AIR AND RADIATION ADMINISTRATION
DRAFT PART 70 OPERATING PERMIT

DOCKET # 24-510-1923

COMPANY: Petroleum Fuel And Terminals Company

LOCATION: 1622 S. Clinton Street
Baltimore, MD 21224

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MARYLAND DEPARTMENT OF THE ENVIRONMENT
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AIR QUALITY PERMITS PROGRAM

TITLE V – PART 70 OPERATING PERMIT PROGRAM OVERVIEW

Title V of the Clean Air Act (amended) requires each state to implement a federally enforceable operating permit program for major sources of air pollution. This program, the Part 70 Permit Program, also known as the Title V Permit Program, is designed to provide a comprehensive administrative document (a Part 70 Operating Permit) that identifies all air emissions sources at a given facility and the federal air quality regulations applicable to those sources. The permit establishes the methodology by which the owner/operator will demonstrate compliance, and includes testing, monitoring, record-keeping, and reporting requirements for each emissions source.

A Part 70 Operating Permit does not authorize new construction, and does not add any new emissions limitations, standards, or work practices on an affected facility. There may, however, be additional testing, record keeping, monitoring, and reporting requirements. A Part 70 Operating Permit is a five-year renewable permit. A responsible official for each facility subject to a Part 70 Operating Permit is required to annually certify compliance with each applicable requirement for that facility.

When an application for a Part 70 Operating Permit is received, the Department will complete a technical review of the application and will prepare a draft Part 70 Operating Permit and Fact Sheet. The Fact Sheet will explain the basis and technical analysis used by the Department to develop the federally enforceable permit conditions, including the required testing, monitoring, record keeping, and reporting provisions for each emissions unit at the permitted facility. The Fact Sheet will also include a description of the facility operations and the current compliance status with applicable requirements. If there are any discrepancies between the Part 70 Operating Permit application and the draft permit, the Fact Sheet will contain a discussion of the inconsistencies and the final resolution.

Public Participation Process

The Part 70 Operating Permit Program provides the public, adjacent states, and EPA the opportunity to review and submit comments on draft permits. The public may also request a public hearing on the draft permit.

The purpose of a public hearing is to give interested parties the opportunity to submit comments for the record which are germane to the draft federally enforceable permit conditions. Comments made at the hearing, or in writing to the Department during the comment period, should address errors and deficiencies in the permit such as unidentified emissions units, incorrect or deficient regulation citation, deficient record keeping, monitoring, reporting or testing requirements and unresolved compliance issues. After the public comment period has closed, the Department will review the formal testimony as part of the final review and prepare a Response to Comments document which will be sent to the EPA along with the draft Part 70 Operating Permit and Fact Sheet.

Testimony on state-only requirements will be kept on file at the Department as part of the formal record, however, state-only rules and regulations are not federally enforceable, and therefore are not within the scope of the EPA review. The Department will keep a record of the identity of the commenters, their statements, a summary of the issues raised during the public comment period, and the Response to Comments document for at least five years.

Citizen Petition to EPA to Object to Permit Issuance

Interested parties may petition the EPA to object to the Part 70 Permit if the EPA has not already objected, within 60 days after the 45-day EPA review period has ended. The petition period will be posted on the EPA website. The EPA will only consider objections to the federally enforceable provisions of the draft permit which were raised with reasonable specificity during the public comment period, unless: (1) the petitioner demonstrates that it was impractical to raise the objections within the public comment period, or (2) the grounds for the objection arose after the comment period. If the EPA agrees with the petition, the Department will reopen, revise, or revoke the permit as determined.

Applicant Objection to Permit Issuance and Recourse

If the applicant objects to the federally enforceable permit conditions contained in the issued Part 70 Operating Permit, the applicant has 15 days from receipt of the issued permit to request a contested case hearing. More information on that can be found in 40 CFR, Part 70, and COMAR 26.11.03.11.

MARYLAND DEPARTMENT OF THE ENVIRONMENT
AIR AND RADIATION ADMINISTRATION

NOTICE OF INTENT TO ISSUE PART 70 OPERATING PERMIT, OPPORTUNITY TO SUBMIT WRITTEN COMMENTS OR TO REQUEST A PUBLIC HEARING

The Department of the Environment, Air and Radiation Administration (ARA) has completed its review of the application for a renewal Part 70 Operating Permit submitted by Petroleum Fuel & Terminal Company's Clinton Street facility. The facility includes seven (7) gasoline storage tanks, eight (8) fuel oil storage tanks, six (6) asphalt storage tanks, a five (5) bay loading rack controlled by a vapor combustion unit, a marine tank vessel loading operation controlled by a carbon adsorption system vapor recovery unit, four (4) natural gas-fired heaters/boiler, and one (1) natural gas-fired heater with No. 2 fuel oil as back-up.

The applicant is represented by: Mr. Bernie Sheil, Compliance Manager
Petroleum Fuel & Terminal Company
1622 South Clinton Street
Baltimore, MD 21224

The Department has prepared a draft Part 70 Operating Permit for review and is now ready to receive public comment. A docket containing the application, draft permit, and supporting documentation is available for review on the Department's website, under the Air Quality Permitting Page's Title V link under "Draft Title V Permits" and may be viewed here:

https://tinyurl.com/DraftTitleV

Interested persons may submit written comments or request a public hearing on the draft permit. Written comments must be received by the Department no later than 30 days from the date of this notice. Requests for a public hearing must be submitted in writing and must also be received by the Department no later than 30 days from the date of this notice.

Comments and requests for a public hearing will be accepted by the Department if they raise issues of law or material fact regarding applicable requirements of Title V of the Clean Air Act, and/or regulations implementing the Title V Program in Maryland found in COMAR.

A Request for public hearing shall include the following:

1) The name, mailing address, and telephone number of the person making the request;

2) The names and addresses of any other persons for whom the person making the request is representing; and

3) The reason why a hearing is requested, including the air quality concern that forms the basis for the request and how this concern relates to the person making the request.

All written comments and requests for a public hearing should be directed to the attention of Ms. Shannon Heafey via email at Shannon.heafey@maryland.gov or by post at Air Quality Permits Program, Air and Radiation Administration, 1800 Washington Boulevard Suite 720, Baltimore, Maryland 21230-1720. Further information may be obtained by calling Ms. Shannon Heafey at (410) 537-4433.

PETROLEUM FUEL & TERMINAL COMPANY
1622 SOUTH CLINTON STREET, BALTIMORE, MARYLAND 21224
PERMIT NO. 24-510-1923
PART 70 OPERATING PERMIT FACT SHEET

BACKGROUND

Petroleum Fuel and Terminal Company (Petroleum Fuel) is a bulk petroleum storage and distribution terminal located at 1622 South Clinton Street, Baltimore, Maryland, 21224. This facility is owned and operated by Petroleum Fuel and Terminal Company, a subsidiary of Apex Oil Company. The facility is located in Air Quality Area III in Baltimore City, an ozone non-attainment area. The primary standard industrial classification (SIC) code for this terminal is 4226. Petroleum Fuel does not own the product that they store and distribute.

The major activities at the facility include storage and distribution of petroleum products including gasoline, distillates, asphalt and other refined petroleum products (biodiesel fuel and fuel ethanol). The facility receives petroleum products by railcar, ship or barge, or pipeline from a sister facility located at 5101 Erdman Avenue in Baltimore, Maryland (ARA Premises No. 510-0677). The product is stored in large, closed top storage tanks and then loaded into tank trucks for distribution, transferred to the Erdman Avenue facility via pipeline, or can be sent out via ship or barge.

The primary sources of air pollution at the facility include seven (7) gasoline storage tanks, eight (8) fuel oil storage tanks, six (6) asphalt storage tanks, a five (5) bay loading rack controlled by a vapor combustion unit, a marine tank vessel loading operation controlled by a carbon adsorption system vapor recovery unit, four (4) natural gas-fired heaters/boiler, and one (1) natural gas-fired heater with No. 2 fuel oil as back-up.

Gasoline is stored in seven (7) closed top storage tanks (Tank Nos. 30-6, 200-16, 34-7, 54-8, 54-9, 80-5, and 195-17) each equipped with an internal floating roof with primary and secondary seals for the storage of gasoline, ethanol, or distillate fuels.

All products (asphalt, ethanol, distillate fuels, and gasoline) are received by ship or barge. They can also transport distillate fuels, gasoline, and ethanol to and from the Erdman Avenue facility via the pipeline. Ethanol and bio-diesel fuels are received by railcar. The railcars are only unloaded at this facility, they are not loaded.

Asphalt, ethanol, and distillate fuels are loaded into tank trucks at the five (5) bay truck loading rack with one (1) vapor combustion unit controlling VOC vapors emitted during transport tanker truck loading. Gasoline is not loaded at the truck loading rack. A vapor recovery unit controls emissions from marine vessel loading when loading gasoline and/or ethanol at the north dock. Gasoline and/or fuel ethanol is not loaded at the south dock.

In support of the terminal operations, Petroleum Fuel also maintains six (6) asphalt storage tanks, eight (8) fuel oil (No. 2, 4, 6, and biodiesel) storage tanks, and twelve (12) butane storage tanks:

- Three (3) 7,350,000-gallon asphalt storage tanks (Tank Nos. 175-18, 175-19, and 175-20).
- Two (2) 420,000-gallon asphalt storage tanks (Tank Nos. 10-2 and 10-4).
- One (1) 3,360,000-gallon asphalt storage tank (Tank No. 80-13).
- Two (2) 210,000-gallon fuel oil tank (Tank Nos. 5-3 and 5-10).
- One (1) 1,260,000-gallon fuel oil tank (Tank No. 30-12).
- One (1) 2,268,000-gallon fuel oil tank (Tank No. 54-11).
- One (1) 7,250,000-gallon fuel oil storage tank (Tank No. 175-15).
- One (1) 840,000-gallon biodiesel storage tank (Tank No. 20-1).
- One (1) 500-gallon fuel oil tank.
- One (1) 275-gallon fuel oil tank.
- Twelve (12) 30,000-gallon butane storage tanks

These tanks are not registered or permitted with the Department because in accordance with COMAR 26.11.02.10Q(6), tanks used exclusively for storage of numbers 1, 2, 4, 5, and 6 fuel oil are exempt from permits to construct and approvals. These tanks are considered insignificant activities and are included in the insignificant activities list of the Part 70 Operating Permit.

The following table summarizes the actual emissions from Petroleum Fuel based on its Annual Emission Certification Reports:

Table 1: Actual Emissions

Year	NO_x (TPY)	SO_x (TPY)	PM_{10} (TPY)	CO (TPY)	VOC (TPY)	Total HAP (TPY)
2016	3.2	0.02	0.06	2.7	40.5	0.0
2017	4.5	0.03	0.09	3.8	32.5	0.0
2018	5.4	0.03	0.1	4.6	37.8	0.0
2019	5.1	0.03	0.1	4.3	35.6	0.0
2020	4.3	0.03	0.08	3.6	21.4	0.0
2021	3.6	0.02	0.07	3.0	14.0	0.0
2022	3.0	0.02	0.06	2.5	0.6	0.0
2023	3.1	0.02	0.06	2.6	0.6	0.0

The major source threshold for triggering Title V permitting requirements in Baltimore City is 25 tons per year for VOC, 25 tons for NO_x, and 100 tons per year for any other criteria pollutants and 10 tons for a single HAP or 25 tons per year for total HAPS. Since the potential VOC emissions from the facility are greater

than the major source threshold, Petroleum Fuel is required to obtain a Title V – Part 70 Operating Permit under COMAR 26.11.03.01.

TITLE V – PART 70 OPERATING PERMIT APPLICABILITY

This permit is a renewal Title V – Part 70 Operating Permit for the facility. The facility's Title V – Part 70 Operating Permit application was received by the Department on June 14, 2021. An administrative completeness review was conducted and an administrative completeness letter was sent on July 26, 2021. An application shield was granted to Petroleum Fuel.

CHANGES AND MODIFICATIONS TO THE PART 70 OPERATING PERMIT

Since the issuance of the last Title V – Part 70 Operating Permit the company replaced the one (1) natural gas-fired heater with No. 2 fuel oil back-up rated at 9.9 million BTU per hour (EU-12, ARA Registration No. 510-1923-4-3061) in September 2019 with two (2) natural gas-fired heaters each rated at 6.0 million BTU per hour (ARA Registration Nos. 510-1923-5-2267 and 510-1923-5-2268). A General Permit for the two (2) heaters was issued in September 2019. In addition, the facility removed one (1) natural gas-fired heater rated at 8.4 million BTU per hour (EU-14, ARA Registration No. 510-1923-5-0283) and replaced it with one (1) natural gas-fired heater rated at 8.6 million BTU per hour (ARA Registration No. 510-1923-5-2385) in 2018.

There have been no other changes at the facility since the current Title V – Part 70 Operating Permit was issued on June 1, 2017.

NSPS and NESHAP APPLICABILITY

40 CFR, Part 60, Subpart Kb – New Source Performance Standards for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced After July 23, 1984

The tank farm consisting of seven (7) storage tanks (Tank Nos. 30-6, 200-16, 34-7, 54-8, 54-9, 80-5, and 195-17) each equipped with an internal floating roof with primary and secondary seals is subject to the requirements of 40 CFR, Part 60, Subpart Kb for large VOC storage tanks constructed after July 23, 1984. Each tank has a capacity greater than 75 cubic meters (approximately 19,800 gallons) and each tank was constructed or modified after July 23, 1984. The NSPS requirements of 40 CFR, Part 60, Subpart Kb are included in the Title V – Part 70 Operating Permit for these tanks.

40 CFR, Part 60, Subpart Dc – New Source Performance Standards for Small, Industrial-Commercial-Institutional Steam Generating Units

The one (1) natural gas-fired boiler rated at 14.65 million BTU per year (ARA Registration No. 510-1923-5-2111) is subject to the requirements of Subpart Dc because the boiler is rated at greater than 10 million BTU per year. The NSPS requirements of 40 CFR, Part 60, Subpart Dc are included in the Title V – Part 70 Operating Permit for this boiler.

Petroleum Fuel is a true minor source of HAP emissions (maximum potential of 5.6 tons per year total HAP emissions), and is not subject to any major source HAP regulations. As a true minor source of HAP emissions, Petroleum Fuel is not subject to the major source NESHAP requirements of 40 CFR, Part 63, Subpart R for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations). As an area source of HAP emissions, Petroleum Fuel is subject to the following NESHAP requirements:

40 CFR, Part 63, Subpart Y – National Emission Standards for Hazardous Air Pollutants for Source Categories: Marine Tank Vessel Loading Operations

Petroleum Fuel is subject to the requirements of Subpart Y; however, because Petroleum Fuel is an existing, area source of HAP emissions, has a throughput of less than 10 million barrels of gasoline and 200 million barrels of crude oil through the marine loading rack, and reduces emissions by using a vapor balancing system, Petroleum Fuel is subject to only a limited number of requirements of Subpart Y. The applicable NESHAP requirements of 40 CFR, Part 63, Subpart Y are included in the Title V – Part 70 Operating Permit for the marine tank vessel loading operations.

