Identify Unit of Measure
petroleum product					

16. Waste Streams - Solid and Liquid (attach additional materials as necessary)

Name of Waste Material or Waste Product	CAS No. (if applicable)	Waste Generation Rate Per Hour	Identify Unit of Measure	Waste Generation Rate Per Year	Identify Unit of Measure

17. Total Stack Emissions for this Equipment/Process

Nitrogen Oxides	_____	lbs/operating day
Carbon Monoxide	_____	lbs/operating day
Sulfur Oxides	_____	lbs/operating day
Particulate Matter (PM-10)	_____	lbs/operating day
Particulate Matter (PM-2.5)	_____	lbs/operating day
Volatile Organic Compounds	_____	lbs/operating day
Greenhouse Gases (CO_{2e})	_____	lbs/operating day

18. Total Fugitive Emissions for this Equipment/Process

Nitrogen Oxides	_____	lbs/operating day
Carbon Monoxide	_____	lbs/operating day
Sulfur Oxides	_____	lbs/operating day
Particulate Matter (PM-10)	_____	lbs/operating day
Particulate Matter (PM-2.5)	_____	lbs/operating day
Volatile Organic Compounds	_____	lbs/operating day
Greenhouse Gases (CO_{2e})	_____	lbs/operating day

19. Required Documents

See Appendix 3 for loading emissions. Emissions from the VRU are included as loading emissions

☑ Air Quality Permit to Construct Application Checklist - Include all required items on the checklist with the Form 5 application

☐ Check this box if this application includes confidential information and submit one confidential copy of the application and one copy with all confidential information removed.

20. Responsible Party Certification Statement

"I CERTIFY UNDER PENALTY OF LAW THAT THE INFORMATION SUBMITTED IN THIS REQUEST FOR COVERAGE IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

Responsible Party Signature Michael Diel **Date** 03/31/26

Printed Name and Title MIchael Diel - Terminal Operations Director

For ARA Use Only

Date Received:	
Date Reviewed:	
Reviewed By:	
ARA Premises Number:	
Associated ARA Registration Number or Numbers:	

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FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Energy Transfer Marketing & Terminals LP

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:

Vapor Recovery Unit (VRU) for control of vapors from gasoline loading operations

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	**Seasonal Variation** Check box if none: ☒ Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	24	Spring Percent	
Days per week:	7	Summer Percent	
Weeks per year:	49.6	Fall Percent	

4. Emission Point Information

Height above ground (ft):	30	Length and width dimensions at top of rectangular stack (ft):	Length:	Width:
Height above structures (ft):	30			
Exit temperature (ºF):	ambient	Inside diameter at top of round stack (ft):		8
Exit velocity (ft/min):	24	Distance from emission point to nearest property line (ft):		
Exhaust gas volumetric flow rate (acfm):	1200	Building dimensions if emission point is located on building (ft)	Height / Length / Width	

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. ***A Form 6 is also required for each control device***. If none check none:

- ☐ None
- ☐ Baghouse No. _____
- ☐ Cyclone No. _____
- ☐ Elec. Precipitator (ESP) No. _____
- ☐ Dust Suppression System No. _____
- ☐ Venturi Scrubber No. _____
- ☐ Spray Tower/Packed Bed No. _____
- ☒ Carbon Adsorber No. _____
  - ☐ Cartridge/Canister
  - ☒ Regenerative
- ☐ Thermal Oxidizer No. _____
  - ☐ Regenerative
- ☐ Catalytic Oxidizer No. _____
- ☐ Nitrogen Oxides Reduction No. _____
  - ☐ Selective ☐ Non-Selective
  - ☐ Catalytic ☐ Non-Catalytic
- ☐ Other No. _____
  Specify:

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Particulate Matter (filterable as PM10)	see Appendix 3			
Particulate Matter (filterable as PM2.5)	loading emissions			
Particulate Matter (condensables)				
Volatile Organic Compounds (VOC)				
Oxides of Sulfur (SOx)				
Oxides of Nitrogen (NOx)				
Carbon Monoxide (CO)				
Lead (Pb)				
Greenhouse Gases (GHG)	**At Design Capacity (lb/hr)**	**At Projected Operations**		
		(lb/hr)	**(lb/day)**	**(ton/yr)**
Carbon Dioxide (CO_2)				
Methane (CH_4)				
Nitrous Oxide (N_2O)				
Hydrofluorocarbons (HFCs)				
Perfluorocarbons (PFCs)				
Sulfur Hexafluoride (SF6)				
Total GHG (as CO_2e)				
List individual federal Hazardous Air Pollutants (HAP) below:	**At Design Capacity (lb/hr)**	**At Projected Operations**		
		(lb/hr)	**(lb/day)**	**(ton/yr)**

(Attach additional sheets as necessary.)

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FORM 5T: Toxic Air Pollutant (TAP) Emissions Summary and Compliance Demonstration

Applicant Name: Energy Transfer Marketing & Terminal

Step 1: Quantify premises-wide emissions of Toxic Air Pollutants (TAP) from new and existing installations in accordance with COMAR 26.11.15.04. Attach supporting documentation as necessary.

Toxic Air Pollutant (TAP)	CAS Number	Class I or Class II?	Screening Levels (µg/m^3)			Estimated Premises Wide Emissions of TAP			
						Actual Total Existing TAP Emissions	Projected TAP Emissions from Proposed Installation	Premises Wide Total TAP Emissions	
			1-hour	8-hour	Annual	(lb/hr)	(lb/hr)	(lb/hr)	(lb/yr)
ex. ethanol	*64175*	*II*	*18843*	*3769*	*N/A*	*0.60*	*0.15*	*0.75*	*1500*
ex. benzene	*71432*	*I*	*80*	*16*	*0.13*	*0.5*	*0.75*	*1.00*	*400*
1,2,4-Trimethylbenzene	95-63-6	II	--	1800	--	.01	.001	.01	64
Benzene	71-43-2	I	79.8671	15.9734	1.3	0.39	.004	0.39	3,422
Cumene	98-82-8	II	--	2457.8732	--	0.02	.001	0.02	136
Naphthalene	91-20-3	II	786.4417	524.2945	--	.0003	5.99E-05	0.0003	3
Isooctane	540-84-1	II	--	1,669.80	--	0.17	0.02	0.19	1,732

(attach additional sheets as necessary.)

Note: Screening levels can be obtained from the Department's website (http://www.mde.maryland.gov) or by calling the Department.

Step 2: Determine which TAPs are exempt from further review. A TAP that meets either of the following Class I or Class II small quantity emitter exemptions is exempt from further TAP compliance demonstration requirements under Step 3 and Step 4.

Class II TAP Small Quantity Emitter Exemption Requirements (COMAR 26.11.15.03B(3)(a))
A Class II TAP is exempt from Step 3 and Step 4 if the Class II TAP meets the following requirements: Premises wide emissions of the TAP shall not exceed 0.5 pounds per hour, and any applicable 1-hour or 8-hour screening level for the TAP must be greater than 200 µg/m^3.

Class I TAP Small Quantity Emitter Exemption Requirements (COMAR 26.11.15.03B(3)(b))
A Class I TAP is exempt from Step 3 and Step 4 if the Class I TAP meets the following requirements: Premises wide emissions of the TAP shall not exceed 0.5 pounds per hour and 350 pounds per year, any applicable 1-hour or 8-hour screening level for the TAP must be greater than 200 µg/m^3, and any applicable annual screening level for the TAP must be greater than 1 µg/m^3.

If a TAP meets either the Class I or Class II TAP Small Quantity Emitter Exemption Requirements, no further review under Step 3 and Step 4 are required for that specific TAP.

FORM 5T: Toxic Air Pollutant (TAP) Emissions Summary and Compliance Demonstration

Step 3: Best Available Control Technology for Toxics Requirement (T-BACT, COMAR 26.11.15.05)
In the following table, list all TAP emission reduction options considered when determining T-BACT for the proposed installation. The options should be listed in order beginning with the most effective control strategy to the least effective strategy. Attach supporting documentation as necessary.

Target Pollutants	Emission Control Option	% Emission Reduction	Costs		T-BACT Option Selected? (yes/no)
			Capital	Annual Operating	
ex. ethanol and benzene	*Thermal Oxidizer*	*99*	*$50,000*	*$100,000*	*no*
ex. ethanol and benzene	*Low VOC materials*	*80*	*0*	*$100.000*	*yes*
TAPs	VRU	97-99.97%	unknown	unknown	yes
TAPs	VCU	98.86-99.83%	unknown	unknown	yes

(attach additional sheets as necessary)

Step 4: Demonstrating Compliance with the Ambient Impact Requirement (COMAR 26.11.15.06)
Each TAP not exempt in Step 2 must be individually evaluated to determine that the emissions of the TAP will not adversely impact public health. The evaluation consists of a series of increasingly non-conservative (and increasingly rigorous) tests. Once a TAP passes a test in the evaluation, no further analysis is required for that TAP. "Demonstrating Compliance with the Ambient Impact Requirement under the Toxic Air Pollutant (TAP) Regulations (COMAR 26.11.15.06)" provides guidance on conducting the evaluation. Summarize your results in the following table. Attach supporting documentation as necessary.

Toxic Air Pollutant (TAP)	CAS Number	Screening Levels ($\mu g/m^3$)			Premises Wide Total TAP Emissions		Allowable Emissions Rate (AER) per COMAR 26.11.16.02A		Off-site Concentrations per Screening Analysis ($\mu g/m^3$)			Compliance Method Used?
		1-hour	8-hour	Annual	(lb/hr)	(lb/yr)	(lb/hr)	(lb/yr)	1-hour	8-hour	Annual	AER or Screen
ex. ethanol	*64175*	*18843*	*3769*	*N/A*	*0.75*	*1500*	*0.89*	*N/A*	*N/A*	*N/A*	*N/A*	*AER*
ex. benzene	*71432*	*80*	*16*	*0.13*	*1.00*	*400*	*0.04*	*36.52*	*1.5*	*1.05*	*0.12*	*Screen*
1,2,4-Trimethylbenzene	95-63-6	--	1800	--	0.01	64	6.444	--				AER
Benzene	71-43-2	79.87	15.97	1.3	0.39	3,422	0.057	474.5	15.49	10.84	1.24	Screen
Cumene	98-82-8	--	2457.87	--	0.02	136	8.799	--				AER
Naphthalene	99-20-3	786.44	524.29	--	0.0003	3	1.877	--				AER
Isooctane	540-84-1	--	1,669.80	--	0.19	1,732	5.978	--				AER

(attach additional sheets as necessary)

If compliance with the ambient impact requirement cannot be met using the allowable emissions rate method or the screening analysis method, refined dispersion modeling techniques may be required. Please consult with the Department's Air Quality Permit Program prior to conducting dispersion modeling methods to demonstrate compliance.

FORM 5T: Toxic Air Pollutant (TAP) Emissions Summary and Compliance Demonstration

Step 3: Best Available Control Technology for Toxics Requirement (T-BACT, COMAR 26.11.15.05)
In the following table, list all TAP emission reduction options considered when determining T-BACT for the proposed installation. The options should be listed in order beginning with the most effective control strategy to the least effective strategy. Attach supporting documentation as necessary.

Target Pollutants	Emission Control Option	% Emission Reduction	Costs		T-BACT Option Selected? (yes/no)
			Capital	Annual Operating	
ex. ethanol and benzene	*Thermal Oxidizer*	*99*	*$50,000*	*$100,000*	*no*
ex. ethanol and benzene	*Low VOC materials*	*80*	*0*	*$100.000*	*yes*
TAPs	VRU	97-99.97%	unknown	unknown	yes
TAPs	VCU	98.86-99.83%	unknown	unknown	yes

(attach additional sheets as necessary)

Step 4: Demonstrating Compliance with the Ambient Impact Requirement (COMAR 26.11.15.06)
Each TAP not exempt in Step 2 must be individually evaluated to determine that the emissions of the TAP will not adversely impact public health. The evaluation consists of a series of increasingly non-conservative (and increasingly rigorous) tests. Once a TAP passes a test in the evaluation, no further analysis is required for that TAP. "Demonstrating Compliance with the Ambient Impact Requirement under the Toxic Air Pollutant (TAP) Regulations (COMAR 26.11.15.06)" provides guidance on conducting the evaluation. Summarize your results in the following table. Attach supporting documentation as necessary.

Toxic Air Pollutant (TAP)	CAS Number	Screening Levels ($\mu g/m^3$)			Premises Wide Total TAP Emissions		Allowable Emissions Rate (AER) per COMAR 26.11.16.02A		Off-site Concentrations per Screening Analysis ($\mu g/m^3$)			Compliance Method Used?
		1-hour	8-hour	Annual	(lb/hr)	(lb/yr)	(lb/hr)	(lb/yr)	1-hour	8-hour	Annual	AER or Screen
ex. ethanol	*64175*	*18843*	*3769*	*N/A*	*0.75*	*1500*	*0.89*	*N/A*	*N/A*	*N/A*	*N/A*	*AER*
ex. benzene	*71432*	*80*	*16*	*0.13*	*1.00*	*400*	*0.04*	*36.52*	*1.5*	*1.05*	*0.12*	*Screen*
1,2,4-Trimethylbenzene	95-63-6	--	1800	--	0.01	64	6.444	--				AER
Benzene	71-43-2	79.87	15.97	1.3	0.39	3,422	0.057	474.5	15.45	10.82	1.24	Screen
Cumene	98-82-8	--	2457.87	--	0.02	136	8.799	--				AER
Naphthalene	99-20-3	786.44	524.29	--	0.0003	3	1.877	--				AER
Isooctane	540-84-1	--	1,669.80	--	0.19	1,732	5.978	--				AER

(attach additional sheets as necessary)

If compliance with the ambient impact requirement cannot be met using the allowable emissions rate method or the screening analysis method, refined dispersion modeling techniques may be required. Please consult with the Department's Air Quality Permit Program prior to conducting dispersion modeling methods to demonstrate compliance.

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FORM 5T: Toxic Air Pollutant (TAP) Emissions Summary and Compliance Demonstration

Applicant Name: Energy Transfer Marketing & Terminal

Step 1: Quantify premises-wide emissions of Toxic Air Pollutants (TAP) from new and existing installations in accordance with COMAR 26.11.15.04. Attach supporting documentation as necessary.

Toxic Air Pollutant (TAP)	CAS Number	Class I or Class II?	Screening Levels (µg/m^3)			Estimated Premises Wide Emissions of TAP			
						Actual Total Existing TAP Emissions	Projected TAP Emissions from Proposed Installation	Premises Wide Total TAP Emissions	
			1-hour	8-hour	Annual	(lb/hr)	(lb/hr)	(lb/hr)	(lb/yr)
ex. ethanol	*64175*	*II*	*18843*	*3769*	*N/A*	*0.60*	*0.15*	*0.75*	*1500*
ex. benzene	*71432*	*I*	*80*	*16*	*0.13*	*0.5*	*0.75*	*1.00*	*400*
Cyclohexane	110-82-7	II	--	3442.1268	--	0.07	.005	0.07	640
Ethylbenzene	100-41-4	II	--	868.38	--	0.04	.001	0.04	374
n-Hexane	110-54-3	II	--	1762.3722	--	0.33	.02	0.35	3,179
Toluene	108-88-3	II	--	753.6196	--	0.29	0.01	0.30	2,632

(attach additional sheets as necessary.)

Note: Screening levels can be obtained from the Department's website (http://www.mde.maryland.gov) or by calling the Department.

Step 2: Determine which TAPs are exempt from further review. A TAP that meets either of the following Class I or Class II small quantity emitter exemptions is exempt from further TAP compliance demonstration requirements under Step 3 and Step 4.

Class II TAP Small Quantity Emitter Exemption Requirements (COMAR 26.11.15.03B(3)(a))
A Class II TAP is exempt from Step 3 and Step 4 if the Class II TAP meets the following requirements: Premises wide emissions of the TAP shall not exceed 0.5 pounds per hour, and any applicable 1-hour or 8-hour screening level for the TAP must be greater than 200 µg/m^3.

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A Class I TAP is exempt from Step 3 and Step 4 if the Class I TAP meets the following requirements: Premises wide emissions of the TAP shall not exceed 0.5 pounds per hour and 350 pounds per year, any applicable 1-hour or 8-hour screening level for the TAP must be greater than 200 µg/m^3, and any applicable annual screening level for the TAP must be greater than 1 µg/m^3.

If a TAP meets either the Class I or Class II TAP Small Quantity Emitter Exemption Requirements, no further review under Step 3 and Step 4 are required for that specific TAP.

FORM 5T: Toxic Air Pollutant (TAP) Emissions Summary and Compliance Demonstration

Step 3: Best Available Control Technology for Toxics Requirement (T-BACT, COMAR 26.11.15.05)
In the following table, list all TAP emission reduction options considered when determining T-BACT for the proposed installation. The options should be listed in order beginning with the most effective control strategy to the least effective strategy. Attach supporting documentation as necessary.

Target Pollutants	Emission Control Option	% Emission Reduction	Costs		T-BACT Option Selected? (yes/no)
			Capital	Annual Operating	
ex. ethanol and benzene	*Thermal Oxidizer*	*99*	*$50,000*	*$100,000*	*no*
ex. ethanol and benzene	*Low VOC materials*	*80*	*0*	*$100.000*	*yes*
Same as Previous Sheet					

(attach additional sheets as necessary)

Step 4: Demonstrating Compliance with the Ambient Impact Requirement (COMAR 26.11.15.06)
Each TAP not exempt in Step 2 must be individually evaluated to determine that the emissions of the TAP will not adversely impact public health. The evaluation consists of a series of increasingly non-conservative (and increasingly rigorous) tests. Once a TAP passes a test in the evaluation, no further analysis is required for that TAP. "Demonstrating Compliance with the Ambient Impact Requirement under the Toxic Air Pollutant (TAP) Regulations (COMAR 26.11.15.06)" provides guidance on conducting the evaluation. Summarize your results in the following table. Attach supporting documentation as necessary.

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		1-hour	8-hour	Annual	(lb/hr)	(lb/yr)	(lb/hr)	(lb/yr)	1-hour	8-hour	Annual	AER or Screen
ex. ethanol	*64175*	*18843*	*3769*	*N/A*	*0.75*	*1500*	*0.89*	*N/A*	*N/A*	*N/A*	*N/A*	*AER*
ex. benzene	*71432*	*80*	*16*	*0.13*	*1.00*	*400*	*0.04*	*36.52*	*1.5*	*1.05*	*0.12*	*Screen*
Cyclohexane	110-82-7	--	3442.12	--	0.07	640	12.323	--				AER
Ethylbenzene	100-41-4	--	868.38	--	0.04	374	3.109	--				AER
n-Hexane	110-54-3	--	1762.37	--	0.35	3,179	6.309	--				AER
Toluene	108-88-3	--	753.61	--	0.30	2,632	2.698	--				AER
				--								

(attach additional sheets as necessary)

If compliance with the ambient impact requirement cannot be met using the allowable emissions rate method or the screening analysis method, refined dispersion modeling techniques may be required. Please consult with the Department's Air Quality Permit Program prior to conducting dispersion modeling methods to demonstrate compliance.

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FORM 5T: Toxic Air Pollutant (TAP) Emissions Summary and Compliance Demonstration

Applicant Name: Energy Transfer Marketing & Terminal

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						Actual Total Existing TAP Emissions	Projected TAP Emissions from Proposed Installation	Premises Wide Total TAP Emissions	
			1-hour	8-hour	Annual	(lb/hr)	(lb/hr)	(lb/hr)	(lb/yr)
ex. ethanol	*64175*	*II*	*18843*	*3769*	*N/A*	*0.60*	*0.15*	*0.75*	*1500*
ex. benzene	*71432*	*I*	*80*	*16*	*0.13*	*0.5*	*0.75*	*1.00*	*400*
Xylenes	1330-20-7	II	6512.8834	4341.9223	--	0.20	0.01	0.21	1,856

(attach additional sheets as necessary.)

Note: Screening levels can be obtained from the Department's website (http://www.mde.maryland.gov) or by calling the Department.

Step 2: Determine which TAPs are exempt from further review. A TAP that meets either of the following Class I or Class II small quantity emitter exemptions is exempt from further TAP compliance demonstration requirements under Step 3 and Step 4.

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FORM 5T: Toxic Air Pollutant (TAP) Emissions Summary and Compliance Demonstration

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Target Pollutants	Emission Control Option	% Emission Reduction	Costs		T-BACT Option Selected? (yes/no)
			Capital	Annual Operating	
ex. ethanol and benzene	*Thermal Oxidizer*	*99*	*$50,000*	*$100,000*	*no*
ex. ethanol and benzene	*Low VOC materials*	*80*	*0*	*$100.000*	*yes*
Same as Previous Sheet					

(attach additional sheets as necessary)

Step 4: Demonstrating Compliance with the Ambient Impact Requirement (COMAR 26.11.15.06)
Each TAP not exempt in Step 2 must be individually evaluated to determine that the emissions of the TAP will not adversely impact public health. The evaluation consists of a series of increasingly non-conservative (and increasingly rigorous) tests. Once a TAP passes a test in the evaluation, no further analysis is required for that TAP. "Demonstrating Compliance with the Ambient Impact Requirement under the Toxic Air Pollutant (TAP) Regulations (COMAR 26.11.15.06)" provides guidance on conducting the evaluation. Summarize your results in the following table. Attach supporting documentation as necessary.

Toxic Air Pollutant (TAP)	CAS Number	Screening Levels ($\mu g/m^3$)			Premises Wide Total TAP Emissions		Allowable Emissions Rate (AER) per COMAR 26.11.16.02A		Off-site Concentrations per Screening Analysis ($\mu g/m^3$)			Compliance Method Used?
		1-hour	8-hour	Annual	(lb/hr)	(lb/yr)	(lb/hr)	(lb/yr)	1-hour	8-hour	Annual	AER or Screen
ex. ethanol	*64175*	*18843*	*3769*	*N/A*	*0.75*	*1500*	*0.89*	*N/A*	*N/A*	*N/A*	*N/A*	*AER*
ex. benzene	*71432*	*80*	*16*	*0.13*	*1.00*	*400*	*0.04*	*36.52*	*1.5*	*1.05*	*0.12*	*Screen*
Xylenes	1330-20-7	6512.88	4341.92	--	0.21	1,856	15.544	--				AER

(attach additional sheets as necessary)

If compliance with the ambient impact requirement cannot be met using the allowable emissions rate method or the screening analysis method, refined dispersion modeling techniques may be required. Please consult with the Department's Air Quality Permit Program prior to conducting dispersion modeling methods to demonstrate compliance.