40 CFR, Part 63, Subpart BBBBBB – National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities

Petroleum Fuel is subject to the requirements of Subpart BBBBBB. Because Petroleum Fuel is considered an existing source in accordance with 40 CFR §63.11082, Petroleum Fuel was required to comply with the requirements of Subpart BBBBBB by January 10, 2011. The Department received Petroleum Fuel's initial notification on July 6, 2009, and their Notification of Compliance Status Report on January 10, 2011. The NESHAP requirements of 40 CFR, Part 63, Subpart BBBBBB are included in the Title V – Part 70 Operating Permit for the gasoline distribution terminal.

CAM APPLICABILITY

Compliance Assurance Monitoring (CAM), as specified in 40 CFR, Part 46, applies to any emission unit at a Title V major source that meets all of the following criteria:

(1) The emission unit is subject to a federally enforceable emission limit or standard for a regulated pollutant.

(2) The emission unit uses a control device to achieve compliance with any such emission limitation or standard.

(3) The emission unit has the potential to emit pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source and must not otherwise be exempt from CAM.

The truck loading rack at Petroleum Fuel uses a vapor combustion unit to meet a federally enforceable emission limit (COMAR 26.11.06.06B(1)(b)) and the marine tank vessel loading operation uses a carbon adsorption system vapor recovery unit to meet a federally enforceable emission limit (COMAR 26.11.13.08B(1)). The VOC emissions from the truck loading rack and the marine tank vessel loading operation, pre-control, would each be greater than the major source threshold of 25 tons per year. The truck loading rack and the marine tank vessel loading operation are not subject to major source MACT requirements and are not otherwise exempt from CAM. CAM requirements apply to the vapor combustion unit controlling emissions from the truck loading rack and the vapor recovery unit controlling emissions from the marine tank vessel loading operation. CAM Plans for the vapor combustion unit and the vapor recovery unit are included in the Part 70 Operating Permit.

The storage vessels at Petroleum Fuel do not employ control devices as defined in 40 CFR §64.1. CAM requirements do not apply to the storage vessels.

GREENHOUSE GAS (GHG) EMISSIONS

Petroleum Fuel emits the following greenhouse gases (GHGs) related to the Clean Air Act requirements: carbon dioxide, methane, and nitrous oxide. These GHGs originate from various processes (i.e., natural gas/No. 2 fuel oil-fired heaters, natural gas-fired boiler, and the vapor combustion unit) contained within the premises. The facility has not triggered Prevention of Significant Deterioration (PSD) requirements for GHG emissions; therefore, there are no applicable GHG Clean Air Act requirements. While there may be no applicable requirements as a result of PSD, emission certification reports for the years 2018-2023, showed that Petroleum Fuel is a minor source (threshold: 100,000tpy CO_2e) for GHG's (see Table 2 shown below). The Permittee shall quantify facility wide GHGs emissions and report them in accordance with Section 3 of the Part 70 permit.

The following table summarizes the actual emissions from Petroleum Fuel based on its Annual Emission Certification Reports:

Table 2: Greenhouse Gases Emissions Summary

GHG	Conversion factor	2018 tpy CO_2e	2019 tpy CO_2e	2020 tpy CO_2e	2021 tpy CO_2e	2022 tpy CO_2e	2023 tpy CO_2e
Carbon dioxide CO_2	1	6,517	6,143	5,155	4,274	3,598	3,778
Methane CH_4	25	0.1	0.1	0.1	0.08	0.07	0.07
Nitrous Oxide N_2O	298	0.1	0.1	0.09	0.08	0.07	0.07
Total GHG CO_{2eq}		**6,549**	**6,175**	**5,184**	**4,300**	**3,621**	**3,801**

EMISSION UNIT IDENTIFICATION

Petroleum Fuel has identified the following emission units as being subject to Title V permitting requirements and having applicable requirements.

Table 3: Emission Unit Identification

Emissions Unit Number	MDE Registration Number	Emissions Unit Name and Description	Date of Installation
EU-1 through EU-7	510-1923-9-0261	One (1) tank farm consisting of seven (7) storage tanks (Tank Nos. 30-6, 200-16, 34-7, 54-8, 54-9, 80-5, and 195-17) each equipped with an internal floating roof with primary and secondary seals or an equivalent system for the storage of gasoline, ethanol, residual or distillate fuels.	June 1979 and modified in 1992, 1993, 2006, 2010, 2011, and 2016.
EU-10	510-1923-9-0261	A five (5) bay truck loading rack for loading asphalt, ethanol, and distillate fuels. One (1) NAO 36C27 vapor combustion unit is used to control emissions from loading of ethanol and distillate fuels.	June 1979 and modified in 1986
EU-11	510-1923-9-0261	One (1) marine tank vessel loading operation for the loading of gasoline, ethanol, fuel oils, and liquid asphalt. Gasoline and ethanol loading at the north	June 1979 and modified in 2011

Emissions Unit Number	MDE Registration Number	Emissions Unit Name and Description	Date of Installation
		dock is controlled by a carbon adsorption system vapor recovery unit.	
EU-12	510-1923-5-2267 and 510-1923-5-2268	Two (2) natural gas-fired heaters rated at 6.0 million BTU per hour.	September 2019
EU-13	510-1923-5-1435	One (1) natural gas-fired heater rated at 8.4 million BTU per hour.	April 1999
EU-14	510-1923-5-2385	One (1) natural gas-fired heater rated at 8.6 million BTU per hour.	2018
EU-15	510-1923-9-0284	One (1) natural gas-fired heater rated at 8.4 million BTU per hour. (This heater was originally fired by No. 2 fuel oil and was modified in 1980 to burn natural gas).	June 1979 and modified in 1980.
EU-16	510-1923-5-2111	One (1) natural gas-fired boiler rated at 14.65 million BTU per hour.	November 2011

AN OVERVIEW OF THE PART 70 PERMIT

The Fact Sheet is an informational document. If there are any discrepancies between the Fact Sheet and the Part 70 permit, the Part 70 permit is the enforceable document.

Section I of the Part 70 Permit contains a brief description of the facility and an inventory list of the emissions units for which applicable requirements are identified in Section IV of the permit.

Section II of the Part 70 Permit contains the general requirements that relate to administrative permit actions. This section includes the procedures for renewing, amending, reopening, and transferring permits, the relationship to permits to construct and approvals, and the general duty to provide information and to comply with all applicable requirements.

Section III of the Part 70 Permit contains the general requirements for testing, record keeping and reporting; and requirements that affect the facility as a whole, such as open burning, air pollution episodes, particulate matter from construction and demolition activities, asbestos provisions, ozone depleting substance provisions, general conformity, and acid rain permit. This section includes the requirement to report excess emissions and deviations, to submit an annual

emissions certification report and an annual compliance certification report, and results of sampling and testing.

Section IV of the Part 70 Permit identifies the emissions standards, emissions limitations, operational limitations, and work practices applicable to each emissions unit located at the facility. For each standard, limitation, and work practice, the permit identifies the basis upon which the Permittee will demonstrate compliance. The basis will include testing, monitoring, record keeping, and reporting requirements. The demonstration may include one or more of these methods.

Section V of the Part 70 Permit contains a list of insignificant activities. These activities emit very small quantities of regulated air pollutants and do not require a permit to construct or registration with the Department. For insignificant activities that are subject to a requirement under the Clean Air Act, the requirement is listed under the activity.

Section VI of the Part 70 Permit contains State-only enforceable requirements. Section VI identifies requirements that are not based on the Clean Air Act, but solely on Maryland air pollution regulations. These requirements generally relate to the prevention of nuisances and implementation of Maryland's Air Toxics Program.

REGULATORY REVIEW/TECHNICAL REVIEW/COMPLIANCE METHODOLOGY

GASOLINE STORAGE TANKS: EMISSION UNITS EU-1 through EU-7

Petroleum Fuel maintains one (1) tank farm consisting of seven (7) storage tanks (Tank Nos. 30-6, 200-16, 34-7, 54-8, 54-9, 80-5, and 195-17) each equipped with an internal floating roof with primary and secondary seals or an equivalent system for the storage of gasoline, ethanol, or distillate fuels.

The seven (7) storage tanks are subject to the requirements of 40 CFR, Part 60, Subpart Kb for large VOC storage tanks constructed after July 23, 1984. Each tank has a capacity greater than 75 cubic meters (approximately 19,800 gallons) and each tank was constructed or modified after July 23, 1984.

The seven (7) storage tanks are also subject to the requirements of COMAR 26.11.13, Control of Gasoline and Volatile Organic Compound Storage and Handling, and to the requirements of 40 CFR, Part 63, Subpart BBBBBB for Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities. In most circumstances, compliance with the requirements of 40 CFR, Part 60, Subpart Kb demonstrates compliance with the COMAR 26.11.13 requirements for large

gasoline storage tanks and 40 CFR, Part 63, Subpart BBBBBB for Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities.

The following is a description of the storage tanks included in Emission Unit Nos. 1 through 7 (ARA Registration No. 510-1923-9-0261):

EU-1: One (1) 3,360,000-gallon internal floating roof storage tank equipped with a mechanical shoe seal and a secondary wiper seal for gasoline, ethanol, residual, or distillate fuel oil storage (Tank No. 80-5). This tank was installed in 1979 and a permit to construct was issued on March 18, 1993, to modify the tank for gasoline storage. This conversion is what caused Tank No. 30-6 to be subject to the requirements of Subpart Kb. A permit to construct was issued on June 2, 2010, to replace the internal floating roof and seals with a new internal floating roof and seal system.

EU-2: One (1) 1,260,000-gallon internal floating roof storage tank equipped with a mechanical shoe seal and a secondary wiper seal for gasoline, ethanol, residual, or distillate fuel oil storage (Tank No. 30-6). Tank No. 30-6 was installed in 1979 and a permit to construct was issued on June 18, 1992, to modify the tank for gasoline storage. This conversion is what caused Tank No. 30-6 to be subject to the requirements of Subpart Kb. A permit to construct was issued on July 26, 2010, to replace the internal floating roof and seals with a new internal floating roof and seal system.

EU-3: One (1) 1,428,000-gallon internal floating roof storage tank equipped with a mechanical shoe seal for gasoline, ethanol, residual, or distillate fuel oil storage (Tank No. 34-7). This tank was installed in 1979 and a permit to construct was issued on August 4, 1981 to modify the tank to install an internal aluminum floating pan. Another permit to construct was issued on February 3, 2006, to modify this storage tank for gasoline storage. This conversion is what caused Tank No. 34-7 to be subject to the requirements of Subpart Kb.

EU-4: One (1) 2,268,000-gallon internal floating roof storage tank equipped with a mechanical shoe seal for gasoline, ethanol, residual, or distillate fuel oil storage (Tank No. 54-8). This tank was installed in 1979 and a permit to construct was issued on August 4, 1981 to modify the tank to install an internal aluminum floating pan. Another permit to construct was issued on February 3, 2006, to modify this storage tank for gasoline storage. This conversion is what caused Tank No. 54-8 to be subject to the requirements of Subpart Kb. A permit to construct was issued on February 18, 2016 to replace the internal floating roof.

EU-5: One (1) 2,268,000-gallon internal floating roof storage tank equipped with a mechanical shoe seal for gasoline, ethanol, residual, or distillate fuel oil storage (Tank No. 54-9). This tank was installed in 1979 and a permit to construct was issued on August 4, 1981 to modify the tank to install an internal aluminum floating pan. Another permit to construct was issued on February 3, 2006, to modify this storage tank for gasoline storage. This conversion is what caused Tank No. 54-9 to be subject to the requirements of Subpart Kb.

EU-6: One (1) 8,400,000-gallon internal floating roof storage tank equipped with double wiper seals for gasoline, ethanol, residual, or distillate fuel oil storage (Tank No. 200-16). This tank was installed in year 2000 and a permit to construct was issued on January 28, 2002 to modify the tank for gasoline storage. Because this storage tank was installed after July 23, 1984, this storage tank is subject to the requirements of Subpart Kb.

EU-7: One (1) 8,190,000-gallon internal floating roof storage tank equipped with a mechanical shoe seal and a secondary wiper seal for gasoline, ethanol, residual, or distillate fuel oil storage (Tank No. 195-17). This tank originally stored fuel oil and was not required to be registered with the Department. A permit to construct was issued on March 10, 2010, for the modification of this tank for gasoline storage. This conversion is what caused Tank No. 195-17 to be subject to the requirements of Subpart Kb.

40 CFR, Part 63, Subpart BBBBBB Discussion

The seven (7) storage tanks are subject to the requirements of Subpart BBBBBB. In accordance with 40 CFR §63.11087(f), the storage tanks are deemed in compliance with 40 CFR §63.11087, “requirements for gasoline storage tanks” and the requirements of Table 1 to Subpart BBBBBB because the storage tanks comply with the requirements of 40 CFR, Part 60, Subpart Kb. 40 CFR §63.11087(f) requires that the Permittee report that the storage tanks are in compliance with Subpart Kb in their Notification of Compliance Status report required under 40 CFR §63.11093(b). Petroleum Fuel has satisfied this requirement by stating in their Notification of Compliance Status report that all of the tanks at the facility are subject to the requirements of Subpart Kb.

Ethanol Storage Discussion

In a letter dated December 13, 2005, the Department granted the Permittee permission to store ethanol in any of the storage tanks equipped with internal floating roofs and seals at the site at that time (Tank Nos. 30-6, 34-7, 54-8, 54-9, 80-5, and 200-16). It is stated in the letter that according to COMAR 26.11.01.01B(2), the storage of ethanol instead of MTBE in any of these tanks did not constitute a permit modification. The Department approved this request because ethanol was replacing MTBE and ethanol is less toxic and less volatile

than MTBE resulting in lower VOC emissions. Based on this decision, Petroleum Fuel is permitted to store ethanol in any of the seven (7) storage tanks. Presently, only one (1) of the seven (7) storage tanks will be dedicated to ethanol storage. Ethanol from this storage tank will either be transported by tanker truck or piped to Petroleum Fuel's Erdman Avenue facility (ARA Premises No. 510-0677), where it is mixed with gasoline into tanker trucks.

Applicable Standards for Control of VOC and HAP

(1) **COMAR 26.11.13.03A(1)(a) and (b)**, which require when storing gasoline or VOC with a true vapor pressure between 1.5 psia and 11 psia, that:

(a) Each tank's gauging and sampling devices be gas tight except when in use. **[Authority: COMAR 26.11.13.03A(1)(a)]**

(b) Each tank be equipped with one of the following properly installed, operating, and well maintained emission control systems: **[Authority: COMAR 26.11.13.03A(1)(b)]**

(i) An internal floating roof equipped with a primary and secondary seal;

(ii) A pressure tank system that maintains a pressure at all times to prevent loss of vapors to the atmosphere; or

(iii) A vapor control system capable of collecting the vapors from the tank and disposing of these vapors to prevent their emission to the atmosphere.

Note: The Department has determined that the installation of an internal floating roof equipped with a mechanical shoe seal satisfies the requirement of COMAR 26.11.13.03A(1)(b)(i), which requires large, closed top gasoline storage tanks to be equipped with an internal floating roof equipped with a primary and secondary seal.

(2) **COMAR 26.11.13.03A(2),** which requires the Permittee to meet the following seal requirements when storing gasoline or VOC with a true vapor pressure between 1.5 psia and 11 psia:

(a) There shall be no visible holes, tears, or other openings in a seal or seal fabric. **[Authority: COMAR 26.11.13.03A(2)(a)]**

(b) Each seal shall be intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall. **[Authority: COMAR 26.11.13.03A(2)(b)]**

(c) The accumulated area of the gaps between the secondary seal and the tank wall and between the seal and other obstructions inside the tank (that is, ladder, roof supports) that are greater than 1/8 inch in width may not exceed 1.0 square inch per foot of tank diameter. **[Authority: COMAR 26.11.13.03A(2)(c)]**

NSPS Requirements – 40 CFR, Part 60, Subpart Kb

(3) **40 CFR 60, Subpart Kb,** which requires the Permittee to equip the storage vessel with a fixed roof in combination with an internal floating roof meeting the following specifications:

(a) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible. **[Authority: 40 CFR 60.112b(a)(1)(i)]**

(b) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof: **[Authority: 40 CFR 60.112b(a)(1)(ii)]**

(i) A foam or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank. **[Authority: 40 CFR 60.112b(a)(1)(ii)(A)]**

(ii) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous. **[Authority: 40 CFR 60.112b(a)(1)(ii)(B)]**

(iii) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof. **[Authority: 40 CFR 60.112b(a)(1)(ii)(C)]**

(c) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface. **[Authority: 40 CFR 60.112b(a)(1)(iii)]**

(d) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use. **[Authority: 40 CFR 60.112b(a)(1)(iv)]**

(e) Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. **[Authority: 40 CFR 60.112b(a)(1)(v)]**

(f) Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. **[Authority: 40 CFR 60.112b(a)(1)(vi)]**

(g) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening. **[Authority: 40 CFR 60.112b(a)(1)(vii)]**

(h) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. **[Authority: 40 CFR 60.112b(a)(1)(viii)]**

(i) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover. **[Authority: 40 CFR §60.112b(a)(ix)]**

(4) If the gasoline storage tank is subject to, and complies with, the control requirements of 40 CFR Part 60, Subpart Kb, the storage tank will be deemed in compliance under 40 CFR, Part 63, Subpart BBBBBB. **[Authority: 40 CFR §63.11087(f)]**

Compliance Demonstration for Control of VOC and HAP

To comply with the requirements of COMAR 26.11.13.03A(1)(a), the Permittee shall perform an annual visual inspection of each tank's gauging and sampling devices. If a failure of a gauging or sampling device is detected during a required visual inspection, the Permittee shall repair the device or empty and remove the tank from service within 45 days. If a repair cannot be made within 45 days and if the tank cannot be emptied within 45 days, a 30-day extension may be requested from the Department. Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the Permittee will take that will assure that the control equipment will be repaired or the tank will be emptied as soon as possible. The Permittee shall maintain all records of the inspections and repairs, including the date and the action taken, on-site for at least five (5) years and shall make these records available to the Department upon request.

Each of the seven (7) storage tanks are equipped with an internal floating roof with a primary and secondary seal or an equivalent system to comply with the requirements of COMAR 26.11.13.03A(1)(b) and 40 CFR, Part 60, Subpart Kb. To comply with the seal requirements of COMAR 26.11.13.03A(2) and Subpart Kb, the Permittee shall visually inspect the internal floating roof and the seals of each tank prior to filling and refilling the tank with volatile organic liquid, as specified in 40 CFR §60.113b(a)(1). The Permittee shall also perform an annual visual inspection of the roof and seals of each tank, as specified in COMAR 26.11.13.03A(3) and 40 CFR §60.113b(a)(2). The Permittee is also required to perform an internal inspection of each tank at least every ten (10) years, as specified in 40 CFR §60.113b(a)(4) or when an annual visual inspection shows non-compliance.

To demonstrate compliance with the seal gap requirements of COMAR 26.11.13.03A(2)(c), the Permittee shall use the procedures in COMAR 26.11.13.03A(4) during each internal tank inspection. The Permittee shall maintain all records of the inspections and repairs for at least five (5) years and shall make the records available to the Department upon request.

In addition to maintaining inspection records for each tank as specified in 40 CFR §60.113b(a)(1), (2), (3), and (4), and COMAR 26.11.13.03A(3), the Permittee shall also maintain storage tank specification records as specified in 40 CFR §60.116b(a) and (b); records of the materials stored including the maximum true vapor pressure as specified in 40 CFR §60.116b(c); and the average monthly storage temperature and throughput for each tank as specified in COMAR 26.11.13.03C(3). The Permittee is required to furnish a report to the Department illustrating any defects in the tanks including the seals and internal roofs detected during the required inspections as well as any repairs made as required by 40 CFR §60.115b(a)(3), §60.115b(a)(4), §63.11094(a), and §63.11095(a)(1).

In order to demonstrate compliance with 40 CFR, Part 63, Subpart BBBBBB, the Permittee is required to comply with the requirements of 40 CFR, Part 60, Subpart Kb, and submit a semiannual compliance report that includes records of each inspection performed for each of the seven (7) gasoline storage tanks. The semiannual compliance report shall also include records of any defects in the tanks, including the seals and internal roofs, that are detected during the required inspections, as well as any repairs made as specified by 40 CFR 63.11095(a)(1), 63.11095(a)(3), 60.115b(a)(2), and 60.115b(a)(3).

The Permittee is also required to notify the Department prior to conducting internal inspections to afford the Department the opportunity to have an observer present as specified in 40 CFR §60.113b(a)(5) and COMAR 26.11.13.03A(3)(d).

Rationale for Periodic Monitoring Strategy for Control of VOC and HAP
COMAR 26.11.13, 40 CFR, Part 60, Subpart Kb, and 40 CFR, Part 63, Subpart BBBBBB outline specific inspection methods and procedures for demonstrating compliance with the roof and seal requirements for each of the seven (7) gasoline storage tanks. Subpart Kb requires both internal and external inspections periodically (after every fill and refill, every five (5) years, and every ten (10) years). In addition, the Department requires annual inspections of each tank's gauging and sampling devices to demonstrate compliance with the gas-tight device requirement. These inspections are thorough so that if there are any defects they should be detected in a timely manner without the release of significant emissions. Subpart Kb and Subpart BBBBBB requires that any defects noted in the internal and external inspections are reported to the Department. Subpart BBBBBB requires semiannual compliance reports be submitted detailing records of the required inspections and any noted defects. No additional periodic monitoring is necessary to demonstrate compliance at this time.

FIVE (5) BAY TRUCK LOADING RACK CONTROLLED BY ONE (1) VAPOR COMBUSTION UNIT: EMISSION UNIT EU-10

There is a five (5) bay loading rack with a total of eleven (11) arms equipped with one (1) vapor combustion unit for controlling VOC vapors from trucks loading. Only seven (7) of the eleven (11) arms are presently being used. The loading rack and a vapor recovery unit were installed in 1979. A permit to construct was issued on August 25, 1986 to replace the original vapor recovery unit with a vapor combustion unit. Gasoline was loaded at the loading rack until May of 1998. Since May of 1998 gasoline has not been loaded into tanker trucks from the truck loading rack. Petroleum Fuel was permitted, in a letter from the Department dated July 24, 2006, to load ethanol from the existing loading rack into tanker trucks provided no new lanes were added to the loading rack. Presently, only distillates, ethanol, and asphalt are loaded at the loading rack.

The vapor combustion unit is used to control VOC vapors from trucks that bottom load ethanol and distillate fuels. The vapor combustion unit is not operated when top loading asphalt. Petroleum fuel has accepted an operating limitation prohibiting gasoline loading into tank trucks at their facility. The vapor combustion unit is only used to control gasoline vapors that may be remaining in tanker trucks from their previous load. The Part 70 Operating Permit includes operational requirements requiring the vapor combustion unit to be operated during all switch loading at the site and requiring the use of the automated interlock system during all switch loading. Record keeping requirements are also included requiring Petroleum Fuel to maintain records of the results of the inspections and the repair and/or adjustments made to the vapor combustion unit.

NSPS and NESHAP discussion for the loading rack:
The loading rack is not subject to the requirements of 40 CFR, Part 60, Subpart XX – Standards of Performance for Bulk Gasoline Terminals because there have been no modifications to the loading rack since December 17, 1980 that have caused an increase in emissions. The only modification made to the loading rack was in July of 2006 when Petroleum Fuel was given permission from the Department to load ethanol into tank trucks via their loading rack. Because the emissions are controlled by the vapor combustion unit, there is no increase in emissions when loading the ethanol into the tank trucks.

The Department has determined that the facility is not subject to the Maximum Achievable Control Technology (MACT) Standards for Gasoline Distribution Facilities, Bulk Gasoline Terminals and Pipeline Breakout Stations, 40 CFR, Part 63, Subpart R. Because the facility is prohibited from loading gasoline at the truck loading rack, the potential total HAP emissions (5.1 tons per year) are less than the major source thresholds (10 tons per year for a single HAP and 25 tons per year for all HAPs combined).

Petroleum Fuel is not subject to the loading requirements of 40 CFR §63.11088 and Table 2 of Subpart BBBBBB because Petroleum Fuel does not load gasoline at the truck loading rack at this time.

Applicable Standards for Visible Emissions

COMAR 26.11.06.02C(2), which prohibits visible emissions other than water in an uncombined form. This limitation applies to the vapor combustion unit only.

Exceptions. COMAR 26.11.06.02A(2) establishes that "Section C does not apply to emissions during start-up, and process modifications or adjustments, or occasional cleaning of control equipment, if: (a) visible emissions are not greater than 40 percent opacity; and (b) the visible emissions do not occur for more than six (6) consecutive minutes in any 60 minute period."

Compliance Demonstration for Visible Emissions Limitations

The vapor combustion unit is the only emissions source covered under this registration number (ARA Registration No. 510-1923-9-0261) that may emit visible emissions. In order to demonstrate compliance with the no visible emissions requirement, the Permittee shall perform weekly 1-minute observations of the stack of the vapor combustion unit during loading of a tanker truck during switch loading operations and shall keep a log of the observations. This requirement is part of the Permittee's CAM Plan (Indicator 1) for the vapor combustion unit.

If visible emissions are observed, the Permittee is required to inspect the process equipment, perform all necessary repairs and/or adjustments to all processes and/or control equipment within 48 hours so that visible emissions in the exhaust gases are eliminated, document the results of the inspections, and report incidents of visible emissions as specified in the Permittee's CAM Plan (Indicator 1). If visible emissions are not eliminated within 48 hours, the Permittee shall then perform a Method 9 observation once daily for an 18-minute period until corrective actions have eliminated the visible emissions.

Rational for Periodic Monitoring Strategy for Visible Emissions Limitations

Visible emissions from the vapor combustion unit are unlikely and would only occur if the unit malfunctions. A weekly, 1-minute visible emissions observation of the stack of the vapor combustion unit is sufficient to demonstrate compliance with the no visible emission requirement during switch loading operations. In addition, preventative maintenance required by the CAM Plan for the unit will further ensure that the unit is operating properly at all times. In the unlikely event that visible emissions do occur, the Permittee is required to repair all processes and/or control and continue to perform visible emissions observations until the visible emissions are eliminated.

Applicable Standards for Control of VOC

COMAR 26.11.06.06B(1)(b), which limits emissions of VOC to not more than 20 pounds per day unless VOC emissions are reduced by 85 percent or more overall.

Applicable VOC Requirement Discussion

Petroleum Fuel is not subject to the requirements of COMAR 26.11.13.04A for Loading Operations at Bulk Gasoline Terminals and the requirements of COMAR 26.11.13.05 for Gasoline Leaks from Tank Trucks at this time because of the operational limitation prohibiting the Permittee from loading gasoline at the facility. Petroleum Fuel is not either a “bulk gasoline plant” or a “bulk gasoline terminal” in accordance with COMAR 26.11.13.01 because Petroleum Fuel does not “disperse gasoline via trucks”. The general loading requirements of COMAR 26.11.13.04D do not apply to the facility because these requirements apply when loading a VOC with a true vapor pressure (TVP) of 1.5 psia or greater.

Compliance Demonstration for Control of VOC

To demonstrate compliance with the VOC control efficiency required by COMAR 26.11.06.06B(1)(b), exhaust gases from all loading of distillate fuels, asphalt, or ethanol into gasoline trucks (referred to as switch loading) is required to vent through the vapor combustion unit prior to discharging to the atmosphere. The vapor combustion unit shall be operated and maintained with an automated control system that prevents switch loading operations until the vapor combustion unit pilot flame has been detected and has reached proper operating temperature.

The Permittee shall also perform preventative maintenance as specified in the CAM Plan (Indicator 2, 3 and 4) for the vapor combustion unit. The Permittee shall maintain records of all inspections of the vapor combustion unit, as well as all records of maintenance, corrective actions, and preventative maintenance as required by the CAM Plan. Any excursions from the CAM Plan requirements shall be submitted semi-annually to the Department.

Rationale for Periodic Monitoring Strategy for the Control of VOC

The vapor combustion unit is designed to meet all applicable VOC control efficiency and emissions limitation requirements. The most recent performance test of the vapor combustion unit was conducted in October of 1995. The average VOC emissions were measured as 2.14 milligrams per liter or 0.24 pounds per hour. The average vapor combustion unit control efficiency was measured as 99.91%.

Even though Petroleum Fuel has accepted an operational limitation prohibiting the loading of gasoline into tank trucks, Petroleum Fuel's loading rack delivers liquid product into trucks that could potentially have loaded gasoline on their immediately previous load. Petroleum Fuel uses an automated control system that prevents switch loading operations until the vapor combustion unit's pilot flame has been detected and has reached proper operating temperature. Unless a pilot flame is detected and the vapor combustion unit has reached proper operating temperature, vapors cannot be introduced into the vapor combustion unit. If the presence of a flame is lost during loading, the product loading pumps shutdown and cannot be restarted until the pilot flame is detected.

In addition to periodic performance testing, proper preventative maintenance of the vapor combustion unit will ensure that the unit is operating as designed. No additional periodic monitoring is required.

Operational Limitation

The Permittee shall not load gasoline through the truck loading rack at this facility unless the Permittee obtains an approval from the Department. **[Authority: ARA Premises-wide Permit to Construct issued December 9, 2011]**

Compliance Demonstration and Rationale for Periodic Monitoring Strategy for the Operational Limitation

To demonstrate compliance with the throughput limitation, the Permittee shall keep monthly records to document each type of material and the amount of material loaded through the truck loading rack. The records shall be made available to the Department upon request. The Permittee shall report any incidences of excess emissions as required in permit condition 4 of the Title V – Part 70 Operating Permit, Section III, Plant Wide Conditions, "Report of Excess Emissions and Deviations". Required records of the materials loaded and the amount of materials loaded through the truck loading rack are sufficient to demonstrate compliance with the operational limitation. No additional periodic monitoring is required.