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FORM 6
APPLICATION FOR AIR QUALITY PERMIT TO CONSTRUCT FOR EMISSION CONTROL EQUIPMENT

1. Owner Information

Owner Name: Energy Transfer Marketing & Terminals, LP
Owner Address: 1300 Main St
City/State/Zip Code: Houston, TX 77002

2. Location of Equipment

☑ Check if different from above. If checked, complete the following:

Premises Name: Energy Transfer Marketing & Terminals, LP - Baltimore Terminal
Premises Address: 2155 Northbridge Ave
City/State/Zip Code: Baltimore, BD

3. Contact Information

Contact Name: Jessica Gamez
Job Title: Senior Engineer
Phone Number: 713-989-5145
Email Address: Jessica.Gamez@ENERGYTRANSFER.COM

4. Installation Type and Projected Construction Dates

☑ Modification to Existing Emission Control Equipment
☐ New Emission Control Equipment

Projected Construction Start Date: Dec 2026
Projected Construction End Date: Apr 2027

5. Type of Emission Control Equipment

☐ Baghouse/Fabric Filter	No. ____	☑ Thermal Oxidizer ☐ Regenerative	No. ____
☐ Cyclone	No. ____		
☐ Elec. Precipitator (ESP)	No. ____	☐ Catalytic Oxidizer	No. ____
☐ Dust Suppression System	No. ____	☐ Nitrogen Oxides Reduction ☐ Selective ☐ Non-Selective ☐ Catalytic ☐ Non-Catalytic	No. ____
☐ Venturi Scrubber	No. ____		
☐ Spray Tower/Packed Bed	No. ____	☐ Other Specify: ____	No. ____
☐ Adsorption System ☐ Cartridge/Canister ☐ Regenerative	No. ____		

6. Emission Control Equipment Manufacturer Information

Manufacturer: John Zink
Model: ZCT-7.5-9-50-X-2/8-2/8

7. Type of Process/Equipment (to be controlled by emission control equipment)

The gasoline loading rack uses a Vapor Recovery Unit (VRU) equipped with a Continuous Emissions Monitoring System (CEMS) or a VCU to control emissions from the loading rack during truck loading operations

8. Air Pollutants to be Controlled

☐ Nitrogen Oxides	____ Control Efficiency	☐ Particulate Matter	____ Control Efficiency
☐ Carbon Monoxide	____ Control Efficiency	☑ Volatile Organic Compounds	10 mg/l Control Efficiency
☐ Sulfur Oxides	____ Control Efficiency	☐ Other (describe):	____ Control Efficiency

9. Maximum Pre-Control Emissions (Pollutant Loading to Emission Control Device)

☐ Nitrogen Oxides	____ pounds/hour	☐ Particulate Matter	____ pounds/hour
☐ Carbon Monoxide	____ pounds/hour	☐ Volatile Organic Compounds	____ pounds/hour
☐ Sulfur Oxides	____ pounds/hour	☐ Other (describe):	____ pounds/hour

10. Equipment Costs

Capital Cost: $ unknown
Estimated Annual Operating Cost: $ unknown

FORM 6
APPLICATION FOR AIR QUALITY PERMIT TO CONSTRUCT FOR EMISSION CONTROL EQUIPMENT

11. Emission Control Equipment Design Specifications

General Information

Inlet Gas Stream Flow Rate: _____ ACFM
Inlet Gas Stream Temperature: _____ °F
Inlet Pressure: _____ in. H_2O

Outlet Gas Stream Flow Rate: : _____ ACFM
Outlet Gas Stream Temperature: _____ °F
Pressure Drop Range Across System:
Low _____ in. H_2O to High _____ in. H_2O

For Baghouse/Fabric Filters/Cyclones/ESPs:

Inlet Moisture Content: _____ weight %
Inlet Dust Loading: _____ grains/ACFD
For ESPs Only:
Type of ESP (wet or dry): Dry
Plate Cleaning System:
☐ Water Spray
☐ Rapping
☐ Other (specify: _____)
Describe ESP Operation and Cleaning Process: _____

For Scrubbers:

☐ Dry ☐ Wet
Scrubbing Liquid Medium
☐ Once Through ☐ Recirculating
Inlet Scrubber Liquid Feed Rate: _____ gal/min
Scrubber Liquid Make-up Rate: _____ gal/min
Scrubber Liquid Recirculation Rate: _____ gal/min
Scrubbing Liquid Composition _____ and Weight %: _____
pH Range of Scrubbing Liquid: Low _____ to High _____

For Thermal/Catalytic Oxidizers:

☐ Natural Gas Fired
☑ Propane Fired
☐ Other Fuel (specify: _____)
No. of Burners 4
Rated Heat Input 100 (total) MMBtu/hr, per Burner
Combustion Zone Temperature: 800 °F
Combustion Chamber Volume: 2,629 ft^3
Retention Time of Gases: 0.6 sec at 800 °F
For Catalytic Oxidizers Only:
Type of Catalyst: _____
Estimated Catalyst Life: _____ years
Catalyst Cleaning Frequency: _____ months
Describe Catalyst Activity Testing Procedures and Method of Cleaning: _____

For Adsorption Systems:

☐ Granulated Activated Carbon
☐ Synthetic Adsorbent
☐ Zeolite, Molecular Sieve
☐ Other (specify: _____)
No. of Beds/Canisters: _____
Arrangement (if 2 or more beds/canisters):
☐ In Series ☐ In Parallel
Canister/Bed Replacement Frequency: _____
Regeneration Cycle Time (if regenerated on-site): _____
Describe Breakthrough/Saturation Determination Process:

For Nitrogen Oxides Reduction Systems:

Catalyst Active Material: _____
Catalyst Life: _____ years
Catalyst Volume: _____ ft^3
Catalyst Bed Temperature Range:
Minimum: _____ °F to Maximum: _____ °F

Reducing Agent Information:
☐ Urea ☐ Anhydrous Ammonia
☐ Aqueous Ammonia _____ weight %
Reducing Agent Storage Tank Capacity: _____ gallons
Reducing Agent Injection Rate: _____ pounds per hour
Reducing Agent Outlet Concentration: _____ ppmv

12. Required Documents (Attach to Form 6 Application)

☐ Vendor/Manufacturer Specifications and Guarantees for Emission Control Equipment
☑ Process Flow Diagram including location of emission control equipment and emissions from source to emission point

13. Responsible Party Certification Statement

"I CERTIFY UNDER PENALTY OF LAW THAT THE INFORMATION SUBMITTED IN THIS REQUEST FOR COVERAGE IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

Responsible Party Signature *Michael Diel* **Date** 3/31/26

Printed Name and Title MIchael Diel - Terminal Operations Director

For ARA Use Only

Date Received:	
Date Reviewed:	
Reviewed By:	
ARA Premises Number:	
Associated ARA Registration Number or Numbers:	

MARYLAND DEPARTMENT OF THE ENVIRONMENT
Air and Radiation Administration ● Air Quality Permits Program
1800 Washington Boulevard ● Baltimore, Maryland 21230
(410) 537-3230 ● 1-800-633-6101● www.mde.maryland.gov

FORM 6
APPLICATION FOR AIR QUALITY PERMIT TO CONSTRUCT FOR EMISSION CONTROL EQUIPMENT

1. Owner Information

Owner Name: Energy Transfer Marketing & Terminals, LP
Owner Address: 1300 Main St
City/State/Zip Code: Houston, TX 77002

2. Location of Equipment

☑ Check if different from above. If checked, complete the following:

Premises Name: Energy Transfer Marketing & Terminals, LP - Baltimore Terminal
Premises Address: 2155 Northbridge Avenue
City/State/Zip Code: Baltimore, MD 21226

3. Contact Information

Contact Name: Jessica Gamez
Job Title: Senior Engineer
Phone Number: 713-989-5145
Email Address: Jessica.Gamez@ENERGYTRANSFER.COM

4. Installation Type and Projected Construction Dates

☑ Modification to Existing Emission Control Equipment
☐ New Emission Control Equipment

Projected Construction Start Date: Dec 2026
Projected Construction End Date: Apr 2027

5. Type of Emission Control Equipment

☐ Baghouse/Fabric Filter	No. ____	☐ Thermal Oxidizer ☐ Regenerative	No. ____
☐ Cyclone	No. ____		
☐ Elec. Precipitator (ESP)	No. ____	☐ Catalytic Oxidizer	No. ____
☐ Dust Suppression System	No. ____	☐ Nitrogen Oxides Reduction ☐ Selective ☐ Non-Selective ☐ Catalytic ☐ Non-Catalytic	No. ____
☐ Venturi Scrubber	No. ____		
☐ Spray Tower/Packed Bed	No. ____	☐ Other Specify: ____	No. ____
☑ Adsorption System ☐ Cartridge/Canister ☑ Regenerative	No. ____		

6. Emission Control Equipment Manufacturer Information

Manufacturer: John Zink
Model: S3-AAD-6-100-80-10

7. Type of Process/Equipment (to be controlled by emission control equipment)

The gasoline loading rack uses a VRU or a Vapor Combustion Unit (VCU) to control emissions from the loading rack during truck loading operations.

8. Air Pollutants to be Controlled

☐ Nitrogen Oxides	____ Control Efficiency	☐ Particulate Matter	____ Control Efficiency
☐ Carbon Monoxide	____ Control Efficiency	☑ Volatile Organic Compounds	10 mg/L Control Efficiency
☐ Sulfur Oxides	____ Control Efficiency	☐ Other (describe):	____ Control Efficiency

9. Maximum Pre-Control Emissions (Pollutant Loading to Emission Control Device)

☐ Nitrogen Oxides	____ pounds/hour	☐ Particulate Matter	____ pounds/hour
☐ Carbon Monoxide	____ pounds/hour	☐ Volatile Organic Compounds	____ pounds/hour
☐ Sulfur Oxides	____ pounds/hour	☐ Other (describe):	____ pounds/hour

10. Equipment Costs

Capital Cost: $ Unknown
Estimated Annual Operating Cost: $ Unknown

FORM 6
APPLICATION FOR AIR QUALITY PERMIT TO CONSTRUCT FOR EMISSION CONTROL EQUIPMENT

11. Emission Control Equipment Design Specifications

General Information

Inlet Gas Stream Flow Rate: 1,203 ACFM
Inlet Gas Stream Temperature: ambient °F
Inlet Pressure: less than 18 in. H_2O

Outlet Gas Stream Flow Rate: : 823 ACFM
Outlet Gas Stream Temperature: ambient °F
Pressure Drop Range Across System:
Low 0 in. H_2O to High 10 in. H_2O

For Baghouse/Fabric Filters/Cyclones/ESPs:

Inlet Moisture Content: _____ weight %
Inlet Dust Loading: _____ grains/ACFD
For ESPs Only:
Type of ESP (wet or dry): Dry
Plate Cleaning System:
☐ Water Spray
☐ Rapping
☐ Other (specify: _____)
Describe ESP Operation and Cleaning Process: _____

For Scrubbers:

☐ Dry ☐ Wet
Scrubbing Liquid Medium
☐ Once Through ☐ Recirculating
Inlet Scrubber Liquid Feed Rate: _____ gal/min
Scrubber Liquid Make-up Rate: _____ gal/min
Scrubber Liquid Recirculation Rate: _____ gal/min
Scrubbing Liquid Composition _____ and Weight %: _____
pH Range of Scrubbing Liquid: Low _____ to High _____

For Thermal/Catalytic Oxidizers:

☐ Natural Gas Fired
☐ Propane Fired
☐ Other Fuel (specify: _____)
No. of Burners _____
Rated Heat Input _____ MMBtu/hr, per Burner
Combustion Zone Temperature: _____ °F
Combustion Chamber Volume: _____ ft^3
Retention Time of Gases: _____ sec at _____ °F
For Catalytic Oxidizers Only:
Type of Catalyst: _____
Estimated Catalyst Life: _____ years
Catalyst Cleaning Frequency: _____ months
Describe Catalyst Activity Testing Procedures and Method of Cleaning: _____

For Adsorption Systems:

☑ Granulated Activated Carbon
☐ Synthetic Adsorbent
☐ Zeolite, Molecular Sieve
☐ Other (specify: _____)
No. of Beds/Canisters: 2
Arrangement (if 2 or more beds/canisters):
☐ In Series ☑ In Parallel
Canister/Bed Replacement Frequency: as needed
Regeneration Cycle Time (if regenerated on-site): 15 min
Describe Breakthrough/Saturation Determination Process:

Outlet vent through CEMS

For Nitrogen Oxides Reduction Systems:

Catalyst Active Material: _____
Catalyst Life: _____ years
Catalyst Volume: _____ ft^3
Catalyst Bed Temperature Range:
Minimum: _____ °F to Maximum: _____ °F

Reducing Agent Information:
☐ Urea ☐ Anhydrous Ammonia
☐ Aqueous Ammonia _____ weight %
Reducing Agent Storage Tank Capacity: _____ gallons
Reducing Agent Injection Rate: _____ pounds per hour
Reducing Agent Outlet Concentration: _____ ppmv

12. Required Documents (Attach to Form 6 Application)

☐ Vendor/Manufacturer Specifications and Guarantees for Emission Control Equipment
☑ Process Flow Diagram including location of emission control equipment and emissions from source to emission point

13. Responsible Party Certification Statement

"I CERTIFY UNDER PENALTY OF LAW THAT THE INFORMATION SUBMITTED IN THIS REQUEST FOR COVERAGE IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

Responsible Party Signature Michael Diel **Date** 3/31/26

Printed Name and Title MIchael Diel - Terminal Operations Director

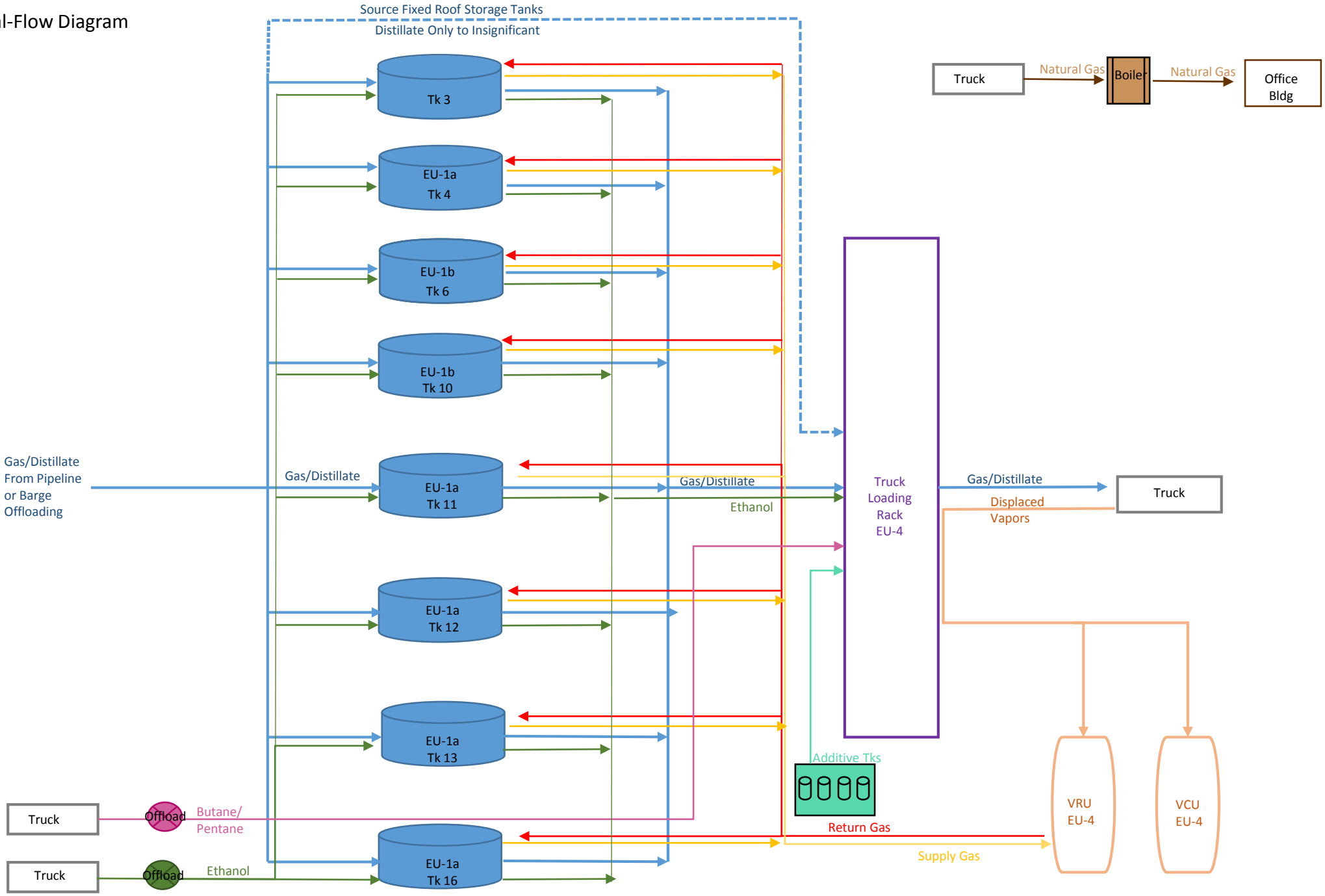
For ARA Use Only

Date Received:	
Date Reviewed:	
Reviewed By:	
ARA Premises Number:	
Associated ARA Registration Number or Numbers:	

APPENDIX 2
PROCESS FLOW DIAGRAM, AND PLOT PLAN

Baltimore Terminal-Flow Diagram

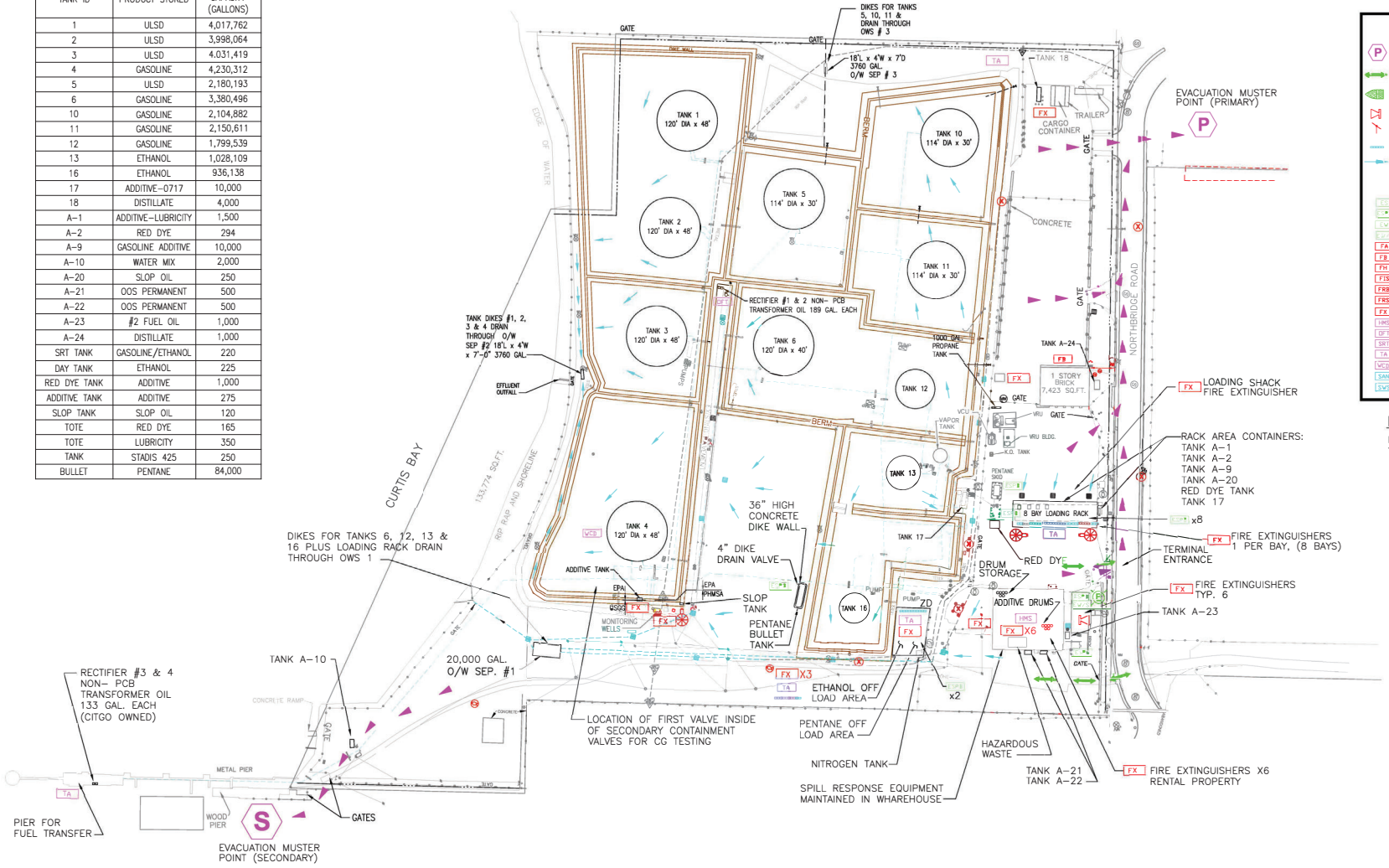
*Based on Potential Flow



TANK ID	PRODUCT STORED	SHELL CAPACITY (GALLONS)
1	ULSD	4,017,762
2	ULSD	3,998,064
3	ULSD	4,031,419
4	GASOLINE	4,230,312
5	ULSD	2,180,193
6	GASOLINE	3,380,496
10	GASOLINE	2,104,882
11	GASOLINE	2,150,611
12	GASOLINE	1,799,539
13	ETHANOL	1,028,109
16	ETHANOL	936,138
17	ADDITIVE–0717	10,000
18	DISTILLATE	4,000
A–1	ADDITIVE–LUBRICITY	1,500
A–2	RED DYE	294
A–9	GASOLINE ADDITIVE	10,000
A–10	WATER MIX	2,000
A–20	SLOP OIL	250
A–21	OOS PERMANENT	500
A–22	OOS PERMANENT	500
A–23	#2 FUEL OIL	1,000
A–24	DISTILLATE	1,000
SRT TANK	GASOLINE/ETHANOL	220
DAY TANK	ETHANOL	225
RED DYE TANK	ADDITIVE	1,000
ADDITIVE TANK	ADDITIVE	275
SLOP TANK	SLOP OIL	120
TOTE	RED DYE	165
TOTE	LUBRICITY	350
TANK	STADIS 425	250
BULLET	PENTANE	84,000

1. THIS DRAWING IS CURRENT FOR FRP INFORMATION ONLY. ALL BACKROUND INFORMATION IS FOR REFERENCE ONLY AND MAY NOT BE ACCURATE.

2. THERE ARE NO SURFACE IMPOUNDMENTS AT THE FACILITY.



LEGEND

- EVACUATION MUSTER POINT (PRIMARY)
- EVACUATION MUSTER POINT (SECONDARY)
- EMERGENCY EQUIPMENT INGRESS AND EGRESS
- EVACUATION ROUTE
- RESCUE BOAT
- EMERGENCY LIGHT
- SIREN
- WHEELED FIRE EXTINGUISHER
- FIRE MONITOR
- FIRE HYDRANT
- ZIPPER DRAIN
- MANHOLE
- DRAINAGE FLOW
- CATCH BASIN
- AGENCY REGULATION INTERFACE (I.E. USCG, PHMSA, EPA)

- ES — EMERGENCY SHOWER
- EPB — EMERGENCY SHUTDOWN PUSHBUTTON
- EW — EMERGENCY EYEWASH
- E/S — EMERGENCY EYEWASH/SHOWER
- FA — FIRE ALARM
- FB — FIRE BLANKET
- FH — FIRE HOSE
- FIS — FOAM INITIATION SWITCH
- FRB — FIRE RETARDENT INITATION BUTTON
- FRS — FIRE RETARDENT SYSTEM
- FX — FIRE EXTINGUISHER
- HMS — HAZARDOUS MATERIAL STORAGE
- OFT — OIL FILLED TRANSFORMER
- SRT — SPILL RESPONSE TRAILER
- TA — TRANSFER AREA
- WCD — WORST CASE DISCHARGE
- SAN — SANITARY SEWER
- SWS — STORM WATER SEWER

REFERENCE DWGS.

BALT_PP_0003 – DRAINAGE DRAWING
T_BALT_C100000 – OVERALL SITE PLAN

PROPERTY ADDRESS:
2155 NORTHBRIDGE AVE.
BLOCK: 7335G BALTIMORE, MD
21226 LOT: 4

NEAREST INTERSECTING STREET:
NORTHWEST CORNER OF PROPERTY EXTENDS TO INTERSECTION OF NORTHBRIDGE AVE. & FAIRFIELD AVE.

SCALE : 1" = 60'

REV	DESCRIPTION	BY	DATE	CHK'D	APP'D
14	REVISED AS INDICATED	TAP	7–22–20	JC	JA
13	REVISED AS INDICATED	TAP	5–14–20	SK	
12	REVISED TO ADD DIKE TO PENTANE TANK	DSG	8–15–19	SK	

FACILITY CODE OR ACCOUNT NO.: BALT
CONSTRUCTION YEAR:

	BY	DATE
DRAWN	DSG	03/13/06
CHECK		
APPROVED		

SCALE: 1"=60'

REFERENCE DRAWINGS

ENERGY TRANSFER

BALTIMORE
FACILITY RESPONSE PLAN

WBS NO.
OLD DRAWING NO.
DRAWING NO. T_BALT_FRP0100
REV. NO. 14

FILENAME: C:\Users\V12sob\Desktop\TO BE SENT OUT\T_BALT_FRP0100.dwg PLOTTED: 8/4/2022 3:55:58 PM PLOTTED BY: ----

APPENDIX 3
DETAILED EMISSIONS CALCULATIONS

Energy Transfer LP
Baltimore Terminal
Emissions Summary - Project

Air Pollutant Emission Rates																
Emission Source	VOC		CO		NOx		PM		SOx		CO2		N2O		CH4	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Tank 3	1.03	4.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tank 16	0.42	1.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Loading*	2.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
VCU	0.34	1.47	0.41	1.79	0.16	0.72	4.96E-03	0.02	1.67E-03	0.01	208.90	915.00	1.44E-03	0.01	1.50E-03	0.01
Fugitive Emissions	0.02	0.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL EMISSIONS:	4.68	**7.91**	0.41	**1.79**	0.16	**0.72**	4.96E-03	**0.02**	1.67E-03	**0.01**	208.90	**915.00**	1.44E-03	**0.01**	1.50E-03	**0.01**

*Loading emissions are only presented in lb/hr as the project results in potential short term loading increase. However, annual loading is still limited by throughput limits.

VOC from the VCU is limited to VOC from assist gas. VOC emitted as part of product loading are included in loading emissions.