Overview of the CAM Plan

The loading rack at Petroleum Fuel uses a vapor combustion unit to meet a federally enforceable emission limitation (COMAR 26.11.06.06B(1)(b)). The VOC emissions from the loading rack, pre-control, would be greater than the major source threshold of 25 tons per year. The loading rack is not subject to major source MACT requirements and is not otherwise exempt from CAM. CAM requirements apply to the vapor combustion unit.

Rationale for Selection of Performance Indicators in the CAM Plan

The following four (4) performance indicators in the CAM Plan for the vapor combustion unit were selected to provide a reasonable level of assurance that

emissions of VOC at the truck loading rack would be controlled by at least 85% overall.

1. Indicator 1 – Visible emissions observations
   Visible emissions from the vapor combustion unit would indicate incomplete combustion of the VOC vapors, or a malfunction of the unit. This indicator was selected so that the Permittee can determine if visible emissions are occurring.

2. Indicator 2 – Photoelectric eye – Presence of a flame
   The vapor combustion unit is equipped with a photoelectric eye to detect the presence of a pilot flame. This indicator was selected because the presence of the pilot flame is directly related to the combustion performance of the unit. If a pilot flame is not detected by the photoelectric eye, vapors from the loading rack cannot be introduced into the unit. Tank trucks cannot be loaded unless the unit is in operation. The lack of a pilot flame will automatically shut down loading operations.

3. Indicator 3 – Ensure flare is not bypassed
   The vapor combustion unit is equipped with a bypass valve that must be closed and sealed completely. The bypass valve seals will be inspected at least once per month to ensure that no bypass of the flare is occurring. This indicator was selected because the bypass valve is directly related to the capture and control efficiency of the vapor combustion unit.

4. Indicator 4 – Work Practice – Preventative Maintenance
   Preventative maintenance, as recommended by the equipment vendor, should be performed on the vapor combustion unit at least quarterly. This indicator was selected because preventative maintenance will ensure proper operation and performance of the vapor combustion unit.

The following table contains the CAM Plan for the vapor combustion unit that is included in Table IV-3 of the Title V – Part 70 Operating Permit:

CAM PLAN
FOR THE VAPOR COMBUSTION UNIT (VCU)

Part 64 Requirement	**CAM Plan**
	Indicator No. 1
I. Indicator 64.4(a)(1)	Operate flare with no visible emissions.
Monitoring Approach	A visible emission observation is made of the exhaust gases at the outlet of the flare during the loading of a gasoline tank truck.

Part 64 Requirement	**CAM Plan**
	Indicator No. 1
II. Indicator Range 64.4(a)(2) Reporting Threshold	No visible emissions. An excursion occurs if the visible emissions are observed. An excursion will trigger an investigation, corrective action, and a reporting requirement. All excursions will be reported to the ARA in the semi-annual monitoring reports.
III. Performance Criteria 64.4(a)(3)	
A. Data Representatives	Observations made by trained personnel.
B. Verification of Operational Status	Visible emission observation with manual log entry.
C. QA/QC Practices and Criteria	The observers are trained on procedures in making an observation and the record keeping requirements.
D. Monitoring Frequency	At least once per week when the gasoline tank truck is loading.
E. Data Collection	Results of observations will be manually recorded and maintained on site. Records will include date, time, and result of observation or reason.
F. Averaging Period	None.

Part 64 Requirement	**CAM Plan**
	Indicator No. 2
I. Indicator 64.4(a)(1)	Operate flare with pilot flame present at all times.
Monitoring Approach	Monitor temperature of pilot flame.
II. Indicator Range 64.4(a)(2)	Presence of flame. An excursion occurs if the pilot flame temperature is out of normal operation range or pilot flame is not present. An excursion will trigger an investigation, corrective action, and a reporting requirement.

Part 64 Requirement	**CAM Plan**
	Indicator No. 2
Reporting Threshold	All excursions and corrective actions taken shall be reported to the ARA in the semi-annual monitoring reports.
III. Performance Criteria 64.4(a)(3)	
A. Data Representatives	Temperature recorded automatically on chart paper.
B. Verification of Operational Status	Daily check of temperature chart recording with manual log entry of verification of presence of pilot flame.
C. QA/QC Practices and Criteria	Calibration, maintenance and operation of thermocouple according to manufacturer's specification.
D. Monitoring Frequency	Continuous
E. Data Collection	Automatically record the temperature of the flare when it is operating with records maintained on site.
F. Averaging Period	None.

Part 64 Requirement	**CAM Plan**
	Indicator No. 3
I. Indicator 64.4(a)(1)	Ensure no bypass of the flare is occurring.
Monitoring Approach	Inspect bypass valve seals.
II. Indicator Range 64.4(a)(2)	Closed valve. An excursion occurs if the bypass valve is not closed or sealed completely. An excursion will trigger an investigation, corrective action, and a reporting requirement.
Reporting Threshold	All excursions and corrective actions taken shall be reported to the ARA in the semi-annual monitoring reports.
III. Performance Criteria 64.4(a)(3)	
A. Data Representatives	Inspections made by trained personnel.
B. Verification of Operational Status	Not applicable.
C. QA/QC Practices and Criteria	None.

D. Monitoring Frequency	At least once per month.
E. Data Collection	Results of inspection are manually recorded and maintained on site.
F. Averaging Period	None.

Part 64 Requirement	**CAM Plan**
	Indicator No. 4
I. Indicator 64.4(a)(1)	Documentation of preventative maintenance.
Monitoring Approach	Proper vapor combustion unit operation is verified by performing preventative maintenance as recommended by the vapor combustion unit manufacturer four (4) times a year.
II. Indicator Range 64.4(a)(2) Reporting Threshold	An excursion occurs if the preventative maintenance is not performed or documented. All excursions will be reported to the ARA in the semi-annual monitoring reports.
III. Performance Criteria 64.4(a)(3)	
A. Data Representatives	Vapor combustion unit operation verified by trained personnel or service person using a preventative maintenance checklist that is based on recommendations provided by the vapor combustion unit manufacturer.
B. Verification of Operational Status	Not applicable.
C. QA/QC Practices and Criteria	Service persons are trained on inspection and maintenance procedures.
D. Monitoring Frequency	Preventative maintenance will be performed four (4) times during a calendar year.
E. Data Collection	Results of inspection and maintenance performed during preventative maintenance are manually recorded and maintained on site.

Part 64 Requirement	CAM Plan
	Indicator No. 4
F. Averaging Period	None.

MARINE TANK VESSEL LOADING OPERATION EQUIPPED WITH A VAPOR RECOVERY UNIT: EMISSION UNIT EU-11

Petroleum Fuel's marine tank vessel loading operation was originally installed in 1979 and loads all grades of gasoline, fuel ethanol, distillate fuels/fuel oils, and liquid asphalt. The marine tank vessel loading operation includes a north dock for ship and barge transfer operations and a south dock for barge transfers only.

Petroleum Fuel received a Permit to Construct on December 9, 2011, to increase gasoline loading at the north dock of the marine tank vessel loading operation. The majority of gasoline received at Petroleum Fuel was previously transferred to their Erdman Avenue facility via pipeline. Because of business changes, Petroleum Fuel wanted the flexibility to load gasoline via their marine loading dock rather than transfer the material via pipeline. In order to accommodate this increase in gasoline loading at the north dock, a vapor recovery unit was installed to control the increase in VOC emissions resulting from the increase in gasoline and ethanol loading.

Gasoline and/or fuel ethanol is not loaded at the south dock. The facility also does not load any product into marine vessels at the south dock that loaded gasoline during a previous load.

With the increase in gasoline and ethanol marine vessel loading, total pre-control VOC emissions from marine vessel loading exceed 25 tons per year, so that Petroleum Fuel is required to comply with the VOC control requirements of COMAR 26.11.13.08B. The vapor recovery unit is used to meet these requirements.

NESHAP Discussion

Petroleum Fuel is subject to the requirements of Subpart 40 CFR, Part 63, Subpart Y – National Emission Standards for Hazardous Air Pollutants for Source Categories: Marine Tank Vessel Loading Operations. But because Petroleum Fuel is an existing, area source of HAP emissions, has a throughput less than 10 million barrels of gasoline and 200 million barrels of crude oil from the marine loading rack, and reduces emissions by using a vapor balancing system, Petroleum Fuel is subject to only a limited number of requirements of Subpart Y. Petroleum Fuel is required to determine emissions in accordance with the requirements of 40 CFR §63.565(l), maintain records in accordance with §63.567(j)(4), and meet the submerged fill standards of 46 CFR 153.282 by April 23, 2012, in accordance with

§63.560(a)(3) and (4), and §63.560(e)(1)(iv). Petroleum Fuel is not subject to the emission standards, monitoring requirements, testing requirements, and the majority of the record keeping and reporting requirements of Subpart Y in accordance with 40 CFR §63.560(a)(2) and (b)(2).

The marine loading dock is exempt from the requirements of 40 CFR, Part 63, Subpart BBBBBB – National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities in accordance with 40 CFR §63.11081(e).

Applicable Standards for Control of VOC (Vapor Control and Operational Requirements)

When loading gasoline and fuel ethanol into marine vessels, the marine vessel shall be equipped with a vapor return line and the vapor shall be vented into the vapor recovery unit that recovers or destroys at least 90 percent of the captured vapor. **[Authority: COMAR 26.11.13.08B(1)]**

Compliance Demonstration for Control of VOC (Vapor Control and Operational Requirements)

To demonstrate compliance with the VOC control efficiency required by COMAR 26.11.13.08B(1), the Permittee shall conduct performance tests at least once every five (5) years during the period between May and September 15th on the vapor recovery unit. The Permittee shall submit a test protocol to the Department for review and approval and shall submit the test results to the Department. Petroleum Fuel is required to maintain records of all performance test results. The most recent testing of the vapor recovery unit was on 08/27/18. These test results depict a VOC emission rate of 2.77 mg/l and a removal efficiency of 97.35%. To ensure proper operations of the vapor recovery unit system, Petroleum Fuel shall monitor weekly and daily, when the vapor recovery unit is in operation, the vacuum pressure of the carbon bed to ensure that the vacuum pressure achieves at least 25 inches of mercury during regeneration. Petroleum Fuel is required to maintain records of these measurements.

Petroleum Fuel shall also perform preventative maintenance as specified in the CAM Plan (Indicator 3) for the vapor recovery unit. The Permittee shall maintain all records of maintenance, corrective actions, and preventative maintenance as required by the CAM Plan. Any excursions from the CAM Plan requirements shall be submitted semi-annually to the Department.

In accordance with 40 CFR, Part 63, Subpart Y, 40 CFR §63.565(l), Petroleum Fuel is required to calculate the annual estimate of HAP emissions from marine tank vessel loading operations as specified by the requirements of Subpart Y and to maintain records of these emission estimates.

Rationale for Periodic Monitoring Strategy for Control of VOC (Vapor Control and Operational Requirements)

The vapor recovery unit is designed to control VOC emissions to 10 mg of VOC emissions per liter of gasoline loaded, which represents 98% destruction efficiency. Petroleum Fuel is required to conduct stack tests on the vapor recovery unit when controlling emissions generated from loading gasoline into marine vessels once every five (5) years. The performance tests will determine the collection efficiency of the vapor recovery unit. There are no particulate matter emissions from the marine dock loading operation.

In addition to periodic performance testing, proper preventative maintenance of the vapor recovery unit will ensure that the unit is operating as designed. No additional periodic monitoring is required.

1. The vapor recovery unit shall be operated such that exhaust gases from all loading of gasoline and fuel ethanol into marine vessels at the north dock vent through the vapor recovery unit prior to discharging to the atmosphere. **[Authority: ARA Premises-wide Permit to Construct issued December 9, 2011]**

2. The Permittee shall not load gasoline or fuel ethanol into marine vessels at the south dock and shall not load other petroleum products into marine vessels at the south dock if the marine vessels loaded gasoline during a previous load unless the Permittee obtains an approval from the Department. **[Authority: ARA Premises-wide Permit to Construct issued December 9, 2011]**

Compliance Demonstration for Control of VOC (Vapor Control and Operational Requirements)

To ensure proper loading of marine vessels, Petroleum Fuel is required to maintain records of the date and time when each marine vessel commenced and completed the loading of product, identification of the product loaded, and the total volume loaded for all marine vessel loading, except fuel oil.

Rationale for Periodic Monitoring Strategy for Control of VOC (Vapor Control and Operational Requirements)

Petroleum Fuel prohibits switch loading operations at the north dock until the vapor recovery unit is operational. Unless the vapor recovery unit is connected and operating, vapors cannot be introduced into the vapor recovery unit. As a safety mechanism, there is a pressure release valve which triggers an alarm if the carbon bed pressure exceeds the manufacturer recommendations. Maintaining records of the specifications of the product loaded onto marine tank vessel will ensure that exhaust gases are routed to the vapor recovery unit system during all appropriate loads.

Switch loading of marine vessels is prohibited at the south dock. Prior to each marine load, marine vessels at the south dock provide documentation indicating that gasoline was not loaded on the previous load. In addition, Petroleum Fuel personnel inspect the marine vessel using site and smell to ensure that the marine vessel did not load gasoline on a previous load.

Applicable Standards for Control of VOC (Pressure and Leak Requirements):

The Permittee shall operate and maintain the vapor recovery unit controlling emissions from the marine vessel loading operations so that VOC vapor leaks are minimized during the transfer of VOCs into a marine vessel. **[Authority: COMAR 26.11.13.08B(2)]**

Compliance Demonstration for Control of VOC (Pressure and Leak Requirements)

In order to demonstrate compliance with this requirement, Petroleum Fuel is required to obtain documentation and maintain records demonstrating that marine vessels have been leak tested or pressure tested within the past two (2) years using the Coast Guard requirements at 33 CFR §156.140 prior to loading gasoline into the marine vessels in accordance with COMAR 26.11.13.08B(3). Petroleum Fuel is also required to inspect the vapor recovery unit for leaks at least once per month and maintain records of the inspections including the date and results of each inspection and any repairs made. Petroleum Fuel is required to report all deviations from Indicator 2 of the CAM Plan requirements for equipment leaks.

Rationale for Periodic Monitoring Strategy for Control of VOC (Pressure and Leak Requirements)

In addition to confirming marine vessel leak and pressure testing, proper preventative maintenance of the vapor recovery unit system will ensure that the unit is operating as designed. No additional periodic monitoring is required.

Overview of the CAM Plan

The marine tank vessel loading operation at Petroleum Fuel uses a vapor recovery unit to meet a federally enforceable emission limitation (COMAR 26.11.13.08B(1)). The VOC emissions from the marine tank vessel loading operation, pre-control, would be greater than the major source threshold of 25 tons per year. The loading rack is not subject to major source MACT requirements and is not otherwise exempt from CAM. CAM requirements apply to the vapor recovery unit.

The performance indicators were selected to ensure a reasonable level of assurance that the VOC emissions from the loading of gasoline and other petroleum products at the marine tank vessel loading operation will comply with

the required VOC control efficiency of at least 90% of the captured vapor. During the compliance tests to demonstrate compliance with the VOC control efficiency, the vapor collection system is checked for leaks. The Permittee will perform preventative maintenance as recommended by the vendor on the vapor recovery unit and routine maintenance on the vapor collection system to ensure that the vapor recovery unit and the vapor collection system continue to perform as designed.