Energy Transfer LP
Baltimore Terminal
Emissions Summary - Project

Air Pollutant Emission Rates														
Emission Source	Total HAPs		1,2,4-Trimethylbenzene		Benzene		Cumene		Naphthalene		Isooctane		Cyclohexane	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Tank 3	0.05	0.23	8.90E-04	3.90E-03	2.90E-03	0.01	9.03E-04	3.95E-03	5.50E-05	2.41E-04	0.01	0.06	3.11E-03	0.01
Tank 16	0.02	0.08	1.17E-04	5.11E-04	1.14E-03	4.97E-03	1.67E-04	7.31E-04	4.75E-06	2.08E-05	4.75E-03	0.02	1.21E-03	0.01
Loading*	0.06	--	2.48E-05	--	1.44E-04	--	1.87E-05	--	9.14E-08	--	8.27E-04	--	5.49E-04	--
VCU	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fugitive Emissions	9.87E-04	4.32E-03	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL EMISSIONS:	0.13	**0.31**	1.03E-03	**4.41E-03**	4.18E-03	**0.02**	1.09E-03	**4.69E-03**	5.99E-05	**2.62E-04**	0.02	**0.08**	4.88E-03	**0.02**

*Loading emissions are only presented in lb/hr as the project results in potential short term

VOC from the VCU is limited to VOC from assist gas. VOC emitted as part of product loadin

Energy Transfer LP
Baltimore Terminal
Emissions Summary - Project

Air Pollutant Emission Rates												
Emission Source	Ethylbenzene		Hexane		Toluene		Ethanol		Methanol		Xylene	
	lb/hr	TPY	lb/hr	TPY	lbs/hr	tpy	lb/hr	TPY	lb/hr	TPY	lbs/hr	tpy
Tank 3	9.49E-04	4.16E-03	0.02	0.07	0.01	0.04	--	--	--	--	0.01	0.02
Tank 16	2.34E-04	1.03E-03	0.01	0.03	3.14E-03	0.01	--	--	--	--	1.48E-03	0.01
Loading*	3.20E-05	--	9.26E-04	--	4.11E-04	--	1.25	--	0.06	--	2.26E-04	--
VCU	--	--	--	--	--	--	--	--	--	--	--	--
Fugitive Emissions	--	--	--	--	--	--	0.02	0.09	9.87E-04	4.32E-03	--	--
TOTAL EMISSIONS:	1.21E-03	**0.01**	0.02	**0.10**	0.01	**0.06**	1.28	**0.09**	0.06	**4.32E-03**	0.01	**0.03**

*Loading emissions are only presented in lb/hr as the project results in potential short term

VOC from the VCU is limited to VOC from assist gas. VOC emitted as part of product loading

Energy Transfer LP
Baltimore Terminal
Emissions Summary - PTE

Air Pollutant Emission Rates																
Emission Source	VOC		CO		NOx		PM		SOx		CO2		N2O		CH4	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Tank 1	0.37	1.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tank 2	0.37	1.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tank 3	1.00	4.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tank 4	0.48	2.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tank 5	0.20	0.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tank 6	1.34	5.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tank 10	3.71	16.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tank 11	2.97	13.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tank 12	0.41	1.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tank 13	0.72	3.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tank 16	0.44	1.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Loading	9.89	43.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--
VCU	0.34	1.47	0.54	2.36	0.22	0.94	0.01	0.03	2.20E-03	0.01	275.27	1,205.69	1.89E-03	0.01	1.98E-03	0.01
Fugitive Emissions	0.26	1.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL EMISSIONS:	22.50	**98.55**	0.54	**2.36**	0.22	**0.94**	0.01	**0.03**	2.20E-03	**0.01**	275.27	**1,205.69**	1.89E-03	**0.01**	1.98E-03	**0.01**

VOC from the VCU is limited to VOC from assist gas. VOC emitted as part of product loading are included in loading emissions.

Energy Transfer LP
Baltimore Terminal
Emissions Summary - PTE

Air Pollutant Emission Rates														
Emission Source	Total HAPs		1,2,4-Trimethylbenzene		Benzene		Cumene		Naphthalene		Isooctane		Cyclohexane	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Tank 1	0.10	0.43	--	--	0.04	0.18	8.95E-04	3.92E-03	--	--	--	--	--	--
Tank 2	0.08	0.35	--	--	0.04	0.18	8.93E-04	3.91E-03	--	--	--	--	--	--
Tank 3	0.04	0.19	3.99E-04	1.75E-03	2.73E-03	0.01	4.97E-04	2.18E-03	2.00E-05	8.76E-05	0.01	0.05	2.92E-03	0.01
Tank 4	0.02	0.09	2.92E-04	1.28E-03	1.33E-03	0.01	3.21E-04	1.41E-03	1.69E-05	7.39E-05	0.01	0.03	1.42E-03	0.01
Tank 5	0.05	0.23	--	--	0.02	0.10	4.77E-04	2.09E-03	--	--	--	--	--	--
Tank 6	0.06	0.25	4.46E-04	1.95E-03	3.63E-03	0.02	5.93E-04	2.60E-03	2.05E-05	8.97E-05	0.02	0.07	3.88E-03	0.02
Tank 10	0.15	0.66	8.14E-04	3.56E-03	9.95E-03	0.04	1.29E-03	0.01	2.65E-05	1.16E-04	0.04	0.18	0.01	0.05
Tank 11	0.12	0.53	7.10E-04	3.11E-03	7.98E-03	0.03	1.08E-03	4.75E-03	2.54E-05	1.11E-04	0.03	0.15	0.01	0.04
Tank 12	0.02	0.09	4.05E-04	1.77E-03	1.18E-03	0.01	4.02E-04	1.76E-03	2.55E-05	1.12E-04	0.01	0.02	1.27E-03	0.01
Tank 13	0.03	0.15	5.50E-04	2.41E-03	2.01E-03	0.01	5.72E-04	2.51E-03	3.33E-05	1.46E-04	0.01	0.04	2.16E-03	0.01
Tank 16	0.02	0.10	5.62E-04	2.46E-03	1.29E-03	0.01	5.36E-04	2.35E-03	3.66E-05	1.60E-04	0.01	0.03	1.39E-03	0.01
Loading	0.77	3.37	1.72E-03	0.01	0.25	1.12	0.01	0.03	6.34E-06	2.78E-05	0.06	0.25	0.04	0.17
VCU	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fugitive Emissions	0.03	0.11	1.52E-03	0.01	9.11E-04	3.99E-03	1.29E-03	0.01	1.07E-04	4.69E-04	0.01	0.03	8.38E-04	3.67E-03
TOTAL EMISSIONS:	1.50	**6.55**	0.01	**0.03**	0.39	**1.70**	0.02	**0.07**	3.18E-04	**1.39E-03**	0.19	**0.83**	0.07	**0.31**

VOC from the VCU is limited to VOC from assist gas. VOC emitted as part of product loadin

Energy Transfer LP
Baltimore Terminal
Emissions Summary - PTE

Air Pollutant Emission Rates												
Emission Source	Ethylbenzene		Hexane		Toluene		Ethanol		Methanol		Xylene	
	lb/hr	TPY	lb/hr	TPY	lbs/hr	tpy	lb/hr	TPY	lb/hr	TPY	lbs/hr	tpy
Tank 1	3.79E-03	0.02	0.01	0.06	0.02	0.09	--	--	--	--	0.02	0.08
Tank 2	3.78E-03	0.02	0.01	0.06	0.01	0.05	--	--	--	--	0.01	0.04
Tank 3	6.34E-04	2.78E-03	0.02	0.07	0.01	0.03	--	--	--	--	3.93E-03	0.02
Tank 4	3.66E-04	1.60E-03	0.01	0.03	4.06E-03	0.02	--	--	--	--	2.22E-03	0.01
Tank 5	2.02E-03	0.01	0.01	0.03	0.01	0.05	--	--	--	--	0.01	0.04
Tank 6	7.92E-04	3.47E-03	0.02	0.09	0.01	0.04	--	--	--	--	4.96E-03	0.02
Tank 10	1.93E-03	0.01	0.06	0.25	0.03	0.12	--	--	--	--	0.01	0.05
Tank 11	1.58E-03	0.01	0.05	0.20	0.02	0.10	--	--	--	--	0.01	0.04
Tank 12	4.12E-04	1.80E-03	0.01	0.03	3.99E-03	0.02	--	--	--	--	2.44E-03	0.01
Tank 13	6.19E-04	2.71E-03	0.01	0.05	0.01	0.03	--	--	--	--	3.71E-03	0.02
Tank 16	5.20E-04	2.28E-03	0.01	0.03	4.64E-03	0.02	--	--	--	--	3.04E-03	0.01
Loading	0.03	0.11	0.14	0.63	0.16	0.70	--	0.00	--	0.00	0.12	0.55
VCU	--	--	--	--	--	--	--	--	--	--	--	--
Fugitive Emissions	1.05E-03	4.61E-03	4.15E-03	0.02	0.01	0.03	--	--	--	--	0.01	0.03
TOTAL EMISSIONS:	0.04	**0.19**	0.35	**1.54**	0.30	**1.30**	--	**--**	--	**--**	0.21	**0.92**

VOC from the VCU is limited to VOC from assist gas. VOC emitted as part of product loadin

Energy Transfer LP
Baltimore Terminal
Emissions Specification and Speciation Data

VRU (I.e. Carbon)	VOC mg/l[1]	VOC lbs/gal
VRU Emission Rate (mg/l)	**10**	0.0000833

VCU (I.e. Burn)	VOC mg/l[1]	VOC lbs/gal	NOx mg/l[2]	NOx lbs/gal	CO mg/l[3]	CO lbs/gal
VCU Emission Rate (mg/l)	**10**	0.0000833	**4**	0.0000333	**10**	0.0000833

truck vapor tightness	VOC mg/l[4]	VOC lbs/gal
truck vapor tightness factor (mg/l)	**9**	0.0000749

1 mg/l = 8.33 x 10^{-6} lb/gal

[1] VRU and VCU limits of 10 mg VOC per liter of gasoline throughput; Emissions Unit EU-4, Part 70 Operating Permit No. 24-510-0703.

[2] VCU 4 mg/l NOx per CombustCo performance specification.

[3] VCU 10 mg/l CO per CombustCo performance specification.

[4] Truck vapor tightness 9 mg/l VOC factor per April 13, 1995 "Tank Truck Loading Fugitive Factor 8 mg/l vs. 13 mg/l" letter from L. Markovich, Radian Corporation to K. Ritter, API.

Gasoline Product Speciation

Pollutant	High Grade Gasoline WT% (liquid)[5]	Low-Grade Gasoline WT% (liquid)[5]	Vapor Pressure of Gasoline Product (psia)[5]	Specific Gravity of HAP[5]	Vapor Pressure of HAP (psia)[5]	Gasoline WT% (vapor, max of high-low gasoline products)[6]
Total VOC	100%	100%	5.9	--	--	100.00%
1,2,4-Trimethylbenzene	2.38%	1.88%	5.9	0.876	0.0205	0.0140%
Benzene	0.63%	0.80%	5.9	0.877	1.1600	0.2663%
Cumene	1.97%	1.54%	5.9	0.862	0.0510	0.0283%
Naphthalene	0.17%	0.15%	5.9	1.026	0.0025	0.0001%
Isooctane	6.02%	2.30%	5.9	0.688	0.8100	1.0977%
Cyclohexane	0.46%	0.92%	5.9	0.775	1.2180	0.2842%
Ethylbenzene	1.53%	1.13%	5.9	0.868	0.1080	0.0469%
Hexane	1.91%	3.79%	5.9	0.656	1.8760	1.5261%
Toluene	8.01%	5.56%	5.9	0.868	0.3090	0.7030%
Xylene	8.33%	6.13%	5.9	0.865	0.1290	0.3041%

[5] Gasoline speciation and component physical properties provided by Energy Transfer as the 2024 measured composition of high and low grade gasoline product throughput.

[6] Vapor Wt. Fraction of Component (lb/lb) = (Liquid vol% of Component/100) x (S.G. of Component / S.G. of Product) x (VP of Pure Component / VP of Product) x (1/0.7). Derived by David Carracappa of Sunoco Logistics based on AP-42 Section 7.1.4 (11/06) and ratio of gasoline vapor MW over gasoline liquid MW of 0.7 per API Publication 1673, May 1998.

Ethanol Product Speciation

Pollutant	Neat Ethanol WT% (liquid)[7]	Vapor Pressure of Neat Ethanol (psia)[8,9]	S.G. of HAP	Vapor Pressure of HAP (psia)[9]	Neat Ethanol WT% (vapor)
Total VOC	100.00%	0.648	--	--	100%
Ethanol	99.00%	0.648	0.789	0.6480	95.60%
Methanol	2.00%	0.648	0.791	1.4760	4.40%

[7] Neat ethanol product composition and component physical properties provided by Energy Transfer and from Sunoco Safety Data Sheet, "Fuel Ethanol Undenatured." 05/27/2015.

[8] Ethanol and methanol vapor pressure from Table 7.1-3. Available online at: https://www.epa.gov/system/files/documents/2025-09/c7s1_2025.pdf

[9] Ethanol and methanol vapor pressure from US EPA "Fuel Oxygenates and USTs." Available online at: https://www.epa.gov/ust/fuel-oxygenates-and-usts

[10] Vapor weight percent calculated based on Raoult's Law and equation 1-25 of AP-42 Chapter 7.1.

Ethanol molecular weight	46.07 g/mol
Methanol molecular weight	32.04 g/mol

Distillate Product Speciation

Name of Product	Name of Toxic Component[11]	Vapor Pressure of Product (psia)	Liquid Vol.%[12]	S.G. of HAP	Liquid Wt. %[11]	Vapor Pressure of HAP (psia)	Vapor Wt. Fraction (lb/lb)[13]
Diesel & Fuel Oil #2	Benzene	0.03	0.20%	0.87	0.2	1.16	0.11047619
Diesel & Fuel Oil #2	Cumene	0.03	0.10%	0.86	0.1	0.051	0.002428571
Diesel & Fuel Oil #2	Toluene	0.03	0.40%	0.865	0.4	0.309	0.058857143
Diesel & Fuel Oil #2	Xylenes	0.03	0.80%	0.87	0.8	0.129	0.049142857
Diesel & Fuel Oil #2	Ethyl Benzene	0.03	0.20%	0.867	0.2	0.108	0.010285714
Diesel & Fuel Oil #2	N-Hexane	0.03	0.05%	0.659	0.04	1.876	0.035733333

[11] Distillate speciation and component physical properties provided by Energy Transfer as the 2024 measured composition of distillate product throughput.

[12] Liquid Vol% = Liquid Wt.% x (S.G. of Product / S.G. of Compound) where S.G. Diesel & Fuel Oil #2 = 0.87, S.G. Kerosene = 0.81 and S.G. Transmix = 0.74. Liquid Vol% not used in calculation of Vapor Wt. Fraction but is provided for re

[13] Vapor Wt. Fraction of Compound (lb/lb) = (Liquid Wt.% of Compound/100) x (VP of Pure Compound / VP of Product) x (1/0.7). Derived by David Carracappa of Sunoco Logistics based on AP-42 Section 7.1.4 (11/06) and ratio of gasoline vapor MW over gasoline liquid MW of 0.7 per API Publication 1673, May 1998.

Vapor Control Units - Carbon Adsorbers

Name of Toxic Component	Carbon Adsorbers Control Efficiency (%)[14,15]	Low-Grade Gasoline (ton/gal)	High-Grade Gasoline EF (ton/gal)	Gasoline Max EF (ton/gal)
Benzene	99.97%	2.76E-12	2.15E-12	2.76E-12
Cumene	99.73%	2.09E-12	2.69E-12	2.69E-12
Naphthalene	99.73%	1.02E-14	1.16E-14	1.16E-14
Toluene	99.93%	1.19E-11	1.71E-11	1.71E-11
Xylenes	99.55%	3.51E-11	4.78E-11	4.78E-11
Ethyl Benzene	99.66%	4.11E-12	5.55E-12	5.55E-12
isooctane	99.62%	6.98E-11	1.83E-10	1.83E-10
N-Hexane	99.88%	8.43E-11	4.25E-11	8.43E-11
1,2,4 trimethylbenzene[15]	97.30%	1.03E-11	1.30E-11	1.30E-11
cyclohexane[15]	97.30%	2.99E-10	1.49E-10	2.99E-10

[14] Average HAP control efficiencies per Table 4-3, API Publication 347 (October 1998)

[15] Control efficiency assumed equal to overall VOC control efficiency provided in Table 4-3, API Publication 347 (October 1998).

Vapor Control Units - Thermal Oxidizers

Name of Toxic Component	Carbon Adsorbers Control Efficiency (%)[14,15]	Low-Grade Gasoline (ton/gal)	High-Grade Gasoline EF (ton/gal)	Gasoline Max EF (ton/gal)
Benzene	99.83%	1.22E-11	1.22E-11	1.22E-11
Cumene	99.61%	3.88E-12	3.88E-12	3.88E-12
Naphthalene	99.61%	1.67E-14	1.67E-14	1.67E-14
Toluene	98.86%	2.79E-10	2.79E-10	2.79E-10
Xylenes	99.60%	4.25E-11	4.25E-11	4.25E-11
Ethyl Benzene	100.00%	0.00E+00	0.00E+00	0.00E+00
isooctane	99.76%	1.16E-10	1.16E-10	1.16E-10
N-Hexane	99.48%	1.84E-10	1.84E-10	1.84E-10
1,2,4 trimethylbenzene[15]	99.47%	2.55E-12	2.55E-12	2.55E-12
cyclohexane[15]	99.47%	2.93E-11	2.93E-11	2.93E-11

[14] Average HAP control efficiencies per Table 4-3, API Publication 347 (October 1998)

[15] Control efficiency assumed equal to overall VOC control efficiency provided in Table 4-3, API Publication 347 (October 1998).

Energy Transfer LP
Baltimore Terminal
Internal Floating Roof Tanks Emissions Calculations - Project

Tank Name	Tank 3	Tank 3	Tank 16		
Tank ID	3	3	16		
Contents	Gasoline (94)	Ethanol (neat)	Gasoline (96-100 octane)		
Description				**Units**	**Notes**
Calculation Constants					
I - Annual Avg Total Solar Insolation Factor	1,274	1,274	1,274	Btu/ft^2/day	AP-42, Chapter 7 - Table 7.1-7 for Baltimore, MD
T_{AX} - Annual Avg Maximum Ambient Temperature	524.67	524.67	524.67	R	AP-42, Chapter 7 - Table 7.1-7 for Baltimore, MD
T_{AN} - Annual Avg Minimum Ambient Temperature	506.07	506.07	506.07	R	AP-42, Chapter 7 - Table 7.1-7 for Baltimore, MD
P_A - Atmospheric Pressure	14.62	14.62	14.62	psia	AP-42, Chapter 7 - Table 7.1-7 for Baltimore, MD
V - Annual Avg Ambient Wind Speed	7.2	7.2	7.2	mph	AP-42, Chapter 7 - Table 7.1-7 for Baltimore, MD
K_C - Product Factor	1	1	1	dimensionless	AP-42, Chapter 7 - Page 7.1-32
Calculation Inputs					
Tank Diameter	120.0	120.0	60.0	ft	Design Parameter
Tank Shell Height (H_S)	48.0	48.0	47.4	ft	Design Parameter
Tank Volume	4,018,000	4,018,000	873,600	gal	Design Parameter
Number of Tank Columns (N_C)	16	16	6	--	AP-42, Chapter 7 - Table 7.1-11
Effective Column Diameter (F_C)	1.1	1.1	1.1	ft	Design Parameter or AP-42, Chapter 7 - Page 7.1-37
Primary Seal	Mechanical-Shoe	Mechanical-Shoe	Mechanical-Shoe	--	Design Parameter
Seconday Seal	Rim-mounted	Rim-mounted	Rim-mounted	--	Design Parameter
Fitting Type (tight or average)	Average	Average	Average	--	Design Parameter
Rim Seal Loss Factor K_{Ra}	0.6	0.6	0.6	lb-mol/ft-yr	AP-42, Chapter 7 - Table 7.1-8
Rim Seal Loss Factor K_{Rb}	0.4	0.4	0.4	lb-mol/(mph)^n-ft-yr	AP-42, Chapter 7 - Table 7.1-8
Rim Seal Loss Factor n	1.0	1.0	1.0	dimensionless	AP-42, Chapter 7 - Table 7.1-8
Surface Color	White	White	White	--	Design Parameter
α - Tank Paint Solar Absorptance	0.25	0.25	0.25	dimensionless	AP-42, Chapter 7 - Table 7.1-6 - for white paint in average condition
Deck Seam (welded or bolted)	Welded	Welded	Welded	--	Design Parameter
K_D - Deck Seam Loss per Unit Seam Length Factor	0	0	0	lb-mol/ft-yr	AP-42, Chapter 7 - Equation 2-18
L_{seam} - Total Length of Deck Seams	--	--	--	ft	AP-42, Chapter 7 - Page 7.1-35
C_S - Shell Clingage Factor	0.0015	0.0015	0.0015	bbl/1000 ft^2	AP-42, Chapter 7 - Table 7.1-10 - for gasoline stored in light rust shell
Number of Deck Leg or Hanger Well (N_F)	41	41	17	dimensionless	AP-42, Chapter 7 - Table 7.1-12
RVP	15.00	N/A	15.00	psia	Component Property
Distillation Slope (S)	3.00	N/A	3.00	dimensionless	Component Property (AP-42, Chapter 7 - Table 7.1-2)
Constant A for P_{VA}	11.60	--	11.60	dimensionless	AP-42, Chapter 7 - Table 7.1-2 or Figure 7.1-14b
Constant B for P_{VA}	4937.93	--	4937.93	R	AP-42, Chapter 7 - Table 7.1-2 or Figure 7.1-14b
M_V - Vapor Molecular Weight	66.00	46.07	66.00	lb/lb-mole	AP-42, Chapter 7 - Equation 1-25 or Table 7.1-2
W_L - Average Organic Liquid Density	5.60	6.59	5.60	lb/gal	AP-42, Chapter 7 - Tables 7.1-2 and 7.1-3
Q - Throughput	3,650,000	3,650,000	146,000	bbl/yr	Design Parameter

Energy Transfer LP
Baltimore Terminal
Internal Floating Roof Tanks Emissions Calculations - Project

Tank Name	Tank 3	Tank 3	Tank 16		
Tank ID	3	3	16		
Contents	Gasoline (94)	Ethanol (neat)	Gasoline (96-100 octane)		
Calculated Values					
T_{AA} - Daily Average Ambient Temperature	515	515	515	R	AP-42, Chapter 7 - Equation 1-32 ((T_{AX} + T_{AN})/2)
T_B - Liquid Bulk Temperature	516	516	516	R	AP-42, Chapter 7 - Equation 1-33 (T_{AA} + 0.003αI)
T_{LA} - Daily Average Liquid Surface Temperature	517	517	517	R	AP-42, Chapter 7 - Equation 2-6 (0.3T_{AA} + 0.7T_B + 0.004αI)
P_{VA} - Vapor Pressure	7.8032	0.5978	7.8032	psia	AP-42, Chapter 7 - Equation 1-27 (exp[A-(B/T_{LX})]) or Antoine Equation
P* - Vapor Pressure Function	0.1885	0.0104	0.1885	dimensionless	AP-42, Chapter 7 - Equation 2-4
L_R - Rim Seal Loss	895.60	34.62	447.80	lb/yr	AP-42, Chapter 7 - Equation 2-3
F_F - Deck Fitting Loss	627.80	627.80	259.11	lb-mol/yr	AP-42, Chapter 7 - Equation 2-14
L_F - Deck Fitting Loss	7809.17	301.85	3223.06	lb/yr	AP-42, Chapter 7 - Equation 2-13 (F_FP*$M_V$$K_C$)
S_D - Deck Seam Length Factor	0.2	0.2	0.2	ft/ft^2	AP-42, Chapter 7 - Equation 2-18 or Table 7.1-16
L_D - Deck Seam Loss	0.00	0.00	0.00	lb/yr	AP-42, Chapter 7 - Equation 2-18
Potential VOC Emissions					
L_s - Standing Loss	8704.78	336.47	3670.86	lbs/yr	AP-42, Chapter 7 - Equation 2-2 (L_R+L_F+L_D)
L_w - Working Loss	276.27	325.12	21.40	lbs/yr	AP-42, Chapter 7 - Equation 2-19
L_t - Total Loss	8981.05	661.59	3692.25	lbs/yr	AP-42, Chapter 7 - Equation 2-1 (L_s + L_w)
Total VOC Emissions	4.491	0.33	1.846	tons/yr	
Total tanks VOCs	**4.491**	**0.331**	**1.846**	**tons/yr**	
Speciated VOC Emissions					
Total VOC	4.49	0.33	1.85	tons/yr	Total VOC Emissions * Total VOC Wt% (%)
1,2,4-Trimethylbenzene	0.0039	0.0000	0.0005	tons/yr	Total VOC Emissions * 1,2,4-Trimethylbenzene Wt% (%)
Benzene	0.0127	0.0000	0.0050	tons/yr	Total VOC Emissions * Benzene Wt% (%)
Cumene	0.0040	0.0000	0.0007	tons/yr	Total VOC Emissions * Cumene Wt% (%)
Naphthalene	0.0002	0.0000	0.0000	tons/yr	Total VOC Emissions * Naphthalene Wt% (%)
Isooctane	0.0561	0.0000	0.0208	tons/yr	Total VOC Emissions * Isooctane Wt% (%)
Cyclohexane	0.0136	0.0000	0.0053	tons/yr	Total VOC Emissions * Cyclohexane Wt% (%)
Ethylbenzene	0.0042	0.0000	0.0010	tons/yr	Total VOC Emissions * Ethylbenzene Wt% (%)
Hexane	0.0717	0.0000	0.0284	tons/yr	Total VOC Emissions * Hexane Wt% (%)
Toluene	0.0417	0.0000	0.0138	tons/yr	Total VOC Emissions * Toluene Wt% (%)
Ethanol	0.0000	0.3218	0.0000	tons/yr	Total VOC Emissions * Ethanol Wt% (%)
Methanol	0.0000	0.0107	0.0000	tons/yr	Total VOC Emissions * Methanol Wt% (%)
Xylene	0.0247	0.0000	0.0065	tons/yr	Total VOC Emissions * Xylene Wt% (%)

Conversion factors

1 bar =	14.5038 psi
1 Kelvin =	1.8 Rankine
1 barrel =	42 gal
Annual ethanol throughput	23,204,454 gal
Annual gasoline throughput	207,798,234 gal
Annual gasoline + ethanol limit	425,000,000 gal
Annual distillate limit	1,386,000,000 gal

Energy Transfer LP
Baltimore Terminal
Internal Floating Roof Tanks Emissions Calculations - PTE

Tank Name	Tank 4	Tank 11	Tank 12	Tank 13	Tank 3	Tank 16	Tank 6	Tank 10		
Tank ID	4	11	12	13	3	16	6	10		
Contents	Low Grade Gasoline	High Grade Gasoline	High Grade Gasoline	High Grade Gasoline	Gasoline (94)	Gasoline (96-100 octane)	Low Grade Gasoline	Low Grade Gasoline		
Description									**Units**	**Notes**
Calculation Constants										
I - Annual Avg Total Solar Insolation Factor	1,274	1,274	1,274	1,274	1,274	1,274	1,274	1,274	Btu/ft^2/day	AP-42, Chapter 7 - Table 7.1-7 for Baltimore, MD
T_{AX} - Annual Avg Maximum Ambient Temperature	524.67	524.67	524.67	524.67	524.67	524.67	524.67	524.67	R	AP-42, Chapter 7 - Table 7.1-7 for Baltimore, MD
T_{AN} - Annual Avg Minimum Ambient Temperature	506.07	506.07	506.07	506.07	506.07	506.07	506.07	506.07	R	AP-42, Chapter 7 - Table 7.1-7 for Baltimore, MD
P_A - Atmospheric Pressure	14.62	14.62	14.62	14.62	14.62	14.62	14.62	14.62	psia	AP-42, Chapter 7 - Table 7.1-7 for Baltimore, MD
V - Annual Avg Ambient Wind Speed	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	mph	AP-42, Chapter 7 - Table 7.1-7 for Baltimore, MD
K_C - Product Factor	1	1	1	1	1	1	1	1	dimensionless	AP-42, Chapter 7 - Page 7.1-32
Calculation Inputs										
Tank Diameter	120.0	114.0	78.0	68.0	120.0	60.0	120.0	114.0	ft	Design Parameter
Tank Shell Height (H_S)	51.0	30.0	48.0	38.0	48.0	47.4	40.0	30.0	ft	Design Parameter
Tank Volume	3,885,000	2,074,800	1,629,000	953,400	4,018,000	873,600	3,045,000	2,150,610	gal	Design Parameter
Number of Tank Columns (N_C)	0	25	0	8	16	6	16	25	--	Design Parameter
Effective Column Diameter (F_C)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	ft	Design Parameter or AP-42, Chapter 7 - Page 7.1-37
Primary Seal	Mechanical-Shoe	Wiper	Mechanical-Shoe	Mechanical-Shoe	Mechanical-Shoe	Mechanical-Shoe	Wiper	Mechanical-Shoe	--	Design Parameter
Seconday Seal	Wiper	Wiper	Wiper	Wiper	Rim-mounted	Rim-mounted	Wiper	N/A	--	Design Parameter
Fitting Type (tight or average)	Average	Average	Average	Average	Average	Average	Average	Average	--	Design Parameter
Rim Seal Loss Factor K_{Ra}	0.6	1.1	0.6	0.6	0.6	0.6	0.6	10.8	lb-mol/ft-yr	AP-42, Chapter 7 - Table 7.1-8
Rim Seal Loss Factor K_{Rb}	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	lb-mol/(mph)^n-ft-yr	AP-42, Chapter 7 - Table 7.1-8
Rim Seal Loss Factor n	1.0	1.5	1.0	1.0	1.0	1.0	1.0	2.0	dimensionless	AP-42, Chapter 7 - Table 7.1-8
Surface Color	White	White	White	White	White	White	White	White	--	Design Parameter
α - Tank Paint Solar Absorptance	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	dimensionless	AP-42, Chapter 7 - Table 7.1-6 - for white paint in average condition
Deck Seam (welded or bolted)	Welded	Bolted	Welded	Welded	Welded	Welded	Welded	Bolted	--	Design Parameter
K_D - Deck Seam Loss per Unit Seam Length Factor	0	0.14	0	0	0	0	0	0.14	lb-mol/ft-yr	AP-42, Chapter 7 - Equation 2-18
L_{seam} - Total Length of Deck Seams	--	--	--	--	--	--	--	--	ft	AP-42, Chapter 7 - Page 7.1-35
C_S - Shell Clingage Factor	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	bbl/1000 ft^2	AP-42, Chapter 7 - Table 7.1-10 - for gasoline or single-component stocks stored in light rust shell
Number of Deck Leg or Hanger Well (N_F)	41	38	23	20	41	17	41	38	dimensionless	AP-42, Chapter 7 - Table 7.1-12
RVP	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	psia	Component Property
Distillation Slope (S)	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	dimensionless	Component Property (AP-42, Chapter 7 - Table 7.1-2)
Constant A for P_{VA}	11.60	11.60	11.60	11.60	11.60	11.60	11.60	11.60	dimensionless	AP-42, Chapter 7 - Table 7.1-2 or Figure 7.1-14b
Constant B for P_{VA}	4937.93	4937.93	4937.93	4937.93	4937.93	4937.93	4937.93	4937.93	R	AP-42, Chapter 7 - Table 7.1-2 or Figure 7.1-14b
M_L - Vapor Molecular Weight	66.00	66.00	66.00	66.00	66.00	66.00	66.00	66.00	lb/lb-mole	AP-42, Chapter 7 - Equation 1-25 or Table 7.1-2
W_L - Average Organic Liquid Density	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	lb/gal	AP-42, Chapter 7 - Tables 7.1-2 and 7.1-3
Q - Throughput	1,264,881	1,264,881	1,264,881	1,264,881	1,264,881	1,264,881	1,264,881	1,264,881	bbl/yr	Design Parameter

Energy Transfer LP
Baltimore Terminal
Internal Floating Roof Tanks Emissions Calculations - PTE

Tank Name	Tank 4	Tank 11	Tank 12	Tank 13	Tank 3	Tank 16	Tank 6	Tank 10		
Tank ID	4	11	12	13	3	16	6	10		
Contents	Low Grade Gasoline	High Grade Gasoline	High Grade Gasoline	High Grade Gasoline	Gasoline (94)	Gasoline (96-100 octane)	Low Grade Gasoline	Low Grade Gasoline		
Calculated Values										
T_{AA} - Daily Average Ambient Temperature	515	515	515	515	515	515	515	515	R	AP-42, Chapter 7 - Equation 1-32 ((T_{AX} + T_{AN})/2)
T_B - Liquid Bulk Temperature	516	516	516	516	516	516	516	516	R	AP-42, Chapter 7 - Equation 1-33 (T_{AA} + 0.003αI)
T_{LA} - Daily Average Liquid Surface Temperature	517	517	517	517	517	517	517	517	R	AP-42, Chapter 7 - Equation 2-6 (0.3T_{AA} + 0.7T_B + 0.004αI)
P_{VA} - Vapor Pressure	7.8032	7.8032	7.8032	7.8032	7.8032	7.8032	7.8032	7.8032	psia	AP-42, Chapter 7 - Equation 1-27 (exp[A-(B/T_{LX})]) or Antoine Equation
P* - Vapor Pressure Function	0.1885	0.1885	0.1885	0.1885	0.1885	0.1885	0.1885	0.1885	dimensionless	AP-42, Chapter 7 - Equation 2-4
L_R - Rim Seal Loss	895.60	1559.84	582.14	507.51	895.60	447.80	895.60	15314.84	lb/yr	AP-42, Chapter 7 - Equation 2-3
F_F - Deck Fitting Loss	258.61	1595.47	234.91	451.51	627.80	259.11	865.61	1010.87	lb-mol/yr	AP-42, Chapter 7 - Equation 2-14
L_F - Deck Fitting Loss	3216.84	19845.99	2922.03	5616.31	7809.17	3223.06	10767.28	12574.18	lb/yr	AP-42, Chapter 7 - Equation 2-13 (F_FP*$M_V$$K_C$)
S_D - Deck Seam Length Factor	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	ft/ft^2	AP-42, Chapter 7 - Equation 2-18 or Table 7.1-16
L_D - Deck Seam Loss	0.00	4526.38	0.00	0.00	0.00	0.00	0.00	4526.38	lb/yr	AP-42, Chapter 7 - Equation 2-18
Potential VOC Emissions										
L_s - Standing Loss	4112.44	25932.22	3504.18	6123.82	8704.78	3670.86	11662.88	32415.40	lbs/yr	AP-42, Chapter 7 - Equation 2-2 (L_R+L_F+L_D)
L_w - Working Loss	83.49	109.09	128.45	166.41	95.74	185.36	95.74	109.09	lbs/yr	AP-42, Chapter 7 - Equation 2-19
L_t - Total Loss	4195.94	26041.31	3632.63	6290.23	8800.52	3856.22	11758.63	32524.49	lbs/yr	AP-42, Chapter 7 - Equation 2-1 (L_s + L_w)
Total VOC Emissions	2.10	13.02	1.82	3.15	4.40	1.93	5.88	16.26	tons/yr	
Total tanks VOCs	**2.098**	**13.021**	**1.816**	**3.145**	**4.400**	**1.928**	**5.879**	**16.262**	**tons/yr**	
Speciated VOC Emissions										
Total VOC	2.10	13.02	1.82	3.15	4.40	1.93	5.88	16.26	tons/yr	Total VOC Emissions * Total VOC Wt% (%)
1,2,4-Trimethylbenzene	0.0013	0.0031	0.0018	0.0024	0.0017	0.0025	0.0020	0.0036	tons/yr	Total VOC Emissions * 1,2,4-Trimethylbenzene Wt% (%)
Benzene	0.0058	0.0350	0.0052	0.0088	0.0120	0.0056	0.0159	0.0436	tons/yr	Total VOC Emissions * Benzene Wt% (%)
Cumene	0.0014	0.0047	0.0018	0.0025	0.0022	0.0023	0.0026	0.0057	tons/yr	Total VOC Emissions * Cumene Wt% (%)
Naphthalene	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001	tons/yr	Total VOC Emissions * Naphthalene Wt% (%)
Isooctane	0.0251	0.1456	0.0231	0.0386	0.0507	0.0257	0.0669	0.1812	tons/yr	Total VOC Emissions * Isooctane Wt% (%)
Cyclohexane	0.0062	0.0373	0.0056	0.0095	0.0128	0.0061	0.0170	0.0466	tons/yr	Total VOC Emissions * Cyclohexane Wt% (%)
Ethylbenzene	0.0016	0.0069	0.0018	0.0027	0.0028	0.0023	0.0035	0.0084	tons/yr	Total VOC Emissions * Ethylbenzene Wt% (%)
Hexane	0.0330	0.1999	0.0292	0.0499	0.0682	0.0315	0.0908	0.2494	tons/yr	Total VOC Emissions * Hexane Wt% (%)
Toluene	0.0178	0.0955	0.0175	0.0282	0.0344	0.0203	0.0448	0.1183	tons/yr	Total VOC Emissions * Toluene Wt% (%)
Ethanol	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	tons/yr	Total VOC Emissions * Ethanol Wt% (%)
Methanol	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	tons/yr	Total VOC Emissions * Methanol Wt% (%)
Xylene	0.0097	0.0440	0.0107	0.0162	0.0172	0.0133	0.0217	0.0538	tons/yr	Total VOC Emissions * Xylene Wt% (%)

Conversion factors

1 bar =	14.5038	psi
1 Kelvin =	1.8	Rankine
1 barrel =	42	gal
Annual ethanol throughput	0	gal
Annual gasoline + ethanol limit	425,000,000	gal
Annual distillate limit	1,386,000,000	gal

Annual throughput is equally distributed between tanks.

Energy Transfer LP
Baltimore Terminal
Fixed Roof Tanks Emissions Calculations - PTE

Tank Name	Tank 1	Tank 2	Tank 5		
Tank ID	1	2	5		
Contents	Distillate (ULSD)	Distillate (ULSD)	Distillate (2FO)		
Description				**Units**	**Notes**
Calculation Constants					
I - Annual Avg Total Solar Insolation Factor	1,274	1,274	1,274	$Btu/ft^2/day$	AP-42, Chapter 7 - Table 7.1-7 for Baltimore, MD
T_{AX} - Annual Avg Maximum Ambient Temperature	524.67	524.67	524.67	R	AP-42, Chapter 7 - Table 7.1-7 for Baltimore, MD
T_{AN} - Annual Avg Minimum Ambient Temperature	506.07	506.07	506.07	R	AP-42, Chapter 7 - Table 7.1-7 for Baltimore, MD
P_A - Atmospheric Pressure	14.62	14.62	14.62	psia	AP-42, Chapter 7 - Table 7.1-7 for Baltimore, MD
R - Ideal Gas Constant	10.731	10.731	10.731	$psia\text{-}ft^3/lb\text{-}mole\ R$	AP-42, Chapter 7 - Page 7.1-23
K_p - Working Loss Product Factor	0.75	0.75	0.75	dimensionless	AP-42 Chapter 7 - Page 7.1-29
K_B - Vent Setting Correction Factor	1	1	1	dimensionless	AP-42 Chapter 7 - Page 7.1-29
Calculation Inputs					
Tank Diameter	120.0	120.0	114.0	ft	Design Parameter
Tank Height (H_S)	48.0	47.6	30.0	ft	Design Parameter
Tank Capacity	3,885,000	3,885,000	821,236	gal	Design Parameter
Liquid Height (H_L)	24.0	23.8	15.0	ft	Design Parameter
Roof Type (Cone or Dome)	Cone	Cone	Cone	--	Design Parameter
Tank Shell Radius (R_S)	60	60	57	ft	Design Parameter
(If Cone) Tank Cone Roof Slope (S_R)	0.0625	0.0625	0.0625	ft/ft	Design Parameter
(If Dome) Tank Dome Roof Radius (R_R)	--	--	--	ft	Design Parameter
Tank Roof Height (H_R)	3.75	3.75	3.56	ft	AP-42, Chapter 7 - Equation 1-20 and 1-22
Surface Color	White	White	White	--	Design Parameter
α - Tank Paint Solar Absorptance	0.25	0.25	0.25	dimensionless	AP-42, Chapter 7 - Table 7.1-6 - for white paint in average condition
H_{RO} - Roof Outage	1.3	1.3	1.2	ft	AP-42, Chapter 7 - Equation 1-19 and 1-21
H_{vo} - Vapor Space Outage	25.3	25.1	16.2	ft	AP-42, Chapter 7 - Equation 1-18 ($H_S - H_L + H_{RO}$)
V_V - Vapor Space Volume	285570.8	283308.8	165226.4	ft^3	AP-42, Chapter 7 - Equation 1-3 ($PI/4*D^2*H_{VO}$)
ΔP_B - Breather Vent Pressure Setting Range	0.06	0.06	0.06	psia	AP-42, Chapter 7 - Equation 1-10
RVP	N/A	N/A	N/A	psia	Component Property
Distillation Slope (S)	N/A	N/A	N/A	dimensionless	Component Property
Constant A for P_{VA}	12.101	12.101	12.101	dimensionless	AP-42, Chapter 7 - Table 7.1-2 or Figure 7.1-14b
Constant B for P_{VA}	8907	8907	8907	R	AP-42, Chapter 7 - Table 7.1-2 or Figure 7.1-14b
M_v - Vapor Molecular Weight	130.00	130.00	130.00	lb/lb-mole	AP-42, Chapter 7 - Equation 1-25 or Table 7.1-2
Q - Throughput	462,000,000	462,000,000	462,000,000	gal/yr	Design Parameter

Energy Transfer LP
Baltimore Terminal
Fixed Roof Tanks Emissions Calculations - PTE

Tank Name	Tank 1	Tank 2	Tank 5		
Tank ID	1	2	5		
Contents	Distillate (ULSD)	Distillate (ULSD)	Distillate (2FO)		
Calculated Values					
ΔT_A - Daily Ambient Temperature Range	18.6	18.6	18.6	R	AP-42, Chapter 7 - Equation 1-11 (T_{AX} - T_{AN})
ΔT_V - Daily Vapor Temperature Range	19.4	19.4	19.4	R	AP-42, Chapter 7 - Equation 1-7 (0.7*ΔT_A + 0.02*α*I)
T_{AA} - Daily Average Ambient Temperature	515	515	515	R	AP-42, Chapter 7 - Equation 1-32 ((T_{AX} + T_{AN})/2)
T_B - Liquid Bulk Temperature	516	516	516	R	AP-42, Chapter 7 - Equation 1-33 (T_{AA} + 0.003αI)
T_{LA} - Daily Average Liquid Surface Temperature	518	518	518	R	AP-42, Chapter 7 - Equation 1-30 (0.4*T_{AA} + 0.6T_B + 0.005*α*I)
T_{LX} - Avg Maximum Liquid Surface Temperature	522.4	522.4	522.4	R	AP-42, Chapter 7 - Figure 7.1-17 (T_{LA} + 0.25 * ΔT_V)
T_{LN} - Avg Minimum Liquid Surface Temperature	512.7	512.7	512.7	R	AP-42, Chapter 7 - Figure 7.1-17 (T_{LA} - 0.25 * ΔT_V)
T_V - Average Vapor Temperature	519	519	519	R	AP-42, Chapter 7 - Equation 1-35 (0.7*T_{AA} + 0.3T_B + 0.009α*I)
P_{VA} - Vapor Pressure	0.0060	0.0060	0.0060	psia	AP-42, Chapter 7 - Equation 1-27 (exp[A-(B/T_{LA})]) or Antoine Equation
P_{VX} - Vapor Pressure at T_{LX}	0.0071	0.0071	0.0071	psia	AP-42, Chapter 7 - Equation 1-27 (exp[A-(B/T_{LX})]) or Antoine Equation
P_{VN} - Vapor Pressure at T_{LN}	0.0051	0.0051	0.0051	psia	AP-42, Chapter 7 - Equation 1-27 (exp[A-(B/T_{LN})]) or Antoine Equation
ΔP_V - Daily Vapor Pressure Range	0.0020	0.0020	0.0020	psia	AP-42, Chapter 7 - Equation 1-9 & Page 7.1-19 Note 5
K_e - Vapor Space Expansion Factor	0.033	0.033	0.033	dimensionless	AP-42, Chapter 7 - Equation 1-5 ($\Delta T_V/T_{LA}$ + ((ΔP_V - ΔP_B)/(P_A - ΔP_{VA}))
K_S - Vented Vapor Saturation Factor	0.99	0.99	0.99	dimensionless	AP-42, Chapter 7 - Equation 1-23 (1/(1 + 0.053P_{VA}*H_{VO}))
W_v - Stock Vapor Density	0.00	0.00	0.00	lb/ft^3	AP-42, Chapter 7 - Equation 1-24 (Mv * P_{VA}) / (R * T_V)
N - Number of Turnovers	118.9	118.9	562.6	dimensionless	
K_N - Working Loss Turnover (Saturation) Factor	0.42	0.42	0.22	dimensionless	AP-42, Chapter 7 - Page 7.1-29 (For N>36, K_N = (180 + N)/6N; For N≤36, K_N = 1)
V_Q - Net Working Loss Throughput	61,754,000	61,754,000	61,754,000	ft^3/yr	AP-42 Chapter 7 - Equation 1-41 (5.614*Q)
Potential VOC Emissions					
L_s - Standing Loss	488.68	484.84	283.56	lbs/yr	AP-42, Chapter 7 - Equation 1-2 (365 * Vv * Wv * Ke * Ks)
L_w - Working Loss	2737.96	2737.96	1437.76	lbs/yr	AP-42, Chapter 7 - Equation 1-37 (V_Q * K_N * K_p * W_V * K_B)
L_t - Total Loss	3226.64	3222.80	1721.32	lbs/yr	AP-42, Chapter 7 - Equation 1-1 (L_s + L_w)
Total uncontrolled VOC Emissions	1.61	1.61	0.86	tons/yr	
Speciated Uncontrolled VOC Emissions					
Total VOC	1.61	1.61	0.86	tons/yr	Total VOC Emissions * Total VOC Wt% (%)
Benzene	1.78E-01	1.78E-01	9.51E-02	tons/yr	Total VOC Emissions * Benzene Wt% (%)
Cumene	3.92E-03	3.91E-03	2.09E-03	tons/yr	Total VOC Emissions * Cumene Wt% (%)
Toluene	9.50E-02	9.48E-02	5.07E-02	tons/yr	Total VOC Emissions * Toluene Wt% (%)
Xylenes	7.93E-02	7.92E-02	4.23E-02	tons/yr	Total VOC Emissions * Xylenes Wt% (%)
Ethyl Benzene	1.66E-02	1.66E-02	8.85E-03	tons/yr	Total VOC Emissions * Ethyl Benzene Wt% (%)
n-Hexane	5.76E-02	5.76E-02	3.08E-02	tons/yr	Total VOC Emissions * n-Hexane Wt% (%)

Conversion factors

1 bar =	14.5038	psi
1 Kelvin =	1.8	Rankine
1 barrel =	42	gal
Annual distillate limit =	1,386,000,000	gal

Energy Transfer LP
Baltimore Terminal
Loading Emissions (tons) - Project

Loading Rack Emission Calculations:

Year: Project

Facility	Month	Product[1]	Total Gas Throughput (gal/mo)	VRU Throughput (gal/mo)	VCU Throughput (gal/mo)	Gas Load VOC - stack (tons)[2]	Gas Load VOC - Fug (tons)[3]
Baltimore	January	Gasoline	511,000	485,450	25,550	0.0213	0.0191
	February	Gasoline	511,000	485,450	25,550	0.0213	0.0191
	March	Gasoline	511,000	485,450	25,550	0.0213	0.0191
	April	Gasoline	511,000	485,450	25,550	0.0213	0.0191
	May	Gasoline	511,000	485,450	25,550	0.0213	0.0191
	June	Gasoline	511,000	485,450	25,550	0.0213	0.0191
	July	Gasoline	511,000	485,450	25,550	0.0213	0.0191
	August	Gasoline	511,000	485,450	25,550	0.0213	0.0191
	September	Gasoline	511,000	485,450	25,550	0.0213	0.0191
	October	Gasoline	511,000	485,450	25,550	0.0213	0.0191
	November	Gasoline	511,000	485,450	25,550	0.0213	0.0191
	December	Gasoline	511,000	485,450	25,550	0.0213	0.0191
	Total	Total Gasoline	6,132,000	5,825,400	306,600	0.2553	0.2298

[1] "Gasoline" throughput and emissions inclusive of "Low Grade Gas" and "High Grade Gas" product.

[2] Gas Load VOC - stack = ([VRU throughput (gal/mo) x VRU Emission Factor (lb/gal)] + [VCU throughput (gal/mo) x VCU Emission Factor (lb/gal)]) x (1 ton/2,000 lb).

[3] Gas Load VOC - Fug = Total Throughput (gal/mo) x Truck Vapor Tightness Emission Factor (lb/gal) x (1 ton/2,000 lb).

[4] Compound Emiss (tons) = { ([VRU throughput (gal/mo) x VRU compound Emiss Factor (lb/gal)] + [VCU throughput (gal/mo) x VCU compound Emiss Factor (lb/gal)]) x (1 t
+ (Gas Load VOC - Fug (tons) x Compound Vapor Wt. Fraction (lb/lb)).

[5] Non HAPs but calculated for Maryland TAP screening.