The vapor recovery unit consists of two (2) carbon adsorption beds and a vacuum regeneration system. One (1) carbon adsorption bed is on-line controlling the VOC emissions from marine loading while the other carbon adsorption bed is off-line being vacuum regenerated. Each bed goes through a 15-minute cycle of controlling emissions following by a 15-minute vacuum regeneration cycle. If the vapor recovery unit were to malfunction for any reason, the marine tank vessel loading operation will automatically shut down.

Rationale for Selection of Performance Indicators in the CAM Plan

The following three (3) performance indicators in the CAM Plan for the vapor recovery unit were selected to provide a reasonable level of assurance that emissions of VOC at the marine tank vessel loading operation would be controlled by at least 90% overall.

1. Indicator No. 1 – Carbon Bed Regeneration Vacuum
   The Permittee shall conduct daily visual checks of the vacuum gauge and weekly observations of an entire regeneration cycle. To ensure proper long-term regeneration of a carbon bed, the vacuum pump must pull a vacuum of at least 25 inches mercury on the regenerating carbon bed during each cycle. The instantaneous maximum vacuum reading is recorded each day on each bed of the vapor recovery unit and the entire regeneration cycle will be monitored weekly to ensure that the proper vacuum is maintained for the proper period of time. If readings below the desired level occur, the Permittee shall investigate the unit's operation to determine if maintenance or repair is needed to prevent possible non-compliance with the mass emission limitation. The Permittee shall manually record the weekly and daily vacuum pressure visual observation.

2. Indicator No. 2 – Equipment Leaks
   Terminal operations personnel trained on the procedures to detect, record, and initiate corrective actions shall conduct a monthly leak check of the entire vapor collection system during the loading of gasoline tank trucks for total organic compounds liquid or vapor leaks. Leaks of gasoline and gasoline vapors are readily detected by a person by use of sight, sound, and smell. This requirement included in the CAM Plan also satisfies the requirement of COMAR 26.11.13.08B(2) which requires that VOC vapor leaks are minimized during the

transfer of VOC into marine vessels. This will document that the vapor collection system is free of leaks as it was during the compliance tests

3. Indicator No. 3 – Preventative Maintenance
   Preventative maintenance is performed four (4) times a year by a trained personnel or service person using a preventative maintenance checklist that is based on recommendations provided by the vapor recovery unit manufacturer. The service persons are trained on inspection and maintenance procedures. The units are checked during each inspection to ensure that all systems are working properly and to perform any scheduled preventative maintenance based on recommendations provided by the vapor recovery unit manufacturer. Petroleum Fuel documents these events through manual log entries. Preventative maintenance will ensure that the control devices will continue to operate as designed and remain in good condition.

The following table contains the CAM Plan for the vapor recovery unit that is included in Table IV-5 of the Title V – Part 70 Operating Permit:

CAM PLAN
FOR THE VAPOR RECOVERY UNIT (VRU)

Part 64 Requirement	**CAM Plan**
	Indicator No. 1
I. Indicator 64.4(a)(1)	Carbon Bed Regeneration Vacuum
Monitoring Approach	Vacuum gauge.
II. Indicator Range 64.4(a)(2) Reporting Threshold	An excursion is defined as when the vacuum gauge does not reach 25 inches of mercury or greater during a daily inspection or fails to hold at 25 inches or greater for at least three (3) minutes during a weekly inspection. An excursion will trigger an investigation, corrective action, and a reporting requirement. All excursions will be reported to the ARA in the semi-annual monitoring reports.
III. Performance Criteria 64.4(a)(3)	
A. Data Representatives	The vacuum gauge is located on the vapor recovery unit piping, approximately two (2) feet from the shell of each carbon bed vessel. The minimum accuracy of the vacuum gauge is +/- 2.0 percent.

B. Verification of Operational Status	Daily visual check with manual log entry.
C. QA/QC Practices and Criteria	Preventative maintenance is performed on vacuum regeneration gauge four (4) times per year and is calibrated annually.
D. Monitoring Frequency	The entire regeneration cycle will be monitored weekly. Once daily when the vapor recovery unit is in operation, the vacuum pressure will be observed and recorded.
E. Data Collection	Weekly and daily visual readings when the vapor recovery unit is in operation with manual log entry of readings.
F. Averaging Period	None.

Part 64 Requirement	**CAM Plan**
	Indicator No. 2
I. Indicator 64.4(a)(1)	Equipment Leaks
Monitoring Approach	Monthly leak check of vapor recovery system by sight, sound, and smell.
II. Indicator Range 64.4(a)(2)	An excursion is defined as detection of a leak by sight, sound, or smell. An excursion will trigger an investigation, corrective action, and a reporting requirement.
Reporting Threshold	All excursions and corrective actions taken shall be reported to the ARA in the semi-annual monitoring reports.
III. Performance Criteria 64.4(a)(3)	
A. Data Representatives	The terminal operations personnel will be trained on the procedures to detect leaks, record results, and initiate corrective actions.
B. Verification of Operational Status	Not Applicable.
C. QA/QC Practices and Criteria	The operations' personnel responsible for performing the monthly inspections will be trained on the procedures to follow. The terminal will maintain a

	record of employees trained to perform the inspections.
D. Monitoring Frequency	Monthly.
E. Data Collection	Manual records of inspections, leaks found, and leaks repaired.
F. Averaging Period	None.

Part 64 Requirement	**CAM Plan**
	Indicator No. 3
I. Indicator 64.4(a)(1)	Documentation of preventative maintenance.
Monitoring Approach	Proper vapor recovery unit operation is verified by performing preventative maintenance as recommended by the vapor recovery unit manufacturer four (4) times a year.
II. Indicator Range 64.4(a)(2) Reporting Threshold	An excursion occurs if the preventative maintenance is not performed or documented. All excursions will be reported to the ARA in the semi-annual monitoring reports.
III. Performance Criteria 64.4(a)(3)	
A. Data Representatives	Vapor recovery unit operation verified by trained personnel or service person using a preventative maintenance checklist that is based on recommendations provided by the vapor recovery unit manufacturer.
B. Verification of Operational Status	Not applicable.
C. QA/QC Practices and Criteria	Service persons are trained on inspection and maintenance procedures.
D. Monitoring Frequency	Preventative maintenance will be performed four (4) times during a calendar year.
E. Data Collection	Results of inspection and maintenance performed during preventative maintenance are

Part 64 Requirement	CAM Plan
	Indicator No. 3
	manually recorded and maintained on site.
F. Averaging Period	None.

HEATERS AND BOILERS: EMISSION UNITS EU-12 through 16

Petroleum Fuel maintains four (4) heaters and one (1) boiler to heat their fuel oil and asphalt storage tanks. The following is a description of each of these heaters/boiler.

EU-12: Two (2) natural gas-fired heaters each rated at 6.0 million BTU per hour (ARA Registration Nos. 510-1923-5-2267 and 5-2268). A General Permit to Construct was issued for these heaters on September 26, 2019.

EU-13: One (1) natural gas-fired heater rated at 8.4 million BTU per hour (ARA Registration No. 510-1923-5-1435). A General Permit to Construct was issued for this heater on March 30, 1999.

EU-14: One (1) natural gas-fired hot oil heater rated at 8.6 million BTU per hour (ARA Registration No. 510-1923-2385). This heater was installed in 2018.

EU-15: One (1) natural gas-fired hot oil heater rated at 8.4 million BTU per hour (ARA Registration No. 510-1923-9-0284). This heater was installed in 1979 and was originally fired by No. 2 fuel oil and was then modified in 1980 to burn natural gas.

EU-16: One (1) natural gas-fired boiler rated at 14.65 million BTU per hour (ARA Registration No. 510-1923-5-2111). A permit to construct was issued for this boiler on November 17, 2011. This boiler is used to generate steam for asphalt railcar activity.

40 CFR, Part 60, Subpart Dc – New Source Performance Standards for Small, Industrial-Commercial-Institutional Steam Generating Units

The one (1) natural gas-fired boiler rated at 14.65 million BTU per year (ARA Registration No. 510-1923-5-2111) is subject to the requirements of Subpart Dc because the boiler is rated at greater than 10 million BTU per year. Because this boiler is fired by natural gas and is rated at less than 30 million BTU per hour, this boiler is not subject to the particulate matter or sulfur dioxide standards of Subpart Dc. Subpart Dc requires the Permittee to maintain records of the quantity of natural gas combusted during each calendar month.

In accordance with 40 CFR §60.40c, the other four (4) heaters at the facility are each rated at less than 10 million BTU per year so that they are not subject to the requirements of Subpart Dc.

Applicable Standards for Visible Emissions

In accordance with COMAR 26.11.09.05A(2), the Permittee may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers.

In accordance with COMAR 26.11.09.05A(3), COMAR 26.11.09.05A(2) does not apply to emissions during load changing, soot blowing, start-up, or adjustments or occasional cleaning of control equipment if:

1. The visible emissions are not greater than 40 percent opacity; and

2. The visible emissions do not occur for more than six (6) consecutive minutes in any 60 minute period.

Compliance Demonstration for Visible Emissions Limitations

The Permittee shall properly operate and maintain the heaters and boiler in a manner to minimize visible emissions. The Permittee shall maintain an operations manual and preventative maintenance plan for the heaters/boiler. The Permittee shall maintain a log of maintenance performed that relates to combustion performance.

Rationale for Periodic Monitoring Strategy for Visible Emissions Limitations

Heaters/boilers that burn natural gas fuel rarely have visible emissions if properly operated and maintained. These heaters/boiler operate independent of an operator and typically have preventative maintenance performed to ensure that the heaters/boiler operate as designed and have no visible emissions. If visible emissions are observed, the Permittee is required to report incidents of visible emissions to the Department in accordance with permit condition 4, Section III, Plant Wide Conditions, “Report of Excess Emissions and Deviations”. No additional periodic monitoring is required.

Operational Requirements

1. The Permittee shall burn only natural gas in the following heaters and boiler unless the Permittee applies for and receives an approval or permit from the Department to burn alternate fuels:

(a) Three (3) natural gas-fired heaters (EU-13, 14, and 15).

(b) One (1) natural gas-fired boiler rated at 14.65 million BTU per hour (EU-16).

[Authority: COMAR 26.11.02.09A and ARA Premises-wide Permit to Construct issued December 9, 2011]

2. The Permittee shall burn fuel oil in the one (1) natural gas-fired heater with No. 2 fuel oil as back-up fuel rated at 9.99 million BTU per hour (EU-12, ARA Registration No. 510-1923-4-3061) only during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel (not to exceed 48 hours during any calendar year), unless the Permittee applies for and receives an approval or permit from the Department to burn an alternative fuel.

   A natural gas curtailment or supply interruption means any period during which the supply of natural gas to the affected facility is halted for reasons beyond the control of the facility. The act of entering into a contractual agreement with a supplier of natural gas established for curtailment purposes does not constitute a reason that is under the control of a facility for the purposes of this definition. An increase in the cost or unit price of natural gas does not constitute a period of natural gas curtailment or interruption.

[Authority: 40 CFR §63.11195(e) and §63.11237]

Compliance Demonstration and Rationale for Periodic Monitoring Strategy for the Operational Limitations

The Permittee is required to maintain monthly records of the types and quantity of fuel burned to comply with the requirements of 40 CFR, Subpart Dc for the natural gas-fired boiler rated at 14.65 million BTU per hour (EU-16, ARA Registration No. 510-1923-5-2111) and to support the annual emissions certification report (permit condition 8 of Section III, Plant Wide Conditions “Emissions Certification Report”). These records are required to be submitted with the annual emissions certification reports. The annual certification report required for each heater and boiler must contain the type, quantities, and analyses of all fuels burned. The Permittee is also required to maintain annual fuel supplier certifications for the natural gas-fired boiler with No. 2 fuel oil as a back-up fuel rated at 9.99 million BTU per hour (EU-12, ARA Registration No. 510-1923-4-3061). No additional requirements are needed to show compliance with these operational limitations.

The requirements of 40 CFR, Part 63, Subpart JJJJJJ, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources, apply to industrial, commercial, and institutional boilers at area sources of HAP emissions. Petroleum Fuel is an area source of HAP emissions and maintains one (1) natural gas-fired heater with No. 2 fuel-oil as a

back-up fuel rated at 9.99 million BTU per hour (ARA Registration No. 510-1923-4-3061). In accordance with 40 CFR §63.11195(e) of Subpart JJJJJJ, this heater is exempt from the requirements of Subpart JJJJJJ provided the fuel oil is only burned during times of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel as defined in 40 CFR §63.11195(e). The heater is not covered by Subpart JJJJJJ because it does not fall under the definition of a 'boiler' in Subpart JJJJJJ. The Part 70 Operating Permit includes the restriction that the heater is prohibited from burning fuel oil except during times of gas curtailment, gas supply emergencies, or periodic testing on the liquid fuel to ensure that the heater is exempt from Subpart JJJJJJ.

Natural gas-fired boilers are exempt from the requirements of Subpart JJJJJJ in accordance with 40 CFR §63.11195(e). There are no other heaters or boilers at the facility that are subject to these requirements because the other existing heaters and boilers at the site are fired by natural gas only.

Applicable Standards for Control of Sulfur Oxides

COMAR 26.11.09.07A(2)(b), which limits the sulfur content of distillate fuel oil to 0.3% by weight.

Compliance Demonstration and Rationale for Periodic Monitoring Strategy for the Control of Sulfur Oxides

To comply with the sulfur content limitations, the Permittee shall retain on site, for at least five years, sulfur content in fuel analyses that certifies that the sulfur content of fuel oil burned in the boilers complies with the sulfur in fuel limitation. The Permittee shall make such records available to the Department upon request. Fuel supplier certifications are sufficient to demonstrate compliance with all applicable fuel sulfur limits. No additional periodic monitoring is necessary to demonstrate compliance.

GENERAL FACILITY REQUIREMENTS

The facility is subject to the general equipment leak requirements of 40 CFR, Part 63, Subpart BBBBBB, National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities.

Applicable Standards for Control of VOC

The Permittee shall, at all times, operate and maintain any affected source subject to the requirements of 40 CFR, Part 63, Subpart BBBBBB, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The Department will determine whether such operation and maintenance procedures

are being used based on information available to the Department which may include review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. **[Authority: 40 CFR §63.11085(a)]**

Compliance Demonstration for Control of VOC

Petroleum Fuel is subject to the equipment leak requirements of 40 CFR §63.11089 and Table 1 of Subpart BBBBBB. The Permittee is required to perform monthly leak inspections of all equipment in gasoline service in accordance with 40 CFR §63.11089(a), and record in a log book the location of all potential leaks, the required monthly leak inspections, and detections of any leaks. A detailed description for each leak detected is required to be included in the log book. Petroleum Fuel is required to repair or replace the leaking equipment within 15 calendar days after detection of each leak. Delay of repair of leaking equipment is allowed if the repair is not feasible within 15 days provided the Permittee reports why the repair is not feasible and the date that each repair was completed. The Permittee must record in the log book for any leak not repaired within 15 days, the expected date of successful repair and the actual date of the successful leak repair.