Based on historical VRU-VCU split over the past 3 years:

VRU Throughput Split **95%**

VCU Throughput Split **5%**

Energy Transfer LP
Baltimore Terminal
Loading Emissions (tons) - Project

Loading Rack Emission Calculations:

Year: Project

Facility	Month	Product[1]	Benzene	Cumene	Naphthalene	Toluene	Xylene	Ethylbenzene	Isooctane	Hexane	Total HAP	1,2,4-Trimethylbenzene	Cyclohexane	Stack All	Fug All
Baltimore	January	Gasoline	0.0001	6.83E-06	3.34E-08	0.0002	0.0001	1.17E-05	0.0003	0.0003	0.0009	9.05E-06	0.0002	0.5518	0.4978
	February	Gasoline	0.0001	6.83E-06	3.34E-08	0.0002	0.0001	1.17E-05	0.0003	0.0003	0.0009	9.05E-06	0.0002	0.5518	0.4978
	March	Gasoline	0.0001	6.83E-06	3.34E-08	0.0002	0.0001	1.17E-05	0.0003	0.0003	0.0009	9.05E-06	0.0002	0.5518	0.4978
	April	Gasoline	0.0001	6.83E-06	3.34E-08	0.0002	0.0001	1.17E-05	0.0003	0.0003	0.0009	9.05E-06	0.0002	0.5518	0.4978
	May	Gasoline	0.0001	6.83E-06	3.34E-08	0.0002	0.0001	1.17E-05	0.0003	0.0003	0.0009	9.05E-06	0.0002	0.5518	0.4978
	June	Gasoline	0.0001	6.83E-06	3.34E-08	0.0002	0.0001	1.17E-05	0.0003	0.0003	0.0009	9.05E-06	0.0002	0.5518	0.4978
	July	Gasoline	0.0001	6.83E-06	3.34E-08	0.0002	0.0001	1.17E-05	0.0003	0.0003	0.0009	9.05E-06	0.0002	0.5518	0.4978
	August	Gasoline	0.0001	6.83E-06	3.34E-08	0.0002	0.0001	1.17E-05	0.0003	0.0003	0.0009	9.05E-06	0.0002	0.5518	0.4978
	September	Gasoline	0.0001	6.83E-06	3.34E-08	0.0002	0.0001	1.17E-05	0.0003	0.0003	0.0009	9.05E-06	0.0002	0.5518	0.4978
	October	Gasoline	0.0001	6.83E-06	3.34E-08	0.0002	0.0001	1.17E-05	0.0003	0.0003	0.0009	9.05E-06	0.0002	0.5518	0.4978
	November	Gasoline	0.0001	6.83E-06	3.34E-08	0.0002	0.0001	1.17E-05	0.0003	0.0003	0.0009	9.05E-06	0.0002	0.5518	0.4978
	December	Gasoline	0.0001	6.83E-06	3.34E-08	0.0002	0.0001	1.17E-05	0.0003	0.0003	0.0009	9.05E-06	0.0002	0.5518	0.4978
	Total	Total Gasoline	0.0006	8.20E-05	4.01E-07	0.0018	0.0010	1.40E-04	0.0036	0.0041	0.0113	1.09E-04	0.0024	6.6220	5.9742

[1] "Gasoline" throughput and emissions inclusive of "Low Grade Gas" a

[2] Gas Load VOC - stack = ([VRU throughput (gal/mo) x VRU Emissi

[3] Gas Load VOC - Fug = Total Throughput (gal/mo) x Truck Vapor Ti

[4] Compound Emiss (tons) = { ([VRU throughput (gal/mo) x VRU coon/2,000 lb) }

+ (Gas Load VOC - Fug (tons) x Compound Vapor Wt. Fraction (lb/lb

[5] Non HAPs but calculated for Maryland TAP screening.

Based on historical VRU-VCU split over the past 3 years:

VRU Throughput Split **95%**

VCU Throughput Split **5%**

Year: Project

Facility	Month	Product	Total Throughput (gal/mo)	VRU Throughput (gal/mo)	VCU Throughput (gal/mo)	Load VOC - stack (tons)[6]	Load VOC - Fug (tons)[7]
Baltimore	January	Ethanol	12,775,000	12,136,250	606,813	0.5306	0.479
	February	Ethanol	12,775,000	12,136,250	606,813	0.5306	0.479
	March	Ethanol	12,775,000	12,136,250	606,813	0.5306	0.479
	April	Ethanol	12,775,000	12,136,250	606,813	0.5306	0.479
	May	Ethanol	12,775,000	12,136,250	606,813	0.5306	0.479
	June	Ethanol	12,775,000	12,136,250	606,813	0.5306	0.479
	July	Ethanol	12,775,000	12,136,250	606,813	0.5306	0.479
	August	Ethanol	12,775,000	12,136,250	606,813	0.5306	0.479
	September	Ethanol	12,775,000	12,136,250	606,813	0.5306	0.479
	October	Ethanol	12,775,000	12,136,250	606,813	0.5306	0.479
	November	Ethanol	12,775,000	12,136,250	606,813	0.5306	0.479
	December	Ethanol	12,775,000	12,136,250	606,813	0.5306	0.479
	Total	Ethanol	153,300,000	145,635,000	7,281,750	6.367	5.744

[6] Load VOC - stack = ([VRU throughput (gal/mo) x VRU Emission Factor (lb/gal)] + [VCU throughput (gal/mo) x VCU Emission Factor (lb/gal)]).

[7] Load VOC - Fug = Total Throughput (gal/mo) x Truck Vapor Tightness Emission Factor (lb/gal) x (1 ton/2,000 lb).

Year: Project

Facility	Month	Product	Total Throughput (gal/mo)	Load VOC - stack (tons)	Load VOC - Fug (tons)[8]	Benzene	Cumene
Baltimore	January	Diesel + Fuel Oil #2	0		0.0000	0.0000	0.0000
	February	Diesel + Fuel Oil #2	0		0.0000	0.0000	0.0000
	March	Diesel + Fuel Oil #2	0		0.0000	0.0000	0.0000
	April	Diesel + Fuel Oil #2	0		0.0000	0.0000	0.0000
	May	Diesel + Fuel Oil #2	0		0.0000	0.0000	0.0000
	June	Diesel + Fuel Oil #2	0		0.0000	0.0000	0.0000
	July	Diesel + Fuel Oil #2	0		0.0000	0.0000	0.0000
	August	Diesel + Fuel Oil #2	0		0.0000	0.0000	0.0000
	September	Diesel + Fuel Oil #2	0		0.0000	0.0000	0.0000
	October	Diesel + Fuel Oil #2	0		0.0000	0.0000	0.0000
	November	Diesel + Fuel Oil #2	0		0.0000	0.0000	0.0000
	December	Diesel + Fuel Oil #2	0		0.0000	0.0000	0.0000
	Total	Diesel + Fuel Oil #2	0		0.0000	0.0000	0.0000

[8] Load VOC - Fug (tons) = Distillate Oil No. 2 Emission Factor (0.014 lb/1,000 gal) x (Total Throughput (gal) / 1000) x (1 ton/2,000 lb). Emission factor per Table 5-2-5 of AP-42 (J

[9] Compound Emiss (tons) = Load VOC - Fug (tons) x Compound Vapor Wt. Fraction (lb/lb).

Year: Project

Facility	Month	Product	Ethanol	Methanol	Total HAP
Baltimore	January	Ethanol	0.4576	0.0211	0.0211
	February	Ethanol	0.4576	0.0211	0.0211
	March	Ethanol	0.4576	0.0211	0.0211
	April	Ethanol	0.4576	0.0211	0.0211
	May	Ethanol	0.4576	0.0211	0.0211
	June	Ethanol	0.4576	0.0211	0.0211
	July	Ethanol	0.4576	0.0211	0.0211
	August	Ethanol	0.4576	0.0211	0.0211
	September	Ethanol	0.4576	0.0211	0.0211
	October	Ethanol	0.4576	0.0211	0.0211
	November	Ethanol	0.4576	0.0211	0.0211
	December	Ethanol	0.4576	0.0211	0.0211
	Total	Ethanol	5.492	0.253	0.2527

[6] Load VOC - stack = ([VRU throughput (gal/mo) x VRU Emission Fa

[7] Load VOC - Fug = Total Throughput (gal/mo) x Truck Vapor Tightn

Year: Project

Facility	Month	Product	Naphthalene	Toluene	Xylene	Ethylbenzene	Isooctane	Hexane	Total HAPs
Baltimore	January	Diesel + Fuel Oil #2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	February	Diesel + Fuel Oil #2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	March	Diesel + Fuel Oil #2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	April	Diesel + Fuel Oil #2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	May	Diesel + Fuel Oil #2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	June	Diesel + Fuel Oil #2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	July	Diesel + Fuel Oil #2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	August	Diesel + Fuel Oil #2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	September	Diesel + Fuel Oil #2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	October	Diesel + Fuel Oil #2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	November	Diesel + Fuel Oil #2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	December	Diesel + Fuel Oil #2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Total	Diesel + Fuel Oil #2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

[8] Load VOC - Fug (tons) = Distillate Oil No. 2 Emission Factor (0.014une, 2008).

[9] Compound Emiss (tons) = Load VOC - Fug (tons) x Compound Vap

Energy Transfer LP
Baltimore Terminal
Loading Emissions (tons) - PTE

Loading Rack Emission Calculations:

Year: PTE

Facility	Month	Product[1]	Total Gas Throughput (gal/mo)	VRU Throughput (gal/mo)	VCU Throughput (gal/mo)	Gas Load VOC - stack (tons)[2]	Gas Load VOC - Fug (tons)[3]
Baltimore	January	Gasoline	35,416,667	33,645,833	1,770,833	1.4746	1.3271
	February	Gasoline	35,416,667	33,645,833	1,770,833	1.4746	1.3271
	March	Gasoline	35,416,667	33,645,833	1,770,833	1.4746	1.3271
	April	Gasoline	35,416,667	33,645,833	1,770,833	1.4746	1.3271
	May	Gasoline	35,416,667	33,645,833	1,770,833	1.4746	1.3271
	June	Gasoline	35,416,667	33,645,833	1,770,833	1.4746	1.3271
	July	Gasoline	35,416,667	33,645,833	1,770,833	1.4746	1.3271
	August	Gasoline	35,416,667	33,645,833	1,770,833	1.4746	1.3271
	September	Gasoline	35,416,667	33,645,833	1,770,833	1.4746	1.3271
	October	Gasoline	35,416,667	33,645,833	1,770,833	1.4746	1.3271
	November	Gasoline	35,416,667	33,645,833	1,770,833	1.4746	1.3271
	December	Gasoline	35,416,667	33,645,833	1,770,833	1.4746	1.3271
	Total	Total Gasoline	425,000,000	403,750,000	21,250,000	17.6949	15.9254

[1] "Gasoline" throughput and emissions inclusive of "Low Grade Gas" and "High Grade Gas" product.

[2] Gas Load VOC - stack = ([VRU throughput (gal/mo) x VRU Emission Factor (lb/gal)] + [VCU throughput (gal/mo) x VCU Emission Factor (lb/gal)]) x (1 ton/2,000 lb).

[3] Gas Load VOC - Fug = Total Throughput (gal/mo) x Truck Vapor Tightness Emission Factor (lb/gal) x (1 ton/2,000 lb).

[4] Compound Emiss (tons) = { ([VRU throughput (gal/mo) x VRU compound Emiss Factor (lb/gal)] + [VCU throughput (gal/mo) x VCU compound Emiss Factor (lb/gal)]) x (1 ton/2,000 lb) }
+ (Gas Load VOC - Fug (tons) x Compound Vapor Wt. Fraction (lb/lb)).

[5] Non HAPs but calculated for Maryland TAP screening.

VRU Throughput Spli **95%**
VCU Throughput Spli **5%**

Energy Transfer LP
Baltimore Terminal
Loading Emissions (tons) - PTE

Loading Rack Emission Calculations:
Year: PTE

Facility	Month	Product[1]	Benzene	Cumene	Naphthalene	Toluene	Xylene	Ethylbenzene	Isooctane	Hexane	Total HAP	1,2,4-Trimethylbenzene	Cyclohexane	Total TAP	Stack All	Fug All
Baltimore	January	Gasoline	0.0036	0.0005	2.31E-06	0.0104	0.0057	0.0008	0.0209	0.0234	0.0654	0.0006	0.0139	0.0799	1.4746	2.1356
	February	Gasoline	0.0036	0.0005	2.31E-06	0.0104	0.0057	0.0008	0.0209	0.0234	0.0654	0.0006	0.0139	0.0799	1.4746	2.1356
	March	Gasoline	0.0036	0.0005	2.31E-06	0.0104	0.0057	0.0008	0.0209	0.0234	0.0654	0.0006	0.0139	0.0799	1.4746	2.1356
	April	Gasoline	0.0036	0.0005	2.31E-06	0.0104	0.0057	0.0008	0.0209	0.0234	0.0654	0.0006	0.0139	0.0799	1.4746	2.1356
	May	Gasoline	0.0036	0.0005	2.31E-06	0.0104	0.0057	0.0008	0.0209	0.0234	0.0654	0.0006	0.0139	0.0799	1.4746	2.1356
	June	Gasoline	0.0036	0.0005	2.31E-06	0.0104	0.0057	0.0008	0.0209	0.0234	0.0654	0.0006	0.0139	0.0799	1.4746	2.1356
	July	Gasoline	0.0036	0.0005	2.31E-06	0.0104	0.0057	0.0008	0.0209	0.0234	0.0654	0.0006	0.0139	0.0799	1.4746	2.1356
	August	Gasoline	0.0036	0.0005	2.31E-06	0.0104	0.0057	0.0008	0.0209	0.0234	0.0654	0.0006	0.0139	0.0799	1.4746	2.1356
	September	Gasoline	0.0036	0.0005	2.31E-06	0.0104	0.0057	0.0008	0.0209	0.0234	0.0654	0.0006	0.0139	0.0799	1.4746	2.1356
	October	Gasoline	0.0036	0.0005	2.31E-06	0.0104	0.0057	0.0008	0.0209	0.0234	0.0654	0.0006	0.0139	0.0799	1.4746	2.1356
	November	Gasoline	0.0036	0.0005	2.31E-06	0.0104	0.0057	0.0008	0.0209	0.0234	0.0654	0.0006	0.0139	0.0799	1.4746	2.1356
	December	Gasoline	0.0036	0.0005	2.31E-06	0.0104	0.0057	0.0008	0.0209	0.0234	0.0654	0.0006	0.0139	0.0799	1.4746	2.1356
	Total	Total Gasoline	0.0438	0.0057	2.78E-05	0.1248	0.0686	0.0097	0.2512	0.2810	0.7848	0.0075	0.1666	0.9589	17.6949	25.6274

[1] "Gasoline" throughput and emissions inclusive of "Low Grade Ga
[2] Gas Load VOC - stack = ([VRU throughput (gal/mo) x VRU Em
[3] Gas Load VOC - Fug = Total Throughput (gal/mo) x Truck Vap
[4] Compound Emiss (tons) = { ([VRU throughput (gal/mo) x VRU
+ (Gas Load VOC - Fug (tons) x Compound Vapor Wt. Fraction (
[5] Non HAPs but calculated for Maryland TAP screening.

VRU Throughput Split **95%**
VCU Throughput Split **5%**

Year: PTE

Facility	Month	Product	Total Throughput (gal/mo)	VRU Throughput (gal/mo)	VCU Throughput (gal/mo)	Load VOC - stack (tons)[6]	Load VOC - Fug (tons)[7]
Baltimore	January	Ethanol	0	0	0	0.000	0.000
	February	Ethanol	0	0	0	0.000	0.000
	March	Ethanol	0	0	0	0.000	0.000
	April	Ethanol	0	0	0	0.000	0.000
	May	Ethanol	0	0	0	0.000	0.000
	June	Ethanol	0	0	0	0.000	0.000
	July	Ethanol	0	0	0	0.000	0.000
	August	Ethanol	0	0	0	0.000	0.000
	September	Ethanol	0	0	0	0.000	0.000
	October	Ethanol	0	0	0	0.000	0.000
	November	Ethanol	0	0	0	0.000	0.000
	December	Ethanol	0	0	0	0.000	0.000
	Total	Ethanol	0	0	0	0.000	0.000

[6] Load VOC - stack = ([VRU throughput (gal/mo) x VRU Emission Factor (lb/gal)] + [VCU throughput (gal/mo) x VCU Emission Factor (lb/gal)]).

[7] Load VOC - Fug = Total Throughput (gal/mo) x Truck Vapor Tightness Emission Factor (lb/gal) x (1 ton/2,000 lb).

Year: PTE

Facility	Month	Product	Total Throughput (gal/mo)	Load VOC - stack (tons)	Load VOC - Fug (tons)[8]	Benzene	Cumene
Baltimore	January	Diesel + Fuel Oil #2	115,500,000		0.8085	0.0893	0.0020
	February	Diesel + Fuel Oil #2	115,500,000		0.8085	0.0893	0.0020
	March	Diesel + Fuel Oil #2	115,500,000		0.8085	0.0893	0.0020
	April	Diesel + Fuel Oil #2	115,500,000		0.8085	0.0893	0.0020
	May	Diesel + Fuel Oil #2	115,500,000		0.8085	0.0893	0.0020
	June	Diesel + Fuel Oil #2	115,500,000		0.8085	0.0893	0.0020
	July	Diesel + Fuel Oil #2	115,500,000		0.8085	0.0893	0.0020
	August	Diesel + Fuel Oil #2	115,500,000		0.8085	0.0893	0.0020
	September	Diesel + Fuel Oil #2	115,500,000		0.8085	0.0893	0.0020
	October	Diesel + Fuel Oil #2	115,500,000		0.8085	0.0893	0.0020
	November	Diesel + Fuel Oil #2	115,500,000		0.8085	0.0893	0.0020
	December	Diesel + Fuel Oil #2	115,500,000		0.8085	0.0893	0.0020
	Total	Diesel + Fuel Oil #2	1,386,000,000		9.7020	1.0718	0.0236

[8] Load VOC - Fug (tons) = Distillate Oil No. 2 Emission Factor (0.014 lb/1,000 gal) x (Total Throughput (gal) / 1000) x (1 ton/2,000 lb). Emission factor per Table 5-2-5 of AP-42 (June, 2008).

[9] Compound Emiss (tons) = Load VOC - Fug (tons) x Compound Vapor Wt. Fraction (lb/lb).

Year: PTE

Facility	Month	Product	Ethanol	Methanol	Total HAP
Baltimore	January	Ethanol	0.000	0.000	0.000
	February	Ethanol	0.000	0.000	0.000
	March	Ethanol	0.000	0.000	0.000
	April	Ethanol	0.000	0.000	0.000
	May	Ethanol	0.000	0.000	0.000
	June	Ethanol	0.000	0.000	0.000
	July	Ethanol	0.000	0.000	0.000
	August	Ethanol	0.000	0.000	0.000
	September	Ethanol	0.000	0.000	0.000
	October	Ethanol	0.000	0.000	0.000
	November	Ethanol	0.000	0.000	0.000
	December	Ethanol	0.000	0.000	0.000
	Total	Ethanol	0.000	0.000	0.000

[6] Load VOC - stack = ([VRU throughput (gal/mo) x VRU Emissic

[7] Load VOC - Fug = Total Throughput (gal/mo) x Truck Vapor Ti

Year: PTE

Facility	Month	Product	Naphthalene	Toluene	Xylene	Ethylbenzene	Isooctane	Hexane	Total HAP
Baltimore	January	Diesel + Fuel Oil #2	0.0000	0.0476	0.0397	0.0083	0.0000	0.0289	0.2158
	February	Diesel + Fuel Oil #2	0.0000	0.0476	0.0397	0.0083	0.0000	0.0289	0.2158
	March	Diesel + Fuel Oil #2	0.0000	0.0476	0.0397	0.0083	0.0000	0.0289	0.2158
	April	Diesel + Fuel Oil #2	0.0000	0.0476	0.0397	0.0083	0.0000	0.0289	0.2158
	May	Diesel + Fuel Oil #2	0.0000	0.0476	0.0397	0.0083	0.0000	0.0289	0.2158
	June	Diesel + Fuel Oil #2	0.0000	0.0476	0.0397	0.0083	0.0000	0.0289	0.2158
	July	Diesel + Fuel Oil #2	0.0000	0.0476	0.0397	0.0083	0.0000	0.0289	0.2158
	August	Diesel + Fuel Oil #2	0.0000	0.0476	0.0397	0.0083	0.0000	0.0289	0.2158
	September	Diesel + Fuel Oil #2	0.0000	0.0476	0.0397	0.0083	0.0000	0.0289	0.2158
	October	Diesel + Fuel Oil #2	0.0000	0.0476	0.0397	0.0083	0.0000	0.0289	0.2158
	November	Diesel + Fuel Oil #2	0.0000	0.0476	0.0397	0.0083	0.0000	0.0289	0.2158
	December	Diesel + Fuel Oil #2	0.0000	0.0476	0.0397	0.0083	0.0000	0.0289	0.2158
	Total	Diesel + Fuel Oil #2	0.0000	0.5710	0.4768	0.0998	0.0000	0.3467	2.5897

[8] Load VOC - Fug (tons) = Distillate Oil No. 2 Emission Factor (0.

[9] Compound Emiss (tons) = Load VOC - Fug (tons) x Compound

Energy Transfer LP
Baltimore Terminal
VCU Combustion Emissions - Project

Vapor Combustion Unit (VCU) - NOx, SOx, CO, PM, CO2, N2O and CH4

Facility	Month	Product	Throughput (gal/mo)[1]	Displaced Volume (scf)[2]	MW of CO	MW of NOx
Baltimore	January	Gasoline + Ethanol	3,583,490	476,604	28	30
	February	Gasoline + Ethanol	3,583,490	476,604	28	30
	March	Gasoline + Ethanol	3,583,490	476,604	28	30
	April	Gasoline + Ethanol	3,583,490	476,604	28	30
	May	Gasoline + Ethanol	3,583,490	476,604	28	30
	June	Gasoline + Ethanol	3,583,490	476,604	28	30
	July	Gasoline + Ethanol	3,583,490	476,604	28	30
	August	Gasoline + Ethanol	3,583,490	476,604	28	30
	September	Gasoline + Ethanol	3,583,490	476,604	28	30
	October	Gasoline + Ethanol	3,583,490	476,604	28	30
	November	Gasoline + Ethanol	3,583,490	476,604	28	30
	December	Gasoline + Ethanol	3,583,490	476,604	28	30
	Total	Gasoline + Ethanol	43,001,884	5,719,251	28	30

[1] Sum of Gasoline plus Ethanol throughputs as provided, with the inclusion of propane assist gas for VCU operation.
[2] 1 gal = 0.133 scf. 0.133 scf/gal

Assist gas maximum annual usage	4,710,000	scf/yr
Assist gas maximum annual usage	35,413,534	gal/yr

Vapor Combustion Unit Monthly Emissions

Month	VOCs - from assist gas only (tons)	CO Emissions (tons)[3]	NOx Emissions (tons)[3]	PM (T) Emissions (tons)[4]	PM (Cond) Emissions (tons)[4]	PM (Filt) Emissions (tons)[4]	SOx Emissions (tons)[5]	CO2 Emissions (tons)[6]	N2O Emissions (tons)[4]	CH4 Emissions (tons)[4]
January	0.1229	0.1492	0.0597	0.0018	0.0014	0.0005	0.0006	76.25	0.0005	0.0005
February	0.1229	0.1492	0.0597	0.0018	0.0014	0.0005	0.0006	76.25	0.0005	0.0005
March	0.1229	0.1492	0.0597	0.0018	0.0014	0.0005	0.0006	76.25	0.0005	0.0005
April	0.1229	0.1492	0.0597	0.0018	0.0014	0.0005	0.0006	76.25	0.0005	0.0005
May	0.1229	0.1492	0.0597	0.0018	0.0014	0.0005	0.0006	76.25	0.0005	0.0005
June	0.1229	0.1492	0.0597	0.0018	0.0014	0.0005	0.0006	76.25	0.0005	0.0005
July	0.1229	0.1492	0.0597	0.0018	0.0014	0.0005	0.0006	76.25	0.0005	0.0005
August	0.1229	0.1492	0.0597	0.0018	0.0014	0.0005	0.0006	76.25	0.0005	0.0005
September	0.1229	0.1492	0.0597	0.0018	0.0014	0.0005	0.0006	76.25	0.0005	0.0005
October	0.1229	0.1492	0.0597	0.0018	0.0014	0.0005	0.0006	76.25	0.0005	0.0005
November	0.1229	0.1492	0.0597	0.0018	0.0014	0.0005	0.0006	76.25	0.0005	0.0005
December	0.1229	0.1492	0.0597	0.0018	0.0014	0.0005	0.0006	76.25	0.0005	0.0005
Total	**1.4744**	**1.7904**	**0.7162**	**0.0217**	**0.0163**	**0.0054**	**0.0073**	**915.00**	**0.0063**	**0.0066**

[3] Emissions (tons) = Throughput (gal) x Emissions Factor (lb/gal) x (1 ton/2,000 lb). NOx and CO emission factors as provided on Table 2.