Petroleum Fuel is also required to maintain records of any malfunction of operation of the process equipment or control equipment at the facility and any corrective actions taken. The records shall also include actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR §63.11085(a).

Petroleum Fuel is required to submit an excess emissions report that includes leak information and a semiannual report including the malfunctions that occurred during the reporting period and any corrective actions taken. The semiannual report and excess emissions report are to be submitted with the semiannual compliance report. The semiannual compliance report shall also include the number of leaks not repaired within 15 days of detection.

Rationale for Periodic Monitoring Strategy for Control of VOC

Petroleum Fuel is required to log detailed information about leak inspections and any leak detected in a log book and is required to submit information to the Department regarding any equipment malfunction. Petroleum Fuel is also required to submit information regarding any excess emissions in a semiannual report. It is unlikely that there will be significant leaks at the facility, but in the event that there is a leak, it is required to be repaired within 15 days unless there is a delay of repair. All leak repairs that are delayed are required to be documented including the actual successful repair date. No additional periodic monitoring is required to demonstrate compliance with the leak requirements of 40 CFR, Part 63, Subpart BBBBBB.

COMPLIANCE SCHEDULE

Petroleum Fuel is currently in compliance with all applicable air quality regulations.

TITLE IV – ACID RAIN

Not Applicable.

TITLE VI – OZONE DEPLETING SUBSTANCES

Petroleum Fuel is not subject to Title VI requirements.

SECTION 112(r) – ACCIDENTAL RELEASE

Petroleum Fuel is not subject to the requirements of Section 112(r).

PERMIT SHIELD

Petroleum Fuel requested that a permit shield be expressly included in the Permittee's Part 70 permit. Permit shields are granted on an emission unit by emission unit basis. If an emission unit is covered by a permit shield, a permit shield statement will follow the emission unit table in Section IV - Plant Specific Conditions of the permit. In this case, a permit shield was granted for each emission unit covered by the permit.

INSIGNIFICANT ACTIVITIES

This section provides a list of insignificant emissions units that were reported in the Title V permit application. The applicable Clean Air Act requirements, if any, are listed below the insignificant activity.

(1) No. 1 Fuel-burning equipment using solid fuel and having a heat input of less than 350,000 Btu (0.37 gigajoule) per hour;

(2) Containers, reservoirs, or tanks used exclusively for:

(a) ✓ Storage of butane, propane, or liquefied petroleum, or natural gas;

- Twelve (12) 30,000-gallon butane storage tanks

(b) No. 14 Storage of Numbers 1, 2, 4, 5, and 6 fuel oil and aviation jet engine fuel. These storage tanks are listed below:

- Three (3) 7,350,000-gallon asphalt storage tanks (Tank Nos. 175-18, 175-19, and 175-20).
- Two (2) 420,000-gallon asphalt storage tanks (Tank Nos. 10-2 and 10-4).
- One (1) 3,360,000-gallon asphalt storage tank (Tank No. 80-13).
- Two (2) 210,000-gallon fuel oil tank (Tank Nos. 5-3 and 5-10).
- One (1) 1,260,000-gallon fuel oil tank (Tank No. 30-12).
- One (1) 2,268,000-gallon fuel oil tank (Tank No. 54-11).
- One (1) 7,250,000-gallon fuel oil storage tank (Tank No. 175-15).
- One (1) 840,000-gallon biodiesel storage tank (Tank No. 20-1)
- One (1) 500-gallon fuel oil tank
- One (1) 275-gallon fuel oil tank

(3) any other emissions unit at the facility which is not subject to an applicable requirement of the Clean Air Act (list and describe):

No. 2 Two (2) 6,000 gallon storage tanks for asphalt additives. The asphalt additives do not include any component identified as a regulated air pollutant, hazardous air pollutant, or Class I toxic air pollutant. (Tanks 21 and 22)

STATE ONLY ENFORCEABLE REQUIREMENTS

The Permittee is subject to the following State-only enforceable requirements:

1. Applicable Regulations:

   (a) COMAR 26.11.06.08 and 26.11.06.09, which generally prohibit the discharge of emissions beyond the property line in such a manner that a nuisance or air pollution is created.

   (b) COMAR 26.11.15.05, which requires that the Permittee implement “Best Available Control Technology for Toxics” (T – BACT) to control emissions of toxic air pollutants.

(c) COMAR 26.11.15.06, which prohibits the discharge of toxic air pollutants to the extent that such emissions will unreasonably endanger human health

2. Record Keeping and Reporting:

The Permittee shall submit to the Department, by April 1 of each year during the term of this permit, a written certification of the results of an analysis of emissions of toxic air pollutants from the Permittee's facility during the previous calendar year. The analysis shall include either:

(a) a statement that previously submitted compliance demonstrations for emissions of toxic air pollutants remain valid; or

(b) a revised compliance demonstration, developed in accordance with requirements included under COMAR 26.11.15 & 16, that accounts for changes in operations, analytical methods, emissions determinations, or other factors that have invalidated previous demonstrations.

PETROLEUM FUEL & TERMINAL COMPANY
1622 SOUTH CLINTON STREET
BALTIMORE, MARYLAND 21224
DRAFT PART 70 OPERATING PERMIT NO. 24-510-1923

SECTION I SOURCE IDENTIFICATION

1. DESCRIPTION OF FACILITY

Petroleum Fuel and Terminal Company (Petroleum Fuel) is a bulk petroleum storage and distribution terminal located at 1622 South Clinton Street, Baltimore, Maryland, 21224. This facility is owned and operated by Petroleum Fuel and Terminal Company, a subsidiary of Apex Oil Company. The facility is located in Air Quality Area III, an ozone non-attainment area. The primary standard industrial classification (SIC) code for this terminal is 4226.

The major activities at the facility include storage and distribution of petroleum products including gasoline, distillates, asphalt and other refined petroleum products (fuel oils and fuel ethanol). The facility receives petroleum products by railcar, ship or barge, or pipeline from a sister facility located at 5101 Erdman Avenue in Baltimore, Maryland (ARA Premises No. 510-0677). The product is stored in large, closed top storage tanks and then loaded into tank trucks for distribution, transferred to the Erdman Avenue facility via pipeline, or can be sent out via ship or barge.

The facility consists of seven (7) gasoline storage tanks, seven (7) fuel oil storage tanks, six (6) asphalt storage tanks, a five (5) bay loading rack with one (1) vapor combustion unit for loading distillate fuels and ethanol, four (4) natural gas-fired heaters/boiler, and one (1) natural gas-fired heater with No. 2 fuel oil as back-up. The facility also maintains a marine tank vessel loading operation controlled by a carbon adsorption system vapor recovery unit.

2. FACILITY INVENTORY LIST

Emissions Unit Number	MDE Registration Number	Emissions Unit Name and Description	Date of Installation
EU-1 through EU-7	510-1923-9-0261	One (1) tank farm consisting of seven (7) storage tanks (Tank Nos. 30-6, 200-16, 34-7, 54-8, 54-9, 80-5, and 195-17) each equipped with an internal floating roof with primary and secondary seals or an equivalent system for the storage of gasoline, ethanol, residual or distillate fuels.	June 1979 and modified in 1992, 1993, 2006, 2010, 2011, and 2016.

Emissions Unit Number	MDE Registration Number	Emissions Unit Name and Description	Date of Installation
EU-10	510-1923-9-0261	A five (5) bay truck loading rack for loading asphalt, ethanol, and distillate fuels. One (1) NAO 36C27 vapor combustion unit is used to control emissions from loading of ethanol and distillate fuels.	June 1979 and modified in 1986
EU-11	510-1923-9-0261	One (1) marine tank vessel loading operation for the loading of gasoline, ethanol, fuel oils, and liquid asphalt. Gasoline and ethanol loading at the north dock is controlled by a carbon adsorption system vapor recovery unit.	June 1979 and modified in 2011
EU-12	510-1923-5-2267 and 510-1923-5-2268	Two (2) natural gas-fired heaters rated at 6.0 million BTU per hour.	September 2019
EU-13	510-1923-5-1435	One (1) natural gas-fired heater rated at 8.4 million BTU per hour.	April 1999
EU-14	510-1923-5-2385	One (1) natural gas-fired heater rated at 8.6 million BTU per hour.	2018
EU-15	510-1923-9-0284	One (1) natural gas-fired heater rated at 8.4 million BTU per hour. (This heater was originally fired by No. 2 fuel oil and was modified in 1980 to burn natural gas).	June 1979 and modified in 1980.
EU-16	510-1923-5-2111	One (1) natural gas-fired boiler rated at 14.65 million BTU per hour.	November 2011

SECTION II GENERAL CONDITIONS

1. DEFINITIONS

[COMAR 26.11.01.01] and [COMAR 26.11.02.01]

The words or terms in this Part 70 permit shall have the meanings established under COMAR 26.11.01 and .02 unless otherwise stated in this permit.

2. ACRONYMS

ARA	Air and Radiation Administration
BACT	Best Available Control Technology
Btu	British thermal unit
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEM	Continuous Emissions Monitor
CFR	Code of Federal Regulations
CO	Carbon Monoxide
COMAR	Code of Maryland Regulations
EPA	United States Environmental Protection Agency
FR	Federal Register
gr	grains
HAP	Hazardous Air Pollutant
MACT	Maximum Achievable Control Technology
MDE	Maryland Department of the Environment
MVAC	Motor Vehicle Air Conditioner
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standards
NSR	New Source Review
OTR	Ozone Transport Region
PM	Particulate Matter
PM10	Particulate Matter with Nominal Aerodynamic Diameter of 10 micrometers or less
ppm	parts per million
ppb	parts per billion
PSD	Prevention of Significant Deterioration
PTC	Permit to construct
PTO	Permit to operate (State)

SIC	Standard Industrial Classification
SO_2	Sulfur Dioxide
TAP	Toxic Air Pollutant
tpy	tons per year
VE	Visible Emissions
VOC	Volatile Organic Compounds

3. EFFECTIVE DATE

The effective date of the conditions in this Part 70 permit is the date of permit issuance, unless otherwise stated in the permit.

4. PERMIT EXPIRATION

[COMAR 26.11.03.13B(2)]

Upon expiration of this permit, the terms of the permit will automatically continue to remain in effect until a new Part 70 permit is issued for this facility provided that the Permittee has submitted a timely and complete application and has paid applicable fees under COMAR 26.11.02.16.

Otherwise, upon expiration of this permit the right of the Permittee to operate this facility is terminated.

5. PERMIT RENEWAL

[COMAR 26.11.03.02B(3)] and [COMAR 26.11.03.02E]

The Permittee shall submit to the Department a completed application for renewal of this Part 70 permit at least 12 months before the expiration of the permit. Upon submitting a completed application, the Permittee may continue to operate this facility pending final action by the Department on the renewal.

The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall submit such supplementary facts or corrected information no later than 10 days after becoming aware that this occurred. The Permittee shall also provide additional information as necessary to address any requirements that become applicable to the facility after the date a completed

application was submitted, but prior to the release of a draft permit. This information shall be submitted to the Department no later than 20 days after a new requirement has been adopted.

6. CONFIDENTIAL INFORMATION

[COMAR 26.11.02.02G]

In accordance with the provisions of the State Government Article, Sec. 10-611 et seq., Annotated Code of Maryland, all information submitted in an application shall be considered part of the public record and available for inspection and copying, unless the Permittee claims that the information is confidential when it is submitted to the Department. At the time of the request for inspection or copying, the Department will make a determination with regard to the confidentiality of the information. The Permittee, when requesting confidentiality, shall identify the information in a manner specified by the Department and, when requested by the Department, promptly provide specific reasons supporting the claim of confidentiality. Information submitted to the Department without a request that the information be deemed confidential may be made available to the public. Subject to approval of the Department, the Permittee may provide a summary of confidential information that is suitable for public review. The content of this Part 70 permit is not subject to confidential treatment.

7. PERMIT ACTIONS

[COMAR 26.11.03.06E(3)] and [COMAR 26.11.03.20(A)]

This Part 70 permit may be revoked or reopened and revised for cause. The filing of an application by the Permittee for a permit revision or renewal; or a notification of termination, planned changes or anticipated noncompliance by the facility, does not stay a term or condition of this permit.

The Department shall reopen and revise, or revoke the Permittee's Part 70 permit under the following circumstances:

a. Additional requirements of the Clean Air Act become applicable to this facility and the remaining permit term is 3 years or more;

b. The Department or the EPA determines that this Part 70 permit contains a material mistake, or is based on false or inaccurate information supplied by or on behalf of the Permittee;

c. The Department or the EPA determines that this Part 70 permit must be revised or revoked to assure compliance with applicable requirements of the Clean Air Act; or

d. Additional requirements become applicable to an affected source under the Federal Acid Rain Program.

8. PERMIT AVAILABILITY

[COMAR 26.11.02.13G]

The Permittee shall maintain this Part 70 permit in the vicinity of the facility for which it was issued, unless it is not practical to do so, and make this permit immediately available to officials of the Department upon request.

9. REOPENING THE PART 70 PERMIT FOR CAUSE BY THE EPA

[COMAR 26.11.03.20B]

The EPA may terminate, modify, or revoke and reissue a permit for cause as prescribed in 40 CFR §70.7(g)

10. TRANSFER OF PERMIT

[COMAR 26.11.02.02E]

The Permittee shall not transfer this Part 70 permit except as provided in COMAR 26.11.03.15.

11. REVISION OF PART 70 PERMITS – GENERAL CONDITIONS

[COMAR 26.11.03.14] and [COMAR 26.11.03.06A(8)]

a. The Permittee shall submit an application to the Department to revise this Part 70 permit when required under COMAR 26.11.03.15 -.17.

b. When applying for a revision to a Part 70 permit, the Permittee shall comply with the requirements of COMAR 26.11.03.02 and .03 except that the application for a revision need include only information listed that is related to the proposed change to the source and revision to the permit. This information shall be sufficient to evaluate the proposed change and to determine whether it will comply with all applicable requirements of the Clean Air Act.

c. The Permittee may not change any provision of a compliance plan or schedule in a Part 70 permit as an administrative permit amendment or as a minor permit modification unless the change has been approved by the Department in writing.

d. A permit revision is not required for a change that is provided for in this permit relating to approved economic incentives, marketable permits, emissions trading, and other similar programs.