[4] Emissions (tons) = Emission Factor (lb/10^6 scf) x (Displaced Volume (scf) / 1,000,000) x [Heating Value of TVP 5.9 Gasoline Vapors (1,522 Btu/scf) / Heating Value of Natural Gas (1,020 Btu/scf)] x (1 ton/2,000 lb). Emission factors in units of lb/106 scf as provided in Table 1.4-2 of AP-42 (July, 1998) and are as follows; PM (Total) = 7.6, PM (Condensable) = 5.7, PM (Filterable) = 1.9, N2O = 2.2, CH4 = 2.3. Emissions adjusted accorded to heating value per footnote (a) to Table 1.4-2.

[5] Emissions (tons) = (Throughput (gal) / 1,000,000) x (0.34 lb SOx / 1,000,000 gal) x (1 ton / 2,000 lb). Emissions factor of 0.34 lb Sox / 1,000,000 gal per Hill Environmental Resource Organization (HERO) memorandum entitled "HERO VCU SULFUR EMISSIONS CALCULATION".

[6] Emissions (tons) = Throughput (gal) x (319971 lb CO2 / 1,000,000 scf) x (1 ton / 2,000 lb). CO2 emission factor based on August 2014 Sunoco Baltimore VCU test data of 5,100 mg CO2/l x (1 g / 1,000 mg) x (3.785 l / gal) x (1 lb/453.6 g) x (1 gal/0.133 scf) =0.319971556 lbs/scf

Energy Transfer LP

Baltimore Terminal

VCU Combustion Emissions - PTE

Vapor Combustion Unit (VCU) - NOx, SOx, CO, PM, CO2, N2O and CH4

Facility	Month	Product	Throughput (gal/mo)[1]	Displaced Volume (scf)[2]	MW of CO	MW of NOx
Baltimore	January	Gasoline + Ethanol	4,721,961	628,021	28	30
	February	Gasoline + Ethanol	4,721,961	628,021	28	30
	March	Gasoline + Ethanol	4,721,961	628,021	28	30
	April	Gasoline + Ethanol	4,721,961	628,021	28	30
	May	Gasoline + Ethanol	4,721,961	628,021	28	30
	June	Gasoline + Ethanol	4,721,961	628,021	28	30
	July	Gasoline + Ethanol	4,721,961	628,021	28	30
	August	Gasoline + Ethanol	4,721,961	628,021	28	30
	September	Gasoline + Ethanol	4,721,961	628,021	28	30
	October	Gasoline + Ethanol	4,721,961	628,021	28	30
	November	Gasoline + Ethanol	4,721,961	628,021	28	30
	December	Gasoline + Ethanol	4,721,961	628,021	28	30
	Total	Gasoline + Ethanol	56,663,534	7,536,250	28	30

[1] Sum of Gasoline plus Ethanol throughputs as provided, with the inclusion of propane assist gas for VCU operation.

[2] 1 gal = 0.133 scf. 0.133 scf/gal

Assist gas maximum annual usage 4,710,000 scf/yr

Assist gas maximum annual usage 35,413,534 gal/yr

Vapor Combustion Unit Monthly Emissions

Month	VOCs - from assist gas only (tons)	CO Emissions (tons)[3]	NOx Emissions (tons)[3]	PM (T) Emissions (tons)[4]	PM (Cond) Emissions (tons)[4]	PM (Filt) Emissions (tons)[4]	SOx Emissions (tons)[5]	CO2 Emissions (tons)[6]	N2O Emissions (tons)[4]	CH4 Emissions (tons)[4]
January	0.1229	0.1966	0.0786	0.0024	0.0018	0.0006	0.0008	100.47	0.0007	0.0007
February	0.1229	0.1966	0.0786	0.0024	0.0018	0.0006	0.0008	100.47	0.0007	0.0007
March	0.1229	0.1966	0.0786	0.0024	0.0018	0.0006	0.0008	100.47	0.0007	0.0007
April	0.1229	0.1966	0.0786	0.0024	0.0018	0.0006	0.0008	100.47	0.0007	0.0007
May	0.1229	0.1966	0.0786	0.0024	0.0018	0.0006	0.0008	100.47	0.0007	0.0007
June	0.1229	0.1966	0.0786	0.0024	0.0018	0.0006	0.0008	100.47	0.0007	0.0007
July	0.1229	0.1966	0.0786	0.0024	0.0018	0.0006	0.0008	100.47	0.0007	0.0007
August	0.1229	0.1966	0.0786	0.0024	0.0018	0.0006	0.0008	100.47	0.0007	0.0007
September	0.1229	0.1966	0.0786	0.0024	0.0018	0.0006	0.0008	100.47	0.0007	0.0007
October	0.1229	0.1966	0.0786	0.0024	0.0018	0.0006	0.0008	100.47	0.0007	0.0007
November	0.1229	0.1966	0.0786	0.0024	0.0018	0.0006	0.0008	100.47	0.0007	0.0007
December	0.1229	0.1966	0.0786	0.0024	0.0018	0.0006	0.0008	100.47	0.0007	0.0007
Total	**1.4744**	**2.3592**	**0.9437**	**0.0286**	**0.0215**	**0.0072**	**0.0096**	**1,205.69**	**0.0083**	**0.0087**

[3] Emissions (tons) = Throughput (gal) x Emissions Factor (lb/gal) x (1 ton/2,000 lb). NOx and CO emission factors as provided on Table 2.

[4] Emissions (tons) = Emission Factor (lb/10^6 scf) x (Displaced Volume (scf) / 1,000,000) x [Heating Value of TVP 5.9 Gasoline Vapors (1,522 Btu/scf) / Heating Value of Natural Gas (1,020 Btu/scf)] x (1 ton/2,000 lb). Emission factors in units of lb/106 scf as provided in Table 1.4-2 of AP-42 (July, 1998) and are as follows; PM (Total) = 7.6, PM (Condensable) = 5.7, PM (Filterable) = 1.9, N2O = 2.2, CH4 = 2.3. Emissions adjusted accorded to heating value per footnote (a) to Table 1.4-2.

[5] Emissions (tons) = (Throughput (gal) / 1,000,000) x (0.34 lb SOx / 1,000,000 gal) x (1 ton / 2,000 lb). Emissions factor of 0.34 lb Sox / 1,000,000 gal per Hill Environmental Resource Organization (HERO) memorandum entitled "HERO VCU SULFUR EMISSIONS CALCULATION".

[6] Emissions (tons) = Throughput (gal) x (319971 lb CO2 / 1,000,000 scf) x (1 ton / 2,000 lb). CO2 emission factor based on August 2014 Sunoco Baltimore VCU test data of 5,100 mg CO2/l x (1 g / 1,000 mg) x (3.785 l / gal) x (1 lb/453.6 g) x (1 gal/0.133 scf) =0.319971556 lbs/scf

Energy Transfer LP
Baltimore Terminal
Internal Floating Roof Tanks Fittings Calculations

Tank 3 IFR Fittings (Project and PTE)

Fitting Name	Fitting Type	Loss Factor KFa (lb-mole/yr)	Loss Factor KFb (lb-mole/(mph)m-yr)	Loss Factor m (dimensionless)	KV (dimensionless)	Typical Number Of Fittings, NF	Actual Number of Fittings	KF (mol/yr)	FFi (mol/yr)
Access hatch	Bolted cover, gasketed	1.6	0	0	0	1	2	1.6	3.2
Fixed roof support column well	Built-up column, gasketed sliding cover	33	p	0	0	NC (Table 7.1-11)	16	33	528
Unslotted guidepole and well	N/A	0	0	0	0	--	0	0	0
Slotted guidepole/sample well	Gasketed sliding cover, with float and pole wiper	0	0	0	0	--	0	0	0
Gauge-float well (automatic gauge)	Bolted cover, gasketed	2.8	0	0	0	1	1	2.8	2.8
Gauge-hatch/sample port	Weighted mechanical actuation, gasketed	0	0	0	0	--	1	0	0
Vacuum breaker	Weighted mechanical actuation, gasketed	6.2c	1.2	0.94	0	Nvb (Table 7.1-13)j	0	6.2c	0
Deck drain (3-inch diameter)	90% closed	1.8	0.14	1.1	0	Nd (Table 7.1-15)	21	1.8	37.8
Deck leg, IFR-type (total sleeve length approx. 12 inches)	Adjustable	7.9	p	0	0	Nl (Table 7.1-15)	0	7.9	0
Deck leg, EFR-type (pontoon area of pontoon roofs; total sleeve length approx. 30 inches)	N/A	0	0	0	0	--	0	0	0
Deck leg, EFR-type (double-deck roofs and center area of pontoon roofs, total sleeve length approx. 48 inches)	N/A	0	0	0	0	--	0	0	0
Deck leg or hanger (no opening through deck)	N/A	0	0	0	0	--	0	0	0
Rim vent	Weighted mechanical actuation, gasketed	0.71	0.1	1	0	1	0	0.71	0
Ladder well	Sliding cover, gasketed	56	p	0	0	1d	1	56	56
Ladder-slotted guidepole combination well	N/A	0	0	0	0	--	0	0	0
								FF =	627.8

Tank 4 IFR Fittings

Fitting Name	Fitting Type	Loss Factor KFa (lb-mole/yr)	Loss Factor KFb (lb-mole/(mph)m-yr)	Loss Factor m (dimensionless)	KV (dimensionless)	Typical Number Of Fittings, NF	Actual Number of Fittings	KF (mol/yr)	FFi (mol/yr)
Access hatch	Bolted cover, gasketed	1.6	0	0	0	1	1	1.6	1.6
Fixed roof support column well	Built-up column, gasketed sliding cover	33	p	0	0	NC (Table 7.1-11)	0	33	0
Unslotted guidepole and well	N/A	0	0	0	0	--	0	0	0
Slotted guidepole/sample well	Gasketed sliding cover, with float and pole wiper	0	0	0	0	--	0	0	0
Gauge-float well (automatic gauge)	Bolted cover, gasketed	2.8	0	0	0	1	1	2.8	2.8
Gauge-hatch/sample port	Weighted mechanical actuation, gasketed	0	0	0	0	--	0	0	0
Vacuum breaker	Weighted mechanical actuation, gasketed	6.2c	1.2	0.94	0	Nvb (Table 7.1-13)j	0	6.2c	0
Deck drain (3-inch diameter)	90% closed	1.8	0.14	1.1	0	Nd (Table 7.1-15)	0	1.8	0
Deck leg, IFR-type (total sleeve length approx. 12 inches)	Adjustable	7.9	p	0	0	Nl (Table 7.1-15)	25	7.9	197.5
Deck leg, EFR-type (pontoon area of pontoon roofs; total sleeve length approx. 30 inches)	N/A	0	0	0	0	--	0	0	0
Deck leg, EFR-type (double-deck roofs and center area of pontoon roofs, total sleeve length approx. 48 inches)	N/A	0	0	0	0	--	0	0	0
Deck leg or hanger (no opening through deck)	N/A	0	0	0	0	--	0	0	0
Rim vent	Weighted mechanical actuation, gasketed	0.71	0.1	1	0	1	1	0.71	0.71
Ladder well	Sliding cover, gasketed	56	p	0	0	1d	1	56	56
Ladder-slotted guidepole combination well	N/A	0	0	0	0	--	0	0	0
								FF =	258.61

Tank 6 IFR Fittings

Fitting Name	Fitting Type	Loss Factor KFa (lb-mole/yr)	Loss Factor KFb (lb-mole/(mph)m-yr)	Loss Factor m (dimensionless)	KV (dimensionless)	Typical Number Of Fittings, NF	Actual Number of Fittings	KF (mol/yr)	FFi (mol/yr)
Access hatch	Bolted cover, gasketed	1.6	0	0	0	1	1	1.6	1.6
Fixed roof support column well	Built-up column, gasketed sliding cover	33	p	0	0	NC (Table 7.1-11)	16	33	528
Unslotted guidepole and well	N/A	0	0	0	0	--	0	0	0
Slotted guidepole/sample well	Gasketed sliding cover, with float and pole wiper	0	0	0	0	--	0	0	0
Gauge-float well (automatic gauge)	Bolted cover, gasketed	2.8	0	0	0	1	1	2.8	2.8
Gauge-hatch/sample port	Weighted mechanical actuation, gasketed	0	0	0	0	--	0	0	0
Vacuum breaker	Weighted mechanical actuation, gasketed	6.2c	1.2	0.94	0	Nvb (Table 7.1-13)j	0	6.2c	0
Deck drain (3-inch diameter)	90% closed	1.8	0.14	1.1	0	Nd (Table 7.1-15)	0	1.8	0
Deck leg, IFR-type (total sleeve length approx. 12 inches)	Adjustable	7.9	p	0	0	Nl (Table 7.1-15)	35	7.9	276.5
Deck leg, EFR-type (pontoon area of pontoon roofs; total sleeve length approx. 30 inches)	N/A	0	0	0	0	--	0	0	0
Deck leg, EFR-type (double-deck roofs and center area of pontoon roofs, total sleeve length approx. 48 inches)	N/A	0	0	0	0	--	0	0	0
Deck leg or hanger (no opening through deck)	N/A	0	0	0	0	--	0	0	0
Rim vent	Weighted mechanical actuation, gasketed	0.71	0.1	1	0	1	1	0.71	0.71
Ladder well	Sliding cover, gasketed	56	p	0	0	1d	1	56	56
Ladder-slotted guidepole combination well	N/A	0	0	0	0	--	0	0	0
								FF =	865.61

Tank 10 IFR Fittings

Fitting Name	Fitting Type	Loss Factor KFa (lb-mole/yr)	Loss Factor KFb (lb-mole/(mph)m-yr)	Loss Factor m (dimensionless)	KV (dimensionless)	Typical Number Of Fittings, NF	Actual Number of Fittings	KF (mol/yr)	FFi (mol/yr)
Access hatch	Bolted cover, gasketed	1.6	0	0	0	1	1	1.6	1.6
Fixed roof support column well	Built-up column, gasketed sliding cover	33	p	0	0	NC (Table 7.1-11)	25	33	825
Unslotted guidepole and well	N/A	0	0	0	0	--	0	0	0
Slotted guidepole/sample well	Gasketed sliding cover, with float and pole wiper	0	0	0	0	--	0	0	0
Gauge-float well (automatic gauge)	Bolted cover, gasketed	2.8	0	0	0	1	1	2.8	2.8
Gauge-hatch/sample port	Weighted mechanical actuation, gasketed	0	0	0	0	--	0	0	0
Vacuum breaker	Weighted mechanical actuation, gasketed	6.2c	1.2	0.94	0	Nvb (Table 7.1-13)j	0	6.2c	0
Deck drain (3-inch diameter)	90% closed	1.8	0.14	1.1	0	Nd (Table 7.1-15)	103.968	1.2	124.7616
Deck leg, IFR-type (total sleeve length approx. 12 inches)	Adjustable	7.9	p	0	0	Nl (Table 7.1-15)	0	7.9	0
Deck leg, EFR-type (pontoon area of pontoon roofs; total sleeve length approx. 30 inches)	N/A	0	0	0	0	--	0	0	0
Deck leg, EFR-type (double-deck roofs and center area of pontoon roofs, total sleeve length approx. 48 inches)	N/A	0	0	0	0	--	0	0	0
Deck leg or hanger (no opening through deck)	N/A	0	0	0	0	--	0	0	0
Rim vent	Weighted mechanical actuation, gasketed	0.71	0.1	1	0	1	1	0.71	0.71
Ladder well	Sliding cover, gasketed	56	p	0	0	1d	1	56	56
Ladder-slotted guidepole combination well	N/A	0	0	0	0	--	0	0	0
								FF =	1010.8716

Tank 11 IFR Fittings

Fitting Name	Fitting Type	Loss Factor KFa (lb-mole/yr)	Loss Factor KFb (lb-mole/(mph)m-yr)	Loss Factor m (dimensionless)	KV (dimensionless)	Typical Number Of Fittings, NF	Actual Number of Fittings	KF (mol/yr)	FFi (mol/yr)
Access hatch	Bolted cover, gasketed	1.6	0	0	0	1	1	1.6	1.6
Fixed roof support column well	Built-up column, gasketed sliding cover	33	p	0	0	NC (Table 7.1-11)	25	33	825
Unslotted guidepole and well	N/A	0	0	0	0	--	0	0	0
Slotted guidepole/sample well	Gasketed sliding cover, with float and pole wiper	0	0	0	0	--	0	0	0
Gauge-float well (automatic gauge)	Bolted cover, gasketed	2.8	0	0	0	1	1	2.8	2.8
Gauge-hatch/sample port	Weighted mechanical actuation, gasketed	0	0	0	0	--	0	0	0
Vacuum breaker	Weighted mechanical actuation, gasketed	6.2c	1.2	0.94	0	Nvb (Table 7.1-13)j	0	6.2c	0
Deck drain (3-inch diameter)	90% closed	1.8	0.14	1.1	0	Nd (Table 7.1-15)	103.968	1.2	124.7616
Deck leg, IFR-type (total sleeve length approx. 12 inches)	Adjustable	7.9	p	0	0	Nl (Table 7.1-15)	74	7.9	584.6
Deck leg, EFR-type (pontoon area of pontoon roofs; total sleeve length approx. 30 inches)	N/A	0	0	0	0	--	0	0	0
Deck leg, EFR-type (double-deck roofs and center area of pontoon roofs, total sleeve length approx. 48 inches)	N/A	0	0	0	0	--	0	0	0
Deck leg or hanger (no opening through deck)	N/A	0	0	0	0	--	0	0	0
Rim vent	Weighted mechanical actuation, gasketed	0.71	0.1	1	0	1	1	0.71	0.71
Ladder well	Sliding cover, gasketed	56	p	0	0	1d	1	56	56
Ladder-slotted guidepole combination well	N/A	0	0	0	0	--	0	0	0
								FF =	1595.4716

Tank 12 IFR Fittings

Fitting Name	Fitting Type	Loss Factor KFa (lb-mole/yr)	Loss Factor KFb (lb-mole/(mph)m-yr)	Loss Factor m (dimensionless)	KV (dimensionless)	Typical Number Of Fittings, NF	Actual Number of Fittings	KF (mol/yr)	FFi (mol/yr)
Access hatch	Bolted cover, gasketed	1.6	0	0	0	1	1	1.6	1.6
Fixed roof support column well	Built-up column, gasketed sliding cover	33	p	0	0	NC (Table 7.1-11)	0	33	0
Unslotted guidepole and well	N/A	0	0	0	0	--	0	0	0
Slotted guidepole/sample well	Gasketed sliding cover, with float and pole wiper	0	0	0	0	--	0	0	0
Gauge-float well (automatic gauge)	Bolted cover, gasketed	2.8	0	0	0	1	1	2.8	2.8
Gauge-hatch/sample port	Weighted mechanical actuation, gasketed	0	0	0	0	--	0	0	0
Vacuum breaker	Weighted mechanical actuation, gasketed	6.2c	1.2	0.94	0	Nvb (Table 7.1-13)j	0	6.2c	0
Deck drain (3-inch diameter)	90% closed	1.8	0.14	1.1	0	Nd (Table 7.1-15)	0	1.8	0
Deck leg, IFR-type (total sleeve length approx. 12 inches)	Adjustable	7.9	p	0	0	Nl (Table 7.1-15)	22	7.9	173.8
Deck leg, EFR-type (pontoon area of pontoon roofs; total sleeve length approx. 30 inches)	N/A	0	0	0	0	--	0	0	0
Deck leg, EFR-type (double-deck roofs and center area of pontoon roofs, total sleeve length approx. 48 inches)	N/A	0	0	0	0	--	0	0	0
Deck leg or hanger (no opening through deck)	N/A	0	0	0	0	--	0	0	0
Rim vent	Weighted mechanical actuation, gasketed	0.71	0.1	1	0	1	1	0.71	0.71
Ladder well	Sliding cover, gasketed	56	p	0	0	1d	1	56	56
Ladder-slotted guidepole combination well	N/A	0	0	0	0	--	0	0	0
								FF =	234.91

Tank 13 IFR Fittings

Fitting Name	Fitting Type	Loss Factor KFa (lb-mole/yr)	Loss Factor KFb (lb-mole/(mph)m-yr)	Loss Factor m (dimensionless)	KV (dimensionless)	Typical Number Of Fittings, NF	Actual Number of Fittings	KF (mol/yr)	FFi (mol/yr)
Access hatch	Bolted cover, gasketed	1.6	0	0	0	1	1	1.6	1.6
Fixed roof support column well	Built-up column, gasketed sliding cover	33	p	0	0	NC (Table 7.1-11)	8	33	264
Unslotted guidepole and well	N/A	0	0	0	0	--	0	0	0
Slotted guidepole/sample well	Gasketed sliding cover, with float and pole wiper	0	0	0	0	--	0	0	0
Gauge-float well (automatic gauge)	Bolted cover, gasketed	2.8	0	0	0	1	1	2.8	2.8
Gauge-hatch/sample port	Weighted mechanical actuation, gasketed	0	0	0	0	--	0	0	0
Vacuum breaker	Weighted mechanical actuation, gasketed	6.2c	1.2	0.94	0	Nvb (Table 7.1-13)j	0	6.2c	0
Deck drain (3-inch diameter)	90% closed	1.8	0.14	1.1	0	Nd (Table 7.1-15)	0	1.8	0
Deck leg, IFR-type (total sleeve length approx. 12 inches)	Adjustable	7.9	p	0	0	Nl (Table 7.1-15)	16	7.9	126.4
Deck leg, EFR-type (pontoon area of pontoon roofs; total sleeve length approx. 30 inches)	N/A	0	0	0	0	--	0	0	0
Deck leg, EFR-type (double-deck roofs and center area of pontoon roofs, total sleeve length approx. 48 inches)	N/A	0	0	0	0	--	0	0	0
Deck leg or hanger (no opening through deck)	N/A	0	0	0	0	--	0	0	0
Rim vent	Weighted mechanical actuation, gasketed	0.71	0.1	1	0	1	1	0.71	0.71
Ladder well	Sliding cover, gasketed	56	p	0	0	1d	1	56	56
Ladder-slotted guidepole combination well	N/A	0	0	0	0	--	0	0	0
								FF =	451.51

Tank 16 IFR Fittings

Fitting Name	Fitting Type	Loss Factor KFa (lb-mole/yr)	Loss Factor KFb (lb-mole/(mph)m-yr)	Loss Factor m (dimensionless)	KV (dimensionless)	Typical Number Of Fittings, NF	Actual Number of Fittings	KF (mol/yr)	FFi (mol/yr)
Access hatch	Bolted cover, gasketed	1.6	0	0	0	1	1	1.6	1.6
Fixed roof support column well	Built-up column, gasketed sliding cover	33	p	0	0	NC (Table 7.1-11)	6	33	198
Unslotted guidepole and well	N/A	0	0	0	0	--	0	0	0
Slotted guidepole/sample well	Gasketed sliding cover, with float and pole wiper	0	0	0	0	--	0	0	0
Gauge-float well (automatic gauge)	Bolted cover, gasketed	2.8	0	0	0	1	1	2.8	2.8
Gauge-hatch/sample port	Weighted mechanical actuation, gasketed	0	0	0	0	--	0	0	0
Vacuum breaker	Weighted mechanical actuation, gasketed	6.2c	1.2	0.94	0	Nvb (Table 7.1-13)j	0	6.2c	0
Deck drain (3-inch diameter)	90% closed	1.8	0.14	1.1	0	Nd (Table 7.1-15)	0	1.8	0
Deck leg, IFR-type (total sleeve length approx. 12 inches)	Adjustable	7.9	p	0	0	Nl (Table 7.1-15)	0	7.9	0
Deck leg, EFR-type (pontoon area of pontoon roofs; total sleeve length approx. 30 inches)	N/A	0	0	0	0	--	0	0	0
Deck leg, EFR-type (double-deck roofs and center area of pontoon roofs, total sleeve length approx. 48 inches)	N/A	0	0	0	0	--	0	0	0
Deck leg or hanger (no opening through deck)	N/A	0	0	0	0	--	0	0	0
Rim vent	Weighted mechanical actuation, gasketed	0.71	0.1	1	0	1	1	0.71	0.71
Ladder well	Sliding cover, gasketed	56	p	0	0	1d	1	56	56
Ladder-slotted guidepole combination well	N/A	0	0	0	0	--	0	0	0
								FF =	259.11

Tank Specifications

Emission Source	Diameter (ft)	No. Columns	No. Legs
Tank 3	120	16	0
Tank 4	120	0	25
Tank 6	120	16	35
Tank 10	114	25	0
Tank 11	114	25	74
Tank 12	78	0	22
Tank 13	68	8	16
Tank 16	60	6	0

Energy Transfer LP
Baltimore Terminal
Fugitive Emissions - Project

Emissions Estimate

Liquid Equipment/Service	Oil and Gas Production Operations Average Emissions (Light Oil) (kg/hr/component)	# Light Oil Components	Reduction Factor	Light Oil Service Hourly Emissions[1] (lb/hr)	Light Oil Service Annual Emissions[1] (ton/year)
Valves	4.30E-05	73	0	0.01	0.03
Pump Seals	5.40E-04	2	0	2.38E-03	0.01
Flanges	8.00E-06	225	0	3.97E-03	0.02
Open-Ended Lines	--	--	0	--	--
Connectors	--	--	0	--	--
Other	1.30E-04	32	0	0.01	0.04
Totals TOC				**0.02**	**0.10**

[1] Controlled Short-Term ER (lb/hr) = (100% - Reduction Factor) * Σ(Number of Components * Emissions Factor [lb/hr/component]).