12. SIGNIFICANT PART 70 OPERATING PERMIT MODIFICATIONS

[COMAR 26.11.03.17]

The Permittee may apply to the Department to make a significant modification to its Part 70 Permit as provided in COMAR 26.11.03.17 and in accordance with the following conditions:

a. A significant modification is a revision to the federally enforceable provisions in the permit that does not qualify as an administrative permit amendment under COMAR 26.11.03.15 or a minor permit modification as defined under COMAR 26.11.03.16.

b. This permit does not preclude the Permittee from making changes, consistent with the provisions of COMAR 26.11.03, that would make the permit or particular terms and conditions of the permit irrelevant, such as by shutting down or reducing the level of operation of a source or of an emissions unit within the source. Air pollution control equipment shall not be shut down or its level of operation reduced if doing so would violate any term of this permit.

c. Significant permit modifications are subject to all requirements of COMAR 26.11.03 as they apply to permit issuance and renewal,

including the requirements for applications, public participation, and review by affected states and EPA, except:

(1) An application need include only information pertaining to the proposed change to the source and modification of this permit, including a description of the change and modification, and any new applicable requirements of the Clean Air Act that will apply if the change occurs;

(2) Public participation, and review by affected states and EPA, is limited to only the application and those federally enforceable terms and conditions of the Part 70 permit that are affected by the significant permit modification.

d. As provided in COMAR 26.11.03.15B(5), an administrative permit amendment may be used to make a change that would otherwise require a significant permit modification if procedures for enhanced preconstruction review of the change are followed that satisfy the requirements of 40 CFR 70.7(d)(1)(v).

e. Before making a change that qualifies as a significant permit modification, the Permittee shall obtain all permits-to-construct and approvals required by COMAR 26.11.02.

f. The Permittee shall not make a significant permit modification that results in a violation of any applicable requirement of the Clean Air Act.

g. The permit shield in COMAR 26.11.03.23 applies to a final significant permit modification that has been issued by the Department, to the extent applicable under COMAR 26.11.03.23.

13. MINOR PERMIT MODIFICATIONS

[COMAR 26.11.03.16]

The Permittee may apply to the Department to make a minor modification to the federally enforceable provisions of this Part 70 permit as provided in COMAR 26.11.03.16 and in accordance with the following conditions:

a. A minor permit modification is a Part 70 permit revision that:

(1) Does not result in a violation of any applicable requirement of the Clean Air Act;

(2) Does not significantly revise existing federally enforceable monitoring, including test methods, reporting, record keeping, or compliance certification requirements except by:

(a) Adding new requirements,

(b) Eliminating the requirements if they are rendered meaningless because the emissions to which the requirements apply will no longer occur, or

(c) Changing from one approved test method for a pollutant and source category to another;

(3) Does not require or modify a:

(a) Case-by-case determination of a federally enforceable emissions standard,

(b) Source specific determination for temporary sources of ambient impacts, or

(c) Visibility or increment analysis;

(4) Does not seek to establish or modify a federally enforceable permit term or condition for which there is no corresponding underlying applicable requirement of the Clean Air Act, but that the Permittee has assumed to avoid an applicable requirement to which the source would otherwise be subject, including:

(a) A federally enforceable emissions standard applied to the source pursuant to COMAR 26.11.02.03 to avoid classification as a Title I modification; and

(b) An alternative emissions standard applied to an emissions unit pursuant to regulations promulgated under Section 112(i)(5) of the Clean Air Act

(5) Is not a Title I modification; and

(6) Is not required under COMAR 26.11.03.17 to be processed as a significant modification to this Part 70 permit.

b. Application for a Minor Permit Modification

The Permittee shall submit to the Department an application for a minor permit modification that satisfies the requirements of COMAR 26.11.03.03 which includes the following:

(1) A description of the proposed change, the emissions resulting from the change, and any new applicable requirements that will apply if the change is made;

(2) The proposed minor permit modification;

(3) Certification by a responsible official, in accordance with COMAR 26.11.02.02F, that:

(a) The proposed change meets the criteria for a minor permit modification, and

(b) The Permittee has obtained or applied for all required permits-to-construct required by COMAR 26.11.03.16 with respect to the proposed change;

(4) Completed forms for the Department to use to notify the EPA and affected states, as required by COMAR 26.11.03.07-.12.

c. Permittee's Ability to Make Change

(1) For changes proposed as minor permit modifications to this permit that will require the applicant to obtain a permit to construct, the permit to construct must be issued prior to the new change.

(2) During the period of time after the Permittee applies for a minor modification but before the Department acts in accordance with COMAR 26.11.03.16F(2):

(a) The Permittee shall comply with applicable requirements of the Clean Air Act related to the change and the permit terms and conditions described in the application for the minor modification.

(b) The Permittee is not required to comply with the terms and conditions in the permit it seeks to modify. If the Permittee fails to comply with the terms and conditions in the application during this time, the terms and conditions of both this permit and the application for modification may be enforced against it.

d. The Permittee is subject to enforcement action if it is determined at any time that a change made under COMAR 26.11.03.16 is not within the scope of this regulation.

e. Minor permit modification procedures may be used for Part 70 permit modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches, but only to the extent that the minor permit modification procedures are explicitly provided for in regulations approved by the EPA as part of the Maryland SIP or in other applicable requirements of the Clean Air Act.

14. ADMINISTRATIVE PART 70 OPERATING PERMIT AMENDMENTS

[COMAR 26.11.03.15]

The Permittee may apply to the department to make an administrative permit amendment as provided in COMAR 26.11.03.15 and in accordance with the following conditions:

a. An application for an administrative permit amendment shall:

(1) Be in writing;

(2) Include a statement certified by a responsible official that the proposed amendment meets the criteria in COMAR 26.11.03.15 for an administrative permit amendment, and

(3) Identify those provisions of this part 70 permit for which the amendment is requested, including the basis for the request.

b. An administrative permit amendment:

(1) Is a correction of a typographical error;

(2) Identifies a change in the name, address, or phone number of a person identified in this permit, or a similar administrative change involving the Permittee or other matters which are not directly related to the control of air pollution;

(3) requires more frequent monitoring or reporting by the Permittee;

(4) Allows for a change in ownership or operational control of a source for which the Department determines that no other revision to the permit is necessary and is documented as per COMAR 26.11.03.15B(4);

(5) Incorporates into this permit the requirements from preconstruction review permits or approvals issued by the Department in accordance with COMAR 26.11.03.15B(5), but only if it satisfies 40 CFR 70.7(d)(1)(v);

(6) Incorporates any other type of change, as approved by the EPA, which is similar to those in COMAR 26.11.03.15B(1)—(4);

(7) Notwithstanding COMAR 26.11.03.15B(1)—(6), all modifications to acid rain control provisions included in this Part 70 permit are governed by applicable requirements promulgated under Title IV of the Clean Air Act; or

(8) Incorporates any change to a term or condition specified as State-only enforceable, if the Permittee has obtained all necessary permits-to-construct and approvals that apply to the change.

c. The Permittee may make the change addressed in the application for an administrative amendment upon receipt by the Department of the application, if all permits-to-construct or approvals otherwise required by COMAR 26.11.02 prior to making the change have first been obtained from the Department.

d. The permit shield in COMAR 26.11.03.23 applies to administrative permit amendments made under Section B(5) of COMAR 26.11.03.15 , but only after the Department takes final action to revise the permit.

e. The Permittee is subject to enforcement action if it is determined at any time that a change made under COMAR 26.11.03.15 is not within the scope of this regulation.

15. OFF-PERMIT CHANGES TO THIS SOURCE

[COMAR 26.11.03.19]

The Permittee may make off-permit changes to this facility as provided in COMAR 26.11.03.19 and in accordance with the following conditions:

a. The Permittee may make a change to this permitted facility that is not addressed or prohibited by the federally enforceable conditions of this Part 70 permit without obtaining a Part 70 permit revision if:

(1) The Permittee has obtained all permits and approvals required by COMAR 26.11.02 and .03;

(2) The change is not subject to any requirements under Title IV of the Clean Air Act;

(3) The change is not a Title I modification; and

(4) The change does not violate an applicable requirement of the Clean Air Act or a federally enforceable term or condition of the permit.

b. For a change that qualifies under COMAR 26.11.03.19, the Permittee shall provide contemporaneous written notice to the Department and the EPA, except for a change to an emissions unit or activity that is exempt from the Part 70 permit application, as provided in COMAR 26.11.03.04. This written notice shall describe the change, including the date it was made, any change in emissions, including the pollutants emitted, and any new applicable requirements of the Clean Air Act that apply as a result of the change.

c. Upon satisfying the requirements of COMAR 26.11.03.19, the Permittee may make the proposed change.

d. The Permittee shall keep a record describing:

(1) Changes made at the facility that result in emissions of a regulated air pollutant subject to an applicable requirement of the Clean Air Act , but not otherwise regulated under this permit; and

(2) The emissions resulting from those changes.

e. Changes that qualify under COMAR 26.11.03.19 are not subject to the requirements for Part 70 revisions.

f. The Permittee shall include each off-permit change under COMAR 26.11.03.19 in the application for renewal of the part 70 permit.

g. The permit shield in COMAR 26.11.03.23 does not apply to off-permit changes made under COMAR 26.11.03.19.

h. The Permittee is subject to enforcement action if it is determined that an off-permit change made under COMAR 26.11.03.19 is not within the scope of this regulation.

16. ON-PERMIT CHANGES TO SOURCES

[COMAR 26.11.03.18]

The Permittee may make on-permit changes that are allowed under Section 502(b)(10) of the Clean Air Act as provided in COMAR 26.11.03.18 and in accordance with the following conditions:

a. The Permittee may make a change to this facility without obtaining a revision to this Part 70 permit if:

(1) The change is not a Title I modification;

(2) The change does not result in emissions in excess of those expressly allowed under the federally enforceable provisions of the Part 70 permit for the permitted facility or for an emissions unit within the facility, whether expressed as a rate of emissions or in terms of total emissions;

(3) The Permittee has obtained all permits and approvals required by COMAR 26.11.02 and .03;

(4) The change does not violate an applicable requirement of the Clean Air Act;

(5) The change does not violate a federally enforceable permit term or condition related to monitoring, including test methods, record keeping, reporting, or compliance certification requirements;

(6) The change does not violate a federally enforceable permit term or condition limiting hours of operation, work practices, fuel usage, raw material usage, or production levels if the term or condition has been established to limit emissions allowable under this permit;

(7) If applicable, the change does not modify a federally enforceable provision of a compliance plan or schedule in this Part 70 permit unless the Department has approved the change in writing; and

(8) This permit does not expressly prohibit the change under COMAR 26.11.03.18.

b. The Permittee shall notify the Department and the EPA in writing of a proposed on-permit change under COMAR 26.11.03.18 not later than 7 days before the change is made. The written information shall include the following information:

(1) A description of the proposed change;

(2) The date on which the change is proposed to be made;

(3) Any change in emissions resulting from the change, including the pollutants emitted;

(4) Any new applicable requirement of the Clean Air Act; and

(5) Any permit term or condition that would no longer apply.

c. The responsible official of this facility shall certify in accordance with COMAR 26.11.02.02F that the proposed change meets the criteria for the use of on-permit changes under COMAR 26.11.03.18.

d. The Permittee shall attach a copy of each notice required by condition b. above to this Part 70 permit.

e. On-permit changes that qualify under COMAR 26.11.03.18 are not subject to the requirements for part 70 permit revisions.

f. Upon satisfying the requirements under COMAR 26.11.03.18, the Permittee may make the proposed change.

g. The permit shield in COMAR 26.11.03.23 does not apply to on-permit changes under COMAR 26.11.03.18.

h. The Permittee is subject to enforcement action if it is determined that an on-permit change made under COMAR 26.11.03.18 is not within the scope of the regulation or violates any requirement of the State air pollution control law.

17. FEE PAYMENT

[COMAR 26.11.02.16A(2) & (5)(b)]

a. The fee for this Part 70 permit is as prescribed in Regulation .19 of COMAR 26.11.02.

b. The fee is due on and shall be paid on or before each 12-month anniversary date of the permit.

c. Failure to pay the annual permit fee constitutes cause for revocation of the permit by the Department.

18. REQUIREMENTS FOR PERMITS-TO-CONSTRUCT AND APPROVALS

[COMAR 26.11.02.09.]

The Permittee may not construct or modify or cause to be constructed or modified any of the following sources without first obtaining, and having in current effect, the specified permits-to-construct and approvals:

a. New Source Review source, as defined in COMAR 26.11.01.01, approval required, except for generating stations constructed by electric companies;

b. Prevention of Significant Deterioration source, as defined in COMAR 26.11.01.01, approval required, except for generating stations constructed by electric companies;

c. New Source Performance Standard source, as defined in COMAR 26.11.01.01, permit to construct required, except for generating stations constructed by electric companies;

d. National Emission Standards for Hazardous Air Pollutants source, as defined in COMAR 26.11.01.01, permit to construct required, except for generating stations constructed by electric companies;

e. A stationary source of lead that discharges one ton per year or more of lead or lead compounds measured as elemental lead, permit to construct required, except for generating stations constructed by electric companies;

f. All stationary sources of air pollution, including installations and air pollution control equipment, except as listed in COMAR 26.11.02.10, permit to construct required;

g. In the event of a conflict between the applicability of (a.— e.) above and an exemption listed in COMAR 26.11.02.10, the provision that requires a permit applies.

h. Approval of a PSD or NSR source by the Department does not relieve the Permittee obtaining an approval from also obtaining all permits-to-construct required by (c.— g.) above.

19. CONSOLIDATION OF PROCEDURES FOR PUBLIC PARTICIPATION

[COMAR 26.11.02.11C] and [COMAR 26.11.03.01K]

The Permittee may request the Department to authorize special procedures for the Permittee to apply simultaneously, to the extent possible, for a permit to construct and a revision to this permit.

These procedures may provide for combined public notices, informational meetings, and public hearings for both permits but shall not adversely affect the rights of a person, including EPA and affected states, to obtain information about the application for a permit, to comment on an application, or to challenge a permit that is issued.

These procedures shall not alter any existing permit procedures or time frames.

20. PROPERTY RIGHTS

[COMAR 26.11.03.06E(4)]

This Part 70 permit does not convey any property rights of any sort, or any exclusive privileges.

21. SEVERABILITY

[COMAR 26.11.03.06A(5)]

If any portion of this Part 70 permit is challenged, or any term or condition deemed unenforceable, the remainder of the requirements of the permit continues to be valid.

22. INSPECTION AND ENTRY

[COMAR 26.11.03.06G(3)]

The Permittee shall allow employees and authorized representatives of the Department, the EPA, and local environmental health agencies, upon presentation of credentials or other documents as may be required by law, to:

a. Enter at a reasonable time without delay and without prior notification the Permittee's property where a Part 70 source is located, emissions-related activity is conducted, or records required by this permit are kept;

b. Have access to and make copies of records required by the permit;

c. Inspect all emissions units within the facility subject to the permit and all related monitoring systems, air pollution control equipment, and practices or operations regulated or required by the permit; and

d. Sample or monitor any substances or parameters at or related to the emissions units at the facility for the purpose of determining compliance with the permit.

23. DUTY TO PROVIDE INFORMATION

[COMAR 26.11.03.06E(5)]

The Permittee shall furnish to the Department, within a reasonable time specified by the Department, information requested in writing by the Department in order to determine whether the Permittee is in compliance with the federally enforceable conditions of this Part 70 permit, or whether cause exists for revising or revoking the permit. Upon request, the Permittee shall also furnish to the Department records required to be kept under the permit.

For information claimed by the Permittee to be confidential and therefore potentially not discloseable to the public, the Department may require the Permittee to provide a copy of the records directly to the EPA along with a claim of confidentiality.