Speciated Fugitive Emissions

Component	Gasoline or Ethanol (Weight %)	Light Oil (lb/hr)	Light Oil (ton/year)	Gas[2] (lb/hr)	Gas[2] (ton/year)	Total (lb/hr)	Total (ton/year)
1,2,4-Trimethylbenzene	0.01%	--	--	--	--	--	--
Benzene	0.27%	--	--	--	--	--	--
Cumene	0.03%	--	--	--	--	--	--
Naphthalene	0.00%	--	--	--	--	--	--
Isooctane	1.10%	--	--	--	--	--	--
Cyclohexane	0.28%	--	--	--	--	--	--
Ethylbenzene	0.05%	--	--	--	--	--	--
Hexane	1.53%	--	--	--	--	--	--
Toluene	0.70%	--	--	--	--	--	--
Xylene	0.30%	--	--	--	--	--	--
Ethanol	95.60%	0.02	0.09	--	--	0.02	0.09
Methanol	4.40%	9.87E-04	4.32E-03	--	--	9.87E-04	4.32E-03
Total HAP		**0.02**	**0.10**	--	--	**0.02**	**0.10**

Project emissions are assumed to be from ethanol as the associated project is an ethanol piping connecting the adjacent facility.

Energy Transfer LP
Baltimore Terminal
Fugitive Emissions - PTE

Method: U.S. EPA factors EPA-453/R-95-017
1995 Protocol for Equipment Leak Emission Estimates
(also listed in API publication 1673, May 1998 - Table 3-7)

Source Category	Service	Emission Factor (lbs/hr-source)	Total Number of Sources[1]	Fugitive VOC Emissions (tons/yr)[2]
Valves	Gas	0.0000286	**41**	*0.0051*
	Light Liquid	0.0000946	**660**	*0.2735*
	Pentane	0.000043		*0.0000*
Fittings	Gas	0.0000924	**2068**	*0.8369*
	Light Liquid	0.0000176	**21**	*0.0016*
	Pentane	0.000008		*0.0000*
Pumps	Light Liquid	0.001188		*0.0000*
	Gas			
	Pentane	0.000054		*0.0050*
				0.0000
Other	Pentane			*0.0000*
Total			**2790**	**1.1222**
Pct Emissions From Gas Components				**75.5%**
Pct Emissions Light From Liquid Components				**24.5%**

[1] # of fugitive components have been taken from 2003 Air Emission Statement
[2] VOC (tpy) = Total # of Sources x Emission Factor (lbs/hr-source) x (8.760 hr/yr) x (1 ton/2,000 lb)

Speciated Fugitive Emissions:

Facility	Month[3]	Fugitive VOC's (tons/yr)	Benzene	Cumene	Naphthalene	Toluene	Xylene	Ethylbenzene	Isooctane	Hexane	1,2,4-Trimethylbenzene	Cyclohexane	Total HAP
	January	0.09	0.0003	0.0005	0.0000	0.0023	0.0021	0.0004	0.0022	0.0015	0.0006	0.0003	0.0102
	February	0.09	0.0003	0.0005	0.0000	0.0023	0.0021	0.0004	0.0022	0.0015	0.0006	0.0003	0.0102
	March	0.09	0.0003	0.0005	0.0000	0.0023	0.0021	0.0004	0.0022	0.0015	0.0006	0.0003	0.0102
	April	0.09	0.0003	0.0005	0.0000	0.0023	0.0021	0.0004	0.0022	0.0015	0.0006	0.0003	0.0102
	May	0.09	0.0003	0.0005	0.0000	0.0023	0.0021	0.0004	0.0022	0.0015	0.0006	0.0003	0.0102
	June	0.09	0.0003	0.0005	0.0000	0.0023	0.0021	0.0004	0.0022	0.0015	0.0006	0.0003	0.0102
	July	0.09	0.0003	0.0005	0.0000	0.0023	0.0021	0.0004	0.0022	0.0015	0.0006	0.0003	0.0102
	August	0.09	0.0003	0.0005	0.0000	0.0023	0.0021	0.0004	0.0022	0.0015	0.0006	0.0003	0.0102
	September	0.09	0.0003	0.0005	0.0000	0.0023	0.0021	0.0004	0.0022	0.0015	0.0006	0.0003	0.0102
	October	0.09	0.0003	0.0005	0.0000	0.0023	0.0021	0.0004	0.0022	0.0015	0.0006	0.0003	0.0102
	November	0.09	0.0003	0.0005	0.0000	0.0023	0.0021	0.0004	0.0022	0.0015	0.0006	0.0003	0.0102
	December	0.09	0.0003	0.0005	0.0000	0.0023	0.0021	0.0004	0.0022	0.0015	0.0006	0.0003	0.0102
	Total	1.12	0.0040	0.0057	0.0005	0.0280	0.0255	0.0046	0.0259	0.0182	0.0067	0.0037	0.1122

[3] Monthly VOC's are taken by dividing the annual VOC's by 12.

Calculation of Speciated Monthly Emissions

$E_i = [(VOC_m \times (PCT_G/100) \times (VWF_{i\text{-}lgg} + VWF_{i\text{-}hgg})/2] + [VOC_m \times (PCT_{LL}/100) \times (LW\%_{i\text{-}lgg} + LW\%_{i\text{-}hgg})/(2 \times 100)]$

where;

E_i = Monthly emissions of compound i (tons)
VOC_m = Monthly VOC emissions (tons)
PCT_G = Pct. of monthly emissions from gas components
$VWF_{i\text{-}lgg}$ = Low grade gasoline vapor weight fraction for compound I from Table 4.
$VWF_{i\text{-}hgg}$ = High grade gasoline vapor weight fraction for compound I from Table 4.
PCT_{LL} = Pct. of monthly emissions from light liquid components
$LW\%_{i\text{-}lgg}$ = Low grade gasoline liquid weight % for compound I from Table 2.
$LW\%_{i\text{-}hgg}$ = High grade gasoline liquid weight % for compound I from Table 2.

APPENDIX 4
TOXICS MODELING REPORTS AND RESULTS

Test 1: Charts of Allowable Emissions in COMAR 26.11.16.02

Screening Level

Type of Screening Level[3]	Stack Sources (10 meters or greater and no downwash)[3]	Shorter Stack, Possible Downwash, or Fugitive[3]
Annual	AER = 1664 x SL	AER = 365 x SL
1-hour or 8-hour	AER = 0.0163 x SL	AER = 0.00358 x SL

Notes:
1. AER = Allowable emission rate in pounds per year or pounds per hour, appropriately.
2. SL = The appropriate screening level for the TAP in micrograms per cubic meter ($\mu g/m^3$). Downwash occurs if the stack height is less than 2.5 times the height of the building where the stack is located.
3. Md. Code Regs. 26.11.16.02 - Demonstrating Compliance with COMAR 26.11.15.06.

Premise Wide Emissions

Pollutant	Emissions from the Emission Units[1]	Total Premises Wide Emissions	
(-)	(lb/hr)	(lb/hr)	(lb/yr)[2]
1,2,4-Trimethylbenzene	0.01	0.01	65
Ethylbenzne	0.04	0.04	372
Toluene	0.30	0.30	2,594
n-Hexane	0.07	0.07	623
Cyclohexane	0.07	0.07	640
Xylene	0.21	0.21	1,843
Isooctane	0.19	0.19	1,668
Benzene	0.39	0.39	3,406
Naphthalene	3.18E-04	0.00	3
Cumene	0.02	0.02	136

Notes:
1. Total hourly emissions (lb/hr) include emissions from all tanks, loading operations, the VCU, and fugitive sources.
2. Total annual emissions (lb/yr) are calculated based on 8,760 hours of operation per year.

Screening Level for Toxics Air Pollutants:

Toxic Air Pollutant (TAP)	CAS	Screening Levels ($\mu g/m^3$)[1]		
(-)	(-)	1-hour	8-hour	Annual
1,2,4-Trimethylbenzene[2]	95636	N/A	1800	N/A
Ethylbenzne	100414	N/A	868.38	N/A
Toluene	108883	N/A	753.62	N/A
n-Hexane	110543	N/A	1,762.37	N/A
Cyclohexane	110827	N/A	3,442.13	N/A
Xylene	1330207	6,512.88	4,341.92	N/A
Isooctane[3]	540841	N/A	1,669.80	N/A
Benzene	71432	79.87	15.97	0.130
Naphthalene	91203	786.44	524.29	N/A
Cumene	98828	N/A	2,457.87	N/A

Notes:
1. Maryland screening level per MDE's 2012 Revised TAP Screening Levels received via email from Matthew Hafner (matthew.hafner@maryland.gov).
2. 1,2,4-Trimethylbenzene is pseudocumene (CAS No. 95-63-6), as per MDE's 2012 Revised TAP Screening Levels.
3. The TLV screening level for isooctane (CAS No. 540-84-1) is not available in MDE's 2012 Revised TAP Screening Levels. Therefore, if a TAP has neither a TLV, a special screening level, nor an acceptable ambient level, one of the formulae in COMAR 26.11.16.03A may be used, in order of preference, to develop an 8-hour threshold-based screening level in milligrams per cubic meter. The LC_{50} inhalation (vapor) parameter was used to calculate the TLV based on COMAR 26.11.16.03A(2)(a)(v).

Isooctane is taken from SDS published by Penta Chemicals Unlimited, revision date May 15, 2025 (https://www.pentachemicals.eu/data/Bezpecnostni_listy/en/Isooctane_0735_7.0.pdf)

Relative density:	0.69	g/cm^3
Density of water:	1.00	g/cm^3
Density:	690.00	kg/m^3
LC_{50}:	24.20	mg/kg
	16,698.00	mg/m^3
	1.67	mg/m^3 SL *
	1,669.80	$\mu g/m^3$ SL

* As per COMAR 26.11.16.03A(2)(a)(v) divide an LC_{50} in milligrams/cubic meter for rats, mice, or rabbits by 10,000

Premise Wide Allowable Emission Rate:

Pollutant	CAS	Premises Wide Allowable Emission Rate (AER)		
		1-hour[1]	8-hour[1]	Annual[1]
(-)	(-)	(lb/hr)	(lb/hr)	(lb/yr)
1,2,4-Trimethylbenzene	95636	--	6.44	--
Ethylbenzne	100414	--	3.11	--
Toluene	108883	--	2.70	--
n-Hexane	110543	--	6.31	--
Cyclohexane	110827	--	12.32	--
Xylene	1330207	23.32	15.54	--
Isooctane	540841	--	5.98	--
Benzene	71432	0.29	0.06	47.45
Naphthalene	91203	2.82	1.88	--
Cumene	98828	--	8.80	--

Notes:

1. Based on the equations governing the charts in COMAR 26.11.16.02, the maximum allowable premises-wide emission rate for each TAP is determined assuming worst-case conditions for all tanks, which assumes a shorter stack, possible downwash, or fugitive emissions.
   AER (Annual) = 365 x SL
   AER (1-hour and 8-hour) = 0.00358 x SL

Screening Analysis

Pollutant	CAS	Below Premises Wide Allowable Emission Rate (AER)?		
		1-hour[1]	8-hour[1]	Annual
(-)	(-)	(lb/hr)	(lb/hr)	(lb/yr)
1,2,4-Trimethylbenzene2	95636	--	YES	--
Ethylbenzne	100414	--	YES	--
Toluene	108883	--	YES	--
n-Hexane	110543	--	YES	--
Cyclohexane	110827	--	YES	--
Xylene	1330207	YES	YES	--
Isooctane	540841	--	YES	--
Benzene	71432	NO	NO	NO
Naphthalene	91203	YES	YES	--
Cumene	98828	--	YES	--

Notes:

1. The 1-hour screening was evaluated by comparing the 1-hour premises-wide allowable emission rate (lb/hr) with the total premises-wide hourly emissions (lb/hr).
2. The 8-hour screening was evaluated by comparing the 8-hour premises-wide allowable emission rate (lb/hr) with the total premises-wide hourly emissions (lb/hr).
3. The annual screening was evaluated by comparing the annual premises-wide allowable emission rate (lb/yr) with the total premises-wide yearly emissions (lb/yr).

4. Emissions of all TAPs, except benzene, are less than their calculated allowable emission rates; therefore, compliance with the ambient impact requirement is demonstrated for all TAPs except benzene. Benzene requires further evaluation to demonstrate compliance with the ambient impact requirement.

Energy Transfer
Baltimore Facility
Benzene - Toxics Modeling

Test 2: Hand Dispersion Calculations using Technical Memorandum TM 86-02

It is recommended that this test be skipped to proceed to the simple computer screening model step (Test 3 below)

Test 3: Computer Screening Models

Iteration 1: Assumptions:
1. All tanks, loading operations, and fugitive sources were combined and modeled as a single volume source.
2. The height of the volume source was calculated as an emissions-weighted average of all tanks, loading operations, the VCU, and fugitive source
3. The volume source was positioned within the facility such that the exclusion zone falls within the property boundary, where no receptors are placed. The minimum distance from the center of the volume source to the property boundary was used to perform the SCREEN3 analysis.

Weighted Average Height of Volume Source

Emission Source	Benzene		Tank Height		Weighted Average
	lb/hr	TPY	ft	m	Ht (ft) x Emissions (lb/hr)
Tank 1	0.04	0.18	48.0	14.6	1.95
Tank 2	0.04	0.18	47.6	14.5	1.93
Tank 3	2.73E-03	0.01	48.0	14.6	0.13
Tank 4	1.33E-03	0.01	51.0	15.5	0.07
Tank 5	0.02	0.10	30.0	9.1	0.65
Tank 6	3.63E-03	0.01	40.0	12.2	0.15
Tank 10	9.95E-03	0.04	30.0	9.1	0.30
Tank 11	7.98E-03	0.03	30.0	9.1	0.24
Tank 12	1.18E-03	0.01	48.0	14.6	0.06
Tank 13	2.01E-03	0.01	38.0	11.6	0.08
Tank 16	1.29E-03	0.01	47.4	14.4	0.06
Loading	0.25	1.12	10.0	3.0	2.55
VCU	--	--	0.0	0.0	0.00
Fugitive Emissions	9.11E-04	3.99E-03	0.0	0.0	0.00
Total Emissions	**0.39**	**1.71**		**Total Weighted Average**	**8.16**
				Weighted Avg. Ht. [Σ(emission_i × height_i) / Σ(emission_i)]	**21.00**

Volume Source Assumptions:

1. Assuming the entire site as a volume source (drew a polygon that covers all tanks and the loading rack and measured the L and W), and assuming the weighted averaged height.

Source Parameter		Unit	Notes
Source Type:	Volume	-	Assumed square volume souce covering all tanks and loading rack
Site Height:	21.00	ft	Weighted average height from all emission sources emitting benzene
	6.40	m	
Site Length:	815.00	ft	Google earth
	247.41	m	
Site Width:	815.00	ft	Google earth
	247.41	m	
Release height:	3.20	m	Height of the source divided by 2 as worst case assumption
Initial lateral dimension (σy_0):	57.54	m	Length of side divided by 4.3 based on SCREEN3 Model User's Guide
Initial vertical dimension (σz_0):	2.98	m	Vertical dimension of source divided by 2.15 based on SCREEN3 Model User's Guide
Emission Rate:	0.049	g/s	Sum of emissions from all benzene emitting sources - All tanks, loading operations, and fugitive sources
Minimum distance of source from fenceline:	515.09	ft	Distance from midpoint of volume source to the property boundary
	157.00	m	
Exclusion Area:	409.14	ft	Receptor exclusion zone - when the source-receptor spacing in AERMOD is shorter than the distance between adjacent volume sources, AERMOD may produce aberrant results. Therefore, ensure that no receptors are placed within a distance of (2.15 x Syinit + 1 meter) of the center of a VOLUME source, known as the "receptor exclusion zone" based on APCD Santa Barbara County Modeling Guidelines for Air Quality Impact Assessments (February 2025).
	124.71	m	

Energy Transfer
Baltimore Facility
Benzene - Toxics Modeling

SCREEN3 Input Parameters

Input Prompts	Sitewide	Reference
Source Type	V	P = Point Source, A= Area Source, V=Volume Source
Emission Rate (g/s)	4.90E-02	g/s
Release Height (m)	3.20	From Client
Initial lateral dimension (σy_0)	57.54	From Client
Initial vertical dimension (σz_0)	2.98	From Client
Receptor Height (m)	0	Worst-case
Urban/Rural	U	Assumption, worst-case
Complex Terrain	N	Assumption
Simple Terrain	Y	Assumption
Meteorology	1	Assumption
Automated Distance Array	Y	Assumption
Min Distance (m)	157	Assumption - Shortest distance of source from the fenceline.
Max Distance (m)	10,000	Assumption
Discrete Distances	N	Assumption
Fumigation Calculations	N	Assumption

Total emission rate (g/s)	**4.90E-02**	INPUT
Results (ug/m3)	**15.49**	Maximum 1-HR Concentration
Distance (m)	**157**	

SCREEN3 Results
Modeled 1-hour Standard

Source	Modeled 1-hour Concentration	Allowable 1-hour[4] Concentration	Above Standard?
	($\mu g/m^3$)	($\mu g/m^3$)	1-hour
Sitewide	15.49	-	-
Total	**15.49**	**79.87**	**NO**

Modeled 8-hour Standard

Source	Modeled 8-hour Concentration	Allowable 8-hour[4] Concentration	Above Standard?
	($\mu g/m^3$)	($\mu g/m^3$)	8-hour
Sitewide	10.84	-	-
Total	**10.84**	**15.97**	**NO**

Modeled Annual Standard

Source	Modeled Annual Concentration	Allowable Annualr[4] Concentration	Above Standard?
	($\mu g/m^3$)	($\mu g/m^3$)	Annual
Sitewide	1.24	-	-
Total	**1.24**	**1.3**	**NO**

Notes:
1. Allowable emission rates based on shorter stack, possible downwash, and fugitive.
2. Total modeled concentration is the concentrations for all benzene emitting sources.
3. Modeled 8-hour and annual concentrations are the 1-hour concentrations multiplied by appropriate multiplier based on Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised," EPA-454/R-92-019, page 4-16 .

Averaging Time	Multiplying Factor
8-hour	0.7
Annual	0.08

4. Benzene screening level at 8-hour and annual per MDE's 2012 Revised TAP Screening Levels received via email from Matthew Hafner (matthew.hafner@maryland.gov).

Demonstrating Compliance with the Ambient Impact Requirement (COMAR 26.11.15.06)

Toxic Air Pollutant (TAP)	CAS Number	Screening Levels (ug/m³)			Premise Wide Total TAP Emissions		Off-site Conc. (ug/m³) / Above Screening Level?			Compliance Method Used?
		1-hour	8-hour	Annual	(lb/hr)	(lb/yr)	1-hour	8-hour	Annual	
Benzene	71432	79.87	15.97	1.3	0.39	3,406	**15.49 — No**	**10.84 — No**	**1.24 — No**	Screen3

Notes:
1. The off-site concentration per screening analysis (SCREEN3) is less than the screening level of the TAP (Benzene) for the appropriate averaging times. Therefore, the emissions of the TAP is in compliance with the ambient impact requirement, and further refined computer modeling (e.g., AERMOD) is not required.

03/31/26
08:59:36

```
 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 13043 ***

C:\Users\mjumili\OneDrive - Ramboll\Documents\Lakes\SCREEN3\ETP_Benzene_Iterati

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE               =       VOLUME
   EMISSION RATE (G/S)       =     0.490000E-01
   SOURCE HEIGHT (M)         =       3.2000
   INIT. LATERAL DIMEN (M)   =      57.5400
   INIT. VERTICAL DIMEN (M)  =       2.9800
   RECEPTOR HEIGHT (M)       =       0.0000
   URBAN/RURAL OPTION        =        URBAN

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.


BUOY. FLUX =    0.000 M**4/S**3;  MOM. FLUX =    0.000 M**4/S**2.

*** FULL METEOROLOGY ***

**********************************
*** SCREEN AUTOMATED DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***
```

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
157.	15.49	5	1.0	1.0	10000.0	3.20	71.30	13.74	NO
200.	12.47	5	1.0	1.0	10000.0	3.20	74.96	16.36	NO
300.	8.405	5	1.0	1.0	10000.0	3.20	83.31	22.04	NO
400.	6.221	5	1.0	1.0	10000.0	3.20	91.42	27.24	NO
500.	4.878	5	1.0	1.0	10000.0	3.20	99.33	32.03	NO
600.	3.977	5	1.0	1.0	10000.0	3.20	107.04	36.50	NO
700.	3.336	5	1.0	1.0	10000.0	3.20	114.56	40.69	NO
800.	2.859	5	1.0	1.0	10000.0	3.20	121.90	44.64	NO
900.	2.492	5	1.0	1.0	10000.0	3.20	129.08	48.38	NO
1000.	2.202	5	1.0	1.0	10000.0	3.20	136.09	51.94	NO
1100.	1.968	5	1.0	1.0	10000.0	3.20	142.96	55.34	NO
1200.	1.775	5	1.0	1.0	10000.0	3.20	149.69	58.60	NO
1300.	1.614	5	1.0	1.0	10000.0	3.20	156.28	61.74	NO
1400.	1.478	5	1.0	1.0	10000.0	3.20	162.74	64.75	NO
1500.	1.362	5	1.0	1.0	10000.0	3.20	169.08	67.67	NO
1600.	1.261	5	1.0	1.0	10000.0	3.20	175.31	70.49	NO
1700.	1.173	5	1.0	1.0	10000.0	3.20	181.42	73.22	NO

1800.	1.096	5	1.0	1.0	10000.0	3.20	187.42	75.87	NO
1900.	1.028	5	1.0	1.0	10000.0	3.20	193.32	78.44	NO
2000.	0.9668	5	1.0	1.0	10000.0	3.20	199.13	80.95	NO
2100.	0.9124	5	1.0	1.0	10000.0	3.20	204.84	83.40	NO
2200.	0.8633	5	1.0	1.0	10000.0	3.20	210.46	85.78	NO
2300.	0.8190	5	1.0	1.0	10000.0	3.20	215.99	88.11	NO
2400.	0.7788	5	1.0	1.0	10000.0	3.20	221.44	90.39	NO
2500.	0.7421	5	1.0	1.0	10000.0	3.20	226.81	92.61	NO
2600.	0.7085	5	1.0	1.0	10000.0	3.20	232.10	94.80	NO
2700.	0.6776	5	1.0	1.0	10000.0	3.20	237.32	96.93	NO
2800.	0.6492	5	1.0	1.0	10000.0	3.20	242.47	99.03	NO
2900.	0.6230	5	1.0	1.0	10000.0	3.20	247.54	101.09	NO
3000.	0.5987	5	1.0	1.0	10000.0	3.20	252.55	103.11	NO
3500.	0.5000	5	1.0	1.0	10000.0	3.20	276.67	112.71	NO
4000.	0.4282	5	1.0	1.0	10000.0	3.20	299.40	121.61	NO
4500.	0.3739	5	1.0	1.0	10000.0	3.20	320.94	129.94	NO
5000.	0.3314	5	1.0	1.0	10000.0	3.20	341.45	137.79	NO
5500.	0.2974	5	1.0	1.0	10000.0	3.20	361.04	145.23	NO
6000.	0.2695	5	1.0	1.0	10000.0	3.20	379.82	152.32	NO
6500.	0.2463	5	1.0	1.0	10000.0	3.20	397.87	159.11	NO
7000.	0.2267	5	1.0	1.0	10000.0	3.20	415.27	165.63	NO
7500.	0.2100	5	1.0	1.0	10000.0	3.20	432.07	171.90	NO
8000.	0.1955	5	1.0	1.0	10000.0	3.20	448.33	177.96	NO
8500.	0.1828	5	1.0	1.0	10000.0	3.20	464.10	183.83	NO
9000.	0.1716	5	1.0	1.0	10000.0	3.20	479.42	189.51	NO
9500.	0.1618	5	1.0	1.0	10000.0	3.20	494.31	195.03	NO
10000.	0.1529	5	1.0	1.0	10000.0	3.20	508.82	200.41	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 157. M:

157.	15.49	5	1.0	1.0	10000.0	3.20	71.30	13.74	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	15.49	157.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

APPENDIX 5
MARYLAND EJ SCREEN REPORT

Prepared for:

Energy Transfer LP

Prepared by:

Ramboll
Atlanta, GA
San Francisco, CA

Last Updated: March 20, 2026

Energy Transfer LP - Baltimore Terminal Project

Contents

FIGURE

TABLES

Executive Summary

House Bill 1200 (HB1200) mandates that permit applications that require public notice and participation must include an EJ Score for the census tract where the applicant is seeking the permit in the permit application package to the Maryland Department of the Environment (MDE). The Department recommends using the Maryland EJ Tool to assess the EJ Score within a 1-mile radius of the facility.

To comply with HB1200 and MDE requirements, the Maryland EJ Tool was utilized to identify and generate EJ Scores for the two census tracts located within a 1-mile radius of the Energy Transfer LP ("Energy Transfer Partners" or "ETP") facility. This includes Census Tracts 2505 and 2506, both located in Baltimore City. Both census tracts were flagged as overburdened communities with an overall EJ Score greater than the 75th percentile. Census Tract 2505 has the higher EJ Score, 98.8th percentile, indicating the census tract faces pollution, environmental, and socioeconomic burdens higher than 98.8% of the state of Maryland. Environmental Indicators with an EJ Indicator Score greater than the 75th percentile include the Toxics Release Inventory (TRI) Score (99.7th percentile), Hazard Waste Proximity Score (97.6th percentile), and Wastewater Discharge (80.7th percentile).

Census Tract 2506 was also flagged as overburdened with an overall EJ score of 77.2nd percentile, indicating that the tract faces pollution, environmental, and socioeconomic burdens greater than the majority of the state of Maryland. Similar to Census Tract 2505, environmental indicators showed elevated scores, with Toxics Release Inventory Score in the 99.7th percentile, Hazard Waste Proximity Score in the 95.2nd percentile, and Wastewater Discharge Score in the 93.5th percentile.

To further understand the current socioeconomic and environmental conditions in the Wagner Point and Curtis Bay communities, ETP has included an analysis of socioeconomic and environmental indicators provided by the screening tool.

1.0 Background

This document provides an Environmental Justice (EJ) Screening Score based on quantitative data MDE's Environmental Justice Screening Tool. The assessment focuses on socioeconomic and environmental indicators within a 1-mile radius of the ETP facility, located at 2155 Northbridge Ave, Baltimore, Maryland. The Overall EJ Score is presented as a percentile for comparison purposes that represents the percentage of the population in Maryland that ranks lower than the census tract in question. Environmental and Socioeconomic Indicators are presented as percentages; percentile rankings are included if the information was provided by the screening tool.

1.1 MDE's Definition of Underserved and Overburdened Communities

1.1.1 Underserved Communities[1]: According to state law, a community is classified as underserved if it meets at least one of the following criteria:

- **Low-income residents**: At least 25% of the population qualifies as low-income, which is based on the most recent U.S. Census Bureau data. This means households earning below a certain income threshold, typically below 200% of the federal poverty line, are counted.
- **Nonwhite residents**: At least 50% of the residents identify as nonwhite. This includes populations categorized as African American, Hispanic, Asian, Native American, or other nonwhite groups.
- **Limited English proficiency**: At least 15% of the population has limited English proficiency, meaning they speak a language other than English at home and speak English less than "very well."

1.1.2 Overburdened Communities (OBC)[2,3]: A community is considered overburdened if three or more of the following environmental health indicators exceed the 75th percentile statewide:

- **Pollution Burden Exposure Indicators**:
  - **PM2.5 concentration**: Particulate matter 2.5 levels above the 75th percentile for statewide comparison.
  - **Ozone concentration**: Based on summer seasonal average of the maximum daily 8-hour concentration of ozone in air in ppb (parts per billion).
  - **NATA Diesel PM concentration**: Diesel particulate matter (PM) levels above the 75th percentile for statewide comparison.
  - **NATA Cancer Risk**: Increased cancer risk based on NATA data, with a score exceeding the 75th percentile statewide.
  - **NATA Respiratory Hazard Index**: Higher respiratory risks, calculated based on exposure to toxic chemicals.
  - **Traffic Proximity**: High levels of traffic congestion or proximity to major roadways, contributing to pollution from vehicle emissions.
  - **TRI Facility Proximity**: Close proximity to toxic release inventory facilities that emit pollutants.
  - **Hazardous Waste Landfill Proximity**: Close to landfills that may leach hazardous materials into the environment.
- **Pollution Burden Environmental Effects Indicators**:

[1] MDEJ. MDE's Environmental Justice Screening Tool. EJ Screening Tool

[2] MDEJ. MD EJSCREEN v3.0: A Tool for Mapping Environmental Justice in Maryland. https://mde.maryland.gov/Environmental_Justice/Documents/Environmental%20Justice/EnviroScreen/FINAL__6.20.25_Maryland%20Department%20of%20the%20Environment%20MDEnviroScreen%20Tool%20Documentation%20V3.pdf

[3] MDEJ. MDE's Environmental Justice Screening Tool. EJ Screening Tool

- **Lead Paint Indicator**: Elevated risks of lead exposure, often based on housing age and maintenance levels.
- **Risk Management Plan Facility Proximity**: Close proximity to facilities handling hazardous chemicals, as defined by federal Risk Management Plan (RMP) regulations.
- **Hazardous Waste Proximity**: Near hazardous waste management facilities.
- **Superfund Site Proximity**: Close proximity to National Priorities List (Superfund) sites, indicating potential long-term environmental contamination.
- **Wastewater Discharge Indicator**: High levels of proximity to areas with significant wastewater discharge.
- **Brownfields Proximity**: Close proximity to brownfield sites, which may involve redevelopment of contaminated land.
- **Power Plant Proximity**: Near emitting power plants, which can contribute to air and water pollution.
- **Concentrated Animal Feeding Operation (CAFO) Proximity**: Near large-scale animal farming operations that may impact air and water quality.
- **Mining Operations Proximity**: Close proximity to mining sites, which may cause land disturbance and contamination.

- **Sensitive Population Indicators**:
  - **Low-birth-weight Infants**: Census tracts with a higher proportion of low-birth-weight infants (below 5.5 pounds) in relation to statewide data.
  - **Asthma Emergency Room Discharges**: Communities where asthma-related emergency room visits are above the 75th percentile.
  - **Myocardial Infarction Discharges**: Higher rates of hospital discharges due to heart attacks (myocardial infarctions), indicating poor cardiovascular health.
  - **Broadband Coverage**: Percent of population lacking broadband access, with census tracts above the 75th percentile indicating limited access to essential online services.

1.1.3 How MDE Calculates an EJ Score[4]:

MDE calculates the EJ Score based on three primary factors:

1. **Pollution Burden Exposure**: This score considers the levels of air pollutants, cancer and respiratory hazard risk, traffic proximity, and nearby industrial facilities. A census tract is flagged if these indicators are above the 75th percentile compared to statewide data.
2. **Pollution Burden Environmental Effects**: This score evaluates environmental degradation and proximity to hazardous sites, such as RMP facilities, hazardous waste sites, Superfund sites, wastewater discharge, brownfields, power plants, CAFOs, and mining operations. A community with several nearby hazardous facilities may have an elevated environmental effects score.
3. **Sensitive Populations**[5]: This score reflects the vulnerability of populations based on health indicators, such as asthma rates and low-birth-weight infants. For EJ score calculations low income percentile is also incorporated into this group.

The overall EJ Score is derived from the combined weight of these three categories. A census tract that has high pollution burdens, environmental effects, and sensitive populations, along with socioeconomic vulnerabilities, will receive a higher EJ Score, potentially reflecting severe environmental justice concerns.

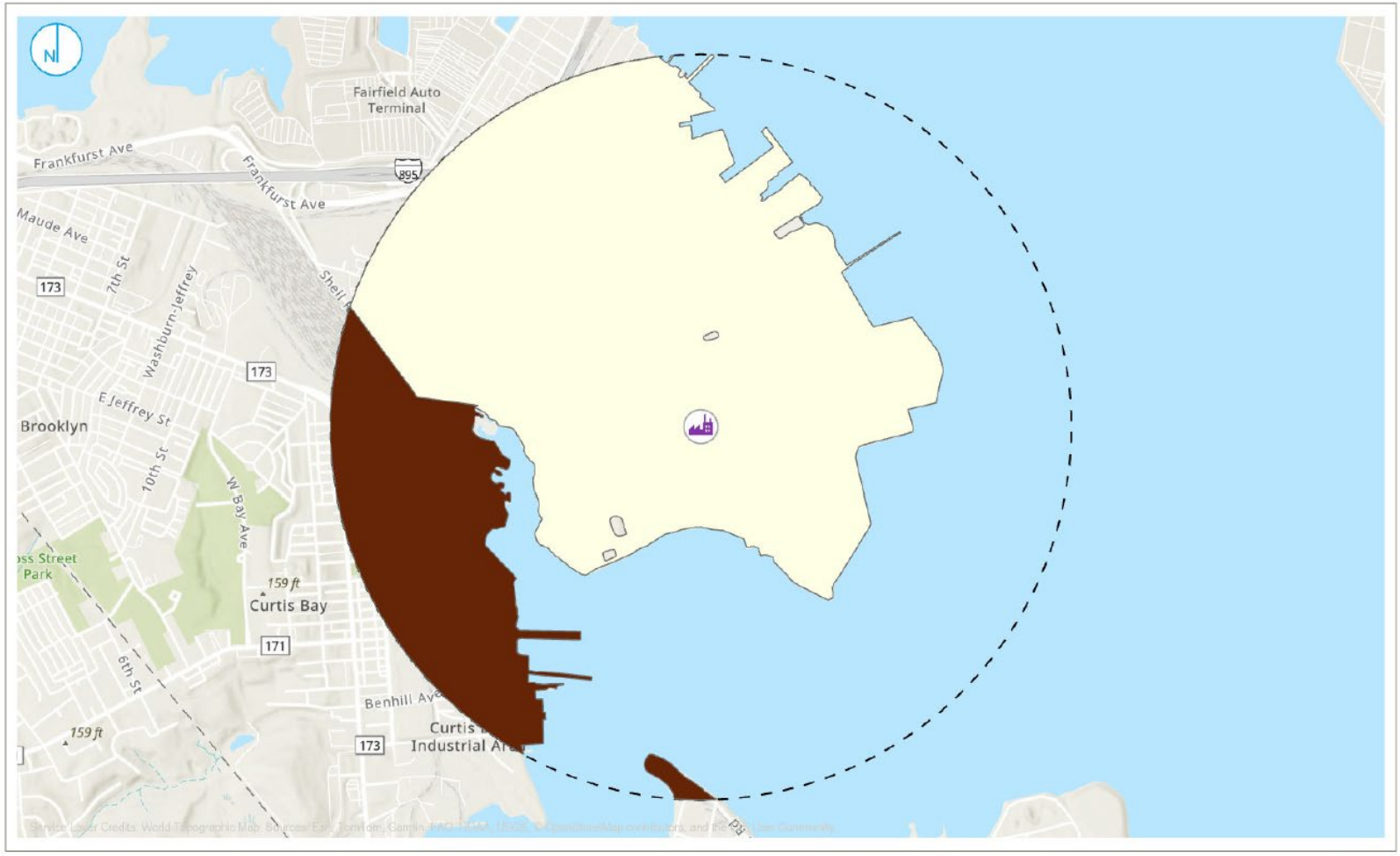
[4] MDEJ. MDE's Environmental Justice Screening Tool. EJ Screening Tool

[5] As of 2025 this also includes socioeconomic data which previously was its own group of indicators

2.0 MDE EJ Screen Score Summary

The census tracts within one mile of the facility, Census Tracts 2505 and 2506, present environmental and socioeconomic challenges that are of concern. For the purposes of this summary, the focus will be on the indicators that are potentially related to the project and those that demonstrate a clear need for assistance in the area. For more comprehensive information on all indicators in the projects 1-mile vicinity, the full raw data from the MDE EJ Screening Report is included as an attachment to this report. **Figure 1** provides EJ scores across all census tracts and **Table 1** provides indicator data across all census tracts.

The area's Overall Environmental Justice (EJ) Score Percentile is in the 98.8th percentile in Census Tract 2505, and 77.2nd percentile in Census Tract 2506, placing all these tracts among the most impacted in Maryland, indicating substantial environmental risks and social inequities. Poverty rates in these tracts reach as high as 100%, and minority populations account for up 59.14% of residents in one tract, amplifying the vulnerability of these communities to environmental hazards. The Toxics Release Inventory (TRI) Score, reaching 178.7%, points to nearby industrial facilities releasing toxic chemicals, further contributing to health risks. Additionally, proximity to wastewater discharge facilities, with Wastewater Discharge Score reaching up to the 95.2nd percentile, indicates substantial exposure to industrial contaminants. The combination of these environmental pollution indicators and socioeconomic vulnerabilities creates a high-risk environment for the communities near the facility, underscoring the need for environmental risk mitigation and enhanced community engagement.



1-mile buffor
1-mile buffer
EJ Score
>70
90-100
Energy Transfer Partners
Energy Transfer Partners

EJ SCORES WITHIN 1 MILE RADIUS OF ENERGY TRANSFER PARTNERS

0 2,500 5,000 Feet

Energy Transfer Partners

2155 Northbridge Ave, Baltimore, MD 21226

FIGURE 01

RAMBOLL US CONSULTING, INC.
A RAMBOLL COMPANY

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Table 1. Census Tracts within 1-mile of 2155 Northbridge, Baltimore, Maryland								
Threshold for Indicator to be classified as EJ community is 75th percentile								
City/County	**Census Tract**	**Overall EJ Score (Percentile)**	**Overall EJ Score (Percentile) OLD**	**Socioeconomic Indicators**	**EJ Score for Indicator (% for tract)**	**Environmental Indicators**	**EJ Score for Indicator (% for tract)**	**EJ Score for Indicator (Percentile**
Baltimore City	2505	98.80	100.00	Poverty	35.75%	NATA Respiratory Hazard Index Score	0%	32.40
						NATA Particulate Matter (PM2.5) Score	32.40%	30.60
				Minority	59.14%	Toxics Release Inventory (TRI) Score	167.76%	99.70
						Hazard Waste Proximity Score	3.75%	97.60
						Wastewater Discharge Score	17.12%	80.70
Baltimore City	2506	77.20	14.90	Poverty	100.00%	NATA Respiratory Hazard Index Score	0%	32.40
						NATA Particulate Matter (PM2.5) Score	32.40%	35.40
				Minority	-	Toxics Release Inventory (TRI) Score	178.70%	99.70
						Hazard Waste Proximity Score	3.50%	95.20
						Wastewater Discharge Score	14.94%	93.50

Notes:

1. Socioeconomic indicators for census tract 2506 were not provided in the MDEJ Data Set

3.0 Socioeconomic Indicator Analysis

The census tracts within a 1-mile radius of the facility face significant socioeconomic challenges, contributing to the compounded risks posed by environmental hazards. Census Tract 2505, located in Baltimore City, stands out as the most vulnerable, with a Final Environmental Justice (EJ) Score of 98.8th percentile — the highest in the area. This tract exhibits a poverty rate of 35.75% in adults, and 59.1% of the Census Tract's population consists of minority groups, compounding the challenges for its residents. This combination of high poverty and minority representation underscores the need for targeted socioeconomic and environmental interventions. Census Tract 2506, also in Baltimore City, has a slightly lower EJ Score of 77.2nd percentile, but still exhibits environmental pollution exposure vulnerabilities compared to other tracts in the state. Notably, the tool does not provide all information on socioeconomic risks, such as minority rates but does provide its poverty rate, 100th percentile, for this census tract.

These factors elevate the tracts' overall vulnerability to environmental hazards. Across all tracts, the elevated poverty and minority populations may highlight the need for better access to healthcare, economic assistance, and resources to mitigate the impacts of environmental risks.

4.0 Environmental Pollution Indicator Analysis

Environmental pollution poses a concern across the census tracts surrounding the facility. The NATA Respiratory Hazard Index is identical at the 32nd percentile across all both census tracts, indicating relatively uniform air quality challenges from toxic chemical exposures. NATA Particulate Matter (PM 2.5) scores show modest variation but remain generally consistent across both tracts, clustering around the 30th to 35th percentile. The most significant environmental stressor in this area is proximity to toxic release facilities. TRI scores are exceptionally high across both census tracts, at the 99th percentile. These tracts are exposed to hazardous chemicals that could lead to long-term health risks, including cancer and respiratory diseases. This exposure may be exacerbated by the area's dense population and socioeconomic challenges.

Additional environmental stressors include proximity to hazardous waste and wastewater discharge sites. Census Tract 2505 has the higher Hazardous Waste Proximity Score of the 97.6th percentile and a similarly high Wastewater Discharge Score of 80.7th percentile. Although Census Tract 2506 has the lower overall EJ Score it exhibits comparably severe environmental risk to Census Tract 2505 for both Hazardous Waste Proximity and Wastewater Discharge scores, 95.2thand 93.5th percentile respectively. This proximity to industrial waste sites contributes to the cumulative burden of environmental risks on vulnerable populations in the two census tracts.

5.0 Conclusion

In summary, the EJ Screening Score analysis for the 1-mile radius surrounding the ETP facility highlights significant environmental and socioeconomic conditions. The high EJ Scores in both census tracts, particularly Census Tract 2505 with a 98.8th percentile score, reveal elevated levels of toxic release inventory scores, hazardous waste proximity scores, and close proximity to industrial facilities. These environmental burdens are compounded by socioeconomic vulnerabilities, such as high poverty rates and large minority populations. The combination of these factors suggests a heightened need for interventions to reduce environmental risks and improve the overall quality of life in these communities. The full raw data set from the Maryland EJ Screen Tool is included as an attachment for a more detailed review of all indicators in the region.

ATTACHMENTS

MDEnviroScreen Report

Census Tract ID: 24510250600

County: Baltimore City

MDEnviroScreen Summary

EJ Score: 77.2

Overburdened Community: Yes

Underserved Community: Yes

MDEnviroScreen EJ Score Indicators

Pollution Burden Exposure

Indicator	Percentile
PM 2.5	35.4
Ozone	90.6
Diesel PM	82.5
Cancer Risk	9.5
Respiratory Hazard	32.4
Traffic	93.6
Toxic Release	99.7
Hazardous Landfill	99.5

Pollution Environmental Effect

Indicator	Percentile
Lead Paint	77
RMP Facility	99.6
Superfund	88.9
Hazardous Waste	95.2
Wastewater	93.5
Brownfield	99.7
Power Plant	90.2
CAFO	0
Mining	73

Sensitive Population

Indicator	Percentile
Low Birth Weight	0
Asthma Discharge	
Myocardial Infarction	
Lack of Broadband	0
Low Income*	100

*Low Income is included in Underserved but grouped into Sensitive Population for EJ Score Calculation

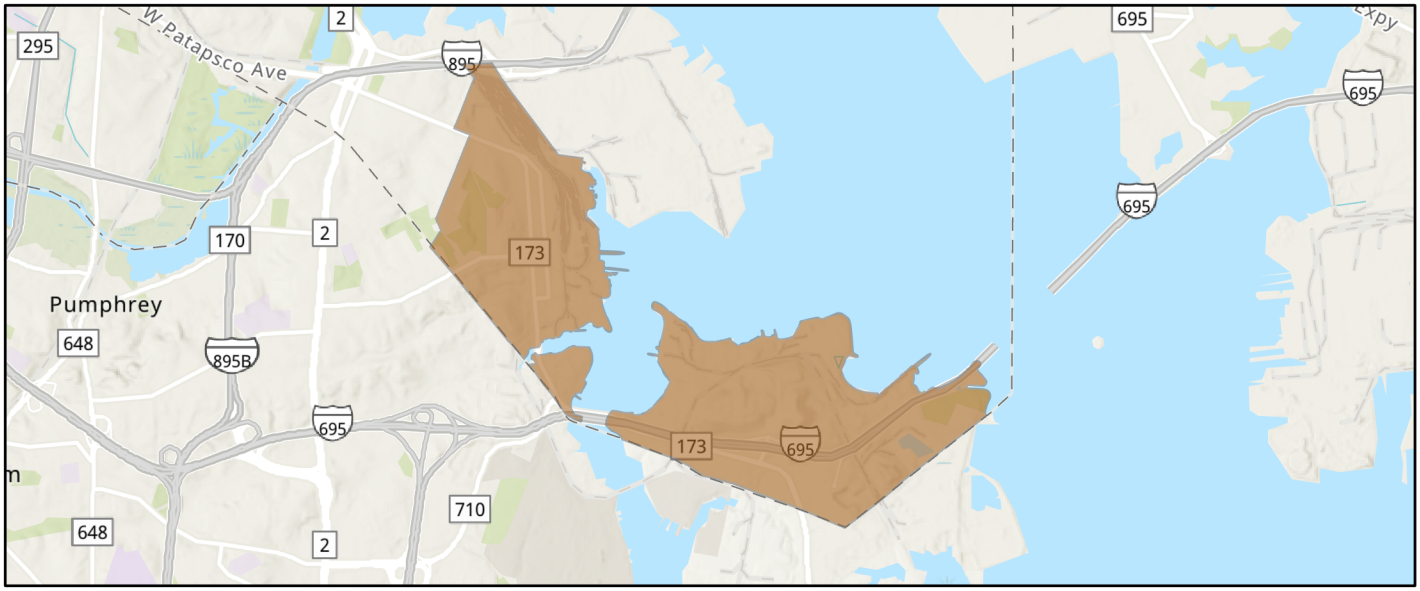
*The MDEnviroScreen EJ score represents a combined measure of pollution and the potential vulnerability of a population to the effects of pollution. The EJ score in MDEnviroScreen does not include data from every available map layer. For example, it does not include race/ethnicity or age, however, MDE has made that information available for informational purposes only. Collecting and displaying this data allows users to evaluate the relationships between demographics and pollution burden, and can be used to better understand issues related to environmental justice and racial equity in Maryland. MDE cautions users against using the "Underserved" map layer, or its subcategories, in any manner that would be considered discriminatory under applicable law.

Date Exported: 7/23/2025

MDEnviroScreen Report

Census Tract ID: 24510250500

County: Baltimore City



MDEnviroScreen Summary

EJ Score: 98.8

Overburdened Community: Yes

Underserved Community: Yes

MDEnviroScreen EJ Score Indicators

Pollution Burden Exposure

Indicator	Percentile
PM 2.5	30.6
Ozone	81.3
Diesel PM	73.8
Cancer Risk	9.5
Respiratory Hazard	32.4
Traffic	66.4
Toxic Release	99.7
Hazardous Landfill	99.8

Pollution Environmental Effect

Indicator	Percentile
Lead Paint	85
RMP Facility	99.8
Superfund	90.5
Hazardous Waste	97.6
Wastewater	80.7
Brownfield	99.7
Power Plant	94.8
CAFO	0
Mining	90.6

Sensitive Population

Indicator	Percentile
Low Birth Weight	95
Asthma Discharge	94.8
Myocardial Infarction	99
Lack of Broadband	96.1
Low Income*	81.3

*Low Income is included in Underserved but grouped into Sensitive Population for EJ Score Calculation

*The MDEnviroScreen EJ score represents a combined measure of pollution and the potential vulnerability of a population to the effects of pollution. The EJ score in MDEnviroScreen does not include data from every available map layer. For example, it does not include race/ethnicity or age, however, MDE has made that information available for informational purposes only. Collecting and displaying this data allows users to evaluate the relationships between demographics and pollution burden, and can be used to better understand issues related to environmental justice and racial equity in Maryland. MDE cautions users against using the "Underserved" map layer, or its subcategories, in any manner that would be considered discriminatory under applicable law.

Date Exported: 7/23/2025

Brandon M. Scott
Mayor

Ren Southerd
Acting Director

May 07, 2026

Ramboll Americas Engineering Solutions, Inc.
4245 North Fairfax Drive, Suite 700
Arlington, VA 22203

Re: Zoning Verification Letter – 2155 Northbridge Road

To Whom It May Concern:

This is in response to your request for zoning verification concerning the above-referenced property.

The subject property is located in an MI Maritime Industrial Zoning District. The MI Zoning District is intended to ensure the preservation of deep-water frontage of the Port of Baltimore for maritime industrial uses by delineating an area where maritime shipping and maritime industrial uses can be conducted without the intrusion of non-industrial uses and where investment in maritime infrastructure is encouraged. The nature of these activities may result in external effects, such as smoke, noise, glare, or vibration, and typically include outdoor storage and related outdoor activities.

Your proposed improvements, as indicated in your letter would be allowed, subject to permitting and compliance with all other applicable zoning regulations.

Our records reflect no current or pending zoning violations with respect to this property.

Should you have any additional questions regarding this matter, please contact the Office of the Zoning Administrator at (410)-396-4126.

Sincerely,

Geoffrey M. Veale, Zoning Administrator