The Permittee shall also furnish to the Department, within a reasonable time specified by the Department, information or records requested in writing by the Department in order to determine if the Permittee is in compliance with the State-only enforceable conditions of this permit.

24. COMPLIANCE REQUIREMENTS

[COMAR 26.11.03.06E(1)] and [COMAR 26.11.03.06A(11)] and [COMAR 26.11.02.05]

The Permittee shall comply with the conditions of this Part 70 permit. Noncompliance with the permit constitutes a violation of the Clean Air Act, and/or the Environment Article Title 2 of the Annotated Code of Maryland and may subject the Permittee to:

a. Enforcement action,

b. Permit revocation or revision,

c. Denial of the renewal of a Part 70 permit, or

d. Any combination of these actions.

The conditions in this Part 70 permit are enforceable by EPA and citizens under the Clean Air Act except for the State-only enforceable conditions.

Under Environment Article Section 2-609, Annotated Code of Maryland, the Department may seek immediate injunctive relief against a person who violates this permit in such a manner as to cause a threat to human health or the environment.

25. CREDIBLE EVIDENCE

Nothing in this permit shall be interpreted to preclude the use of credible evidence to demonstrate noncompliance with any term of this permit.

26. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE

[COMAR 26.11.03.06E(2)]

The need to halt or reduce activity in order to comply with the conditions of this permit may not be used as a defense in an enforcement action.

27. CIRCUMVENTION

[COMAR 26.11.01.06]

The Permittee may not install or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total weight of emissions, conceals or dilutes emissions which would otherwise constitute a violation of any applicable air pollution control regulation.

28. PERMIT SHIELD

[COMAR 26.11.03.23]

A permit shield as described in COMAR 26.11.03.23 shall apply only to terms and conditions in this Part 70 permit that have been specifically

identified as covered by the permit shield. Neither this permit nor COMAR 26.11.03.23 alters the following:

a. The emergency order provisions in Section 303 of the Clean Air Act, including the authority of EPA under that section;

b. The liability of the Permittee for a violation of an applicable requirement of the Clean Air Act before or when this permit is issued or for a violation that continues after issuance;

c. The requirements of the Acid Rain Program, consistent with Section 408(a) of the Clean Air Act;

d. The ability of the Department or EPA to obtain information from a source pursuant to Maryland law and Section 114 of the Clean Air Act; or

e. The authority of the Department to enforce an applicable requirement of the State air pollution control law that is not an applicable requirement of the Clean Air Act.

29. ALTERNATE OPERATING SCENARIOS

[COMAR 26.11.03.06A(9)]

For all alternate operating scenarios approved by the Department and contained within this permit, the Permittee, while changing from one approved scenario to another, shall contemporaneously record in a log maintained at the facility each scenario under which the emissions unit is operating and the date and time the scenario started and ended.

SECTION III PLANT WIDE CONDITIONS

1. PARTICULATE MATTER FROM CONSTRUCTION AND DEMOLITION

[COMAR 26.11.06.03D]

The Permittee shall not cause or permit any building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne.

2. OPEN BURNING

[COMAR 26.11.07]

Except as provided in COMAR 26.11.07.04, the Permittee shall not cause or permit an open fire from June 1 through August 31 of any calendar year. Prior to any open burning, the Permittee shall request and receive approval from the Department.

3. AIR POLLUTION EPISODE

[COMAR 26.11.05.04]

When requested by the Department, the Permittee shall prepare in writing standby emissions reduction plans, consistent with good industrial practice and safe operating procedures, for reducing emissions creating air pollution during periods of Alert, Warning, and Emergency of an air pollution episode.

4. REPORT OF EXCESS EMISSIONS AND DEVIATIONS

[COMAR 26.11.01.07] and [COMAR 26.11.03.06C(7)]

The Permittee shall comply with the following conditions for occurrences of excess emissions and deviations from requirements of this permit, including those in Section VI – State-only Enforceable Conditions:

a. Report any deviation from permit requirements that could endanger human health or the environment, by orally notifying the Department immediately upon discovery of the deviation;

b. Promptly report all occurrences of excess emissions that are expected to last for one hour or longer by orally notifying the Department of the onset and termination of the occurrence;

c. When requested by the Department the Permittee shall report all deviations from permit conditions, including those attributed to malfunctions as defined in COMAR 26.11.01.07A, within 5 days of the request by submitting a written description of the deviation to the Department. The written report shall include the cause, dates and times of the onset and termination of the deviation, and an account of all actions planned or taken to reduce, eliminate, and prevent recurrence of the deviation;

d. The Permittee shall submit to the Department semi-annual monitoring reports that confirm that all required monitoring was performed, and that provide accounts of all deviations from permit requirements that occurred during the reporting periods. Reporting periods shall be January 1 through June 30 and July 1 through December 31, and reports shall be submitted within 30 days of the end of each reporting period. Each account of deviation shall include a description of the deviation, the dates and times of onset and termination, identification of the person who observed or discovered the deviation, causes and corrective actions taken, and actions taken to prevent recurrence. If no deviations from permit conditions occurred during a reporting period, the Permittee shall submit a written report that so states.

e. When requested by the Department, the Permittee shall submit a written report to the Department within 10 days of receiving the request concerning an occurrence of excess emissions. The report shall contain the information required in COMAR 26.11.01.07D(2).

5. ACCIDENTAL RELEASE PROVISIONS

[COMAR 26.11.03.03B(23)] and [40 CFR 68]

Should the Permittee become subject to 40 CFR 68 during the term of this permit, the Permittee shall submit risk management plans by the date

specified in 40 CFR 68.150 and shall certify compliance with the requirements of 40 CFR 68 as part of the annual compliance certification as required by 40 CFR 70.

The Permittee shall initiate a permit revision or reopening according to the procedures of 40 CFR 70.7 to incorporate appropriate permit conditions into the Permittee's Part 70 permit.

6. GENERAL TESTING REQUIREMENTS

[COMAR 26.11.01.04]

The Department may require the Permittee to conduct, or have conducted, testing to determine compliance with this Part 70 permit. The Department, at its option, may witness or conduct these tests. This testing shall be done at a reasonable time, and all information gathered during a testing operation shall be provided to the Department.

7. EMISSIONS TEST METHODS

[COMAR 26.11.01.04]

Compliance with the emissions standards and limitations in this Part 70 permit shall be determined by the test methods designated and described below or other test methods submitted to and approved by the Department.

Reference documents of the test methods approved by the Department include the following:

a. 40 CFR 60, appendix A

b. 40 CFR 51, appendix M

c. The Department's Technical Memorandum 91-01 "Test Methods and Equipment Specifications for Stationary Sources", (January 1991), as amended through Supplement 3, (October 1, 1997)

8. EMISSIONS CERTIFICATION REPORT

[COMAR 26.11.01.05-1] and [COMAR 26.11.02.19C] and [COMAR 26.11.02.19D]

The Permittee shall certify actual annual emissions of regulated pollutants from the facility on a calendar year basis.

a. The certification shall be on forms obtained from the Department and submitted to the Department not later than April 1 of the year following the year for which the certification is required;

b. The individual making the certification shall certify that the information is accurate to the individual's best knowledge. The individual shall be:

(1) Familiar with each source for which the certifications forms are submitted, and

(2) Responsible for the accuracy of the emissions information;

c. The Permittee shall maintain records necessary to support the emissions certification including the following information if applicable:

(1) The total amount of actual emissions of each regulated pollutant and the total of all regulated pollutants;

(2) An explanation of the methods used to quantify the emissions and the operating schedules and production data that were used to determine emissions, including significant assumptions made;

(3) Amounts, types and analyses of all fuels used;

(4) Emissions data from continuous emissions monitors that are required by this permit, including monitor calibration and malfunction information;

(5) Identification, description, and use records of all air pollution control equipment and compliance monitoring equipment including:

(a) Significant maintenance performed,
(b) Malfunctions and downtime, and
(c) Episodes of reduced efficiency of all equipment;

(6) Limitations on source operation or any work practice standards that significantly affect emissions; and

(7) Other relevant information as required by the Department.

9. COMPLIANCE CERTIFICATION REPORT

[COMAR 26.11.03.06G(6) and (7)]

The Permittee shall submit to the Department and EPA Region III a report certifying compliance with each term of this Part 70 permit including each applicable standard, emissions limitation, and work practice for the previous calendar year by April 1 of each year.

a. The compliance certification shall include:

(1) The identification of each term or condition of this permit which is the basis of the certification;

(2) The compliance status;

(3) Whether the compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of each source, currently and over the reporting period; and

(5) Any other information required to be reported to the Department that is necessary to determine the compliance status of the Permittee with this permit.

b. The Permittee shall submit the compliance certification reports to the Department and EPA simultaneously.

10. CERTIFICATION BY RESPONSIBLE OFFICIAL

[COMAR 26.11.02.02F]

All application forms, reports, and compliance certifications submitted pursuant to this permit shall be certified by a responsible official as to truth, accuracy, and completeness. The Permittee shall expeditiously notify the Department of an appointment of a new responsible official.

The certification shall be in the following form:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted 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."

11. SAMPLING AND EMISSIONS TESTING RECORD KEEPING

[COMAR 26.11.03.06C(5)]

The Permittee shall gather and retain the following information when sampling and testing for compliance demonstrations:

a. The location as specified in this permit, and the date and time that samples and measurements are taken;

b. All pertinent operating conditions existing at the time that samples and measurements are taken;

c. The date that each analysis of a sample or emissions test is performed and the name of the person taking the sample or performing the emissions test;

d. The identity of the Permittee, individual, or other entity that performed the analysis;

e. The analytical techniques and methods used; and

f. The results of each analysis.

12. GENERAL RECORDKEEPING

[COMAR 26.11.03.06C(6)]

The Permittee shall retain records of all monitoring data and information that support the compliance certification for a period of five (5) years from the date that the monitoring, sample measurement, application, report or emissions test was completed or submitted to the Department.

These records and support information shall include:

a. All calibration and maintenance records;

b. All original data collected from continuous monitoring instrumentation;

c. Records which support the annual emissions certification; and

d. Copies of all reports required by this permit.

13. GENERAL CONFORMITY

[COMAR 26.11.26.09]

The Permittee shall comply with the general conformity requirements of 40 CFR 93, Subpart B and COMAR 26.11.26.09.

14. ASBESTOS PROVISIONS

[40 CFR 61, Subpart M]

The Permittee shall comply with 40 CFR 61, Subpart M when conducting any renovation or demolition activities at the facility.

15. OZONE DEPLETING REGULATIONS

[40 CFR 82, Subpart F]

The Permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for MVACs in subpart B:

a. Persons opening appliances for maintenance, service, repair, or disposal shall comply with the prohibitions and required practices pursuant to 40 CFR 82.154 and 82.156.

b. Equipment used during the maintenance, service, repair or disposal of appliances shall comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

c. Persons performing maintenance, service, repairs or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.

d. Persons disposing of small appliances, MVACS, and MVAC-like appliances as defined in 40 CFR 82.152, shall comply with record keeping requirements pursuant to 40 CFR 82.155.

e. Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.

f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.

16. ACID RAIN PERMIT

Not applicable

SECTION IV PLANT SPECIFIC CONDITIONS

This section provides tables that include the emissions standards, emissions limitations, and work practices applicable to each emissions unit located at this facility. The Permittee shall comply with all applicable emissions standards, emissions limitations and work practices included herein.

The tables also include testing, monitoring, record keeping and reporting requirements specific to each emissions unit. In addition to the requirements included here in **Section IV**, the Permittee is also subject to the general testing, monitoring, record keeping and reporting requirements included in **Section III – Plant Wide Conditions** of this permit.

Unless otherwise provided in the specific requirements for an emissions unit, the Permittee shall maintain at the facility for at least five (5) years, and shall make available to the Department upon request, all records that the Permittee is required under this section to establish. [Authority: COMAR 26.11.03.06C(5)(g)]

Table IV – 1	
1.0	**Emissions Unit Number(s)** EU-1: One (1) 3,360,000-gallon internal floating roof storage tank equipped with a mechanical shoe seal and a secondary wiper seal for gasoline, ethanol, residual, or distillate fuel oil storage (Tank No. 80-5). EU-2: One (1) 1,260,000-gallon internal floating roof storage tank equipped with a mechanical shoe seal and a secondary wiper seal for gasoline, ethanol, residual, or distillate fuel oil storage (Tank No. 30-6). EU-3: One (1) 1,428,000-gallon internal floating roof storage tank equipped with a mechanical shoe seal for gasoline, ethanol, residual, or distillate fuel oil storage (Tank No. 34-7). EU-4: One (1) 2,268,000-gallon internal floating roof storage tank equipped with a mechanical shoe seal for gasoline, ethanol, residual, or distillate fuel oil storage (Tank No. 54-8).

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	EU-5: One (1) 2,268,000-gallon internal floating roof storage tank equipped with a mechanical shoe seal for gasoline, ethanol, residual, or distillate fuel oil storage (Tank No. 54-9). EU-6: One (1) 8,400,000-gallon internal floating roof storage tank equipped with double wiper seals for gasoline, ethanol, residual, or distillate fuel oil storage (Tank No. 200-16). EU-7: One (1) 8,190,000-gallon internal floating roof storage tank equipped with a mechanical shoe seal and a secondary wiper seal for gasoline, ethanol, residual, or distillate fuel oil storage (Tank No. 195-17). (ARA Registration No. 510-1923-9-0261)
1.1	**Applicable Standards/Limits:** Control of VOC and HAP (1) **COMAR 26.11.13.03A(1)(a) and (b),** which require when storing gasoline or VOC with a true vapor pressure between 1.5 psia and 11 psia, that: (a) Each tank's gauging and sampling devices be gas tight except when in use. **[Authority: COMAR 26.11.13.03A(1)(a)]** (b) Each tank be equipped with one of the following properly installed, operating, and well maintained emission control systems: **[Authority: COMAR 26.11.13.03A(1)(b)]** (i) An internal floating roof equipped with a primary and secondary seal; (ii) A pressure tank system that maintains a pressure at all times to prevent loss of vapors to the atmosphere; or

Table IV – 1	
	(iii) A vapor control system capable of collecting the vapors from the tank and disposing of these vapors to prevent their emission to the atmosphere. Note: The Department has determined that the installation of an internal floating roof equipped with a mechanical shoe seal satisfies the requirement of COMAR 26.11.13.03A(1)(b)(i), which requires large, closed top gasoline storage tanks to be equipped with an internal floating roof equipped with a primary and secondary seal. (2) **COMAR 26.11.13.03A(2),** which requires the Permittee to meet the following seal requirements when storing gasoline or VOC with a true vapor pressure between 1.5 psia and 11 psia: (a) There shall be no visible holes, tears, or other openings in a seal or seal fabric. **[Authority: COMAR 26.11.13.03A(2)(a)]** (b) Each seal shall be intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall. **[Authority: COMAR 26.11.13.03A(2)(b)]** (c) The accumulated area of the gaps between the secondary seal and the tank wall and between the seal and other obstructions inside the tank (that is, ladder, roof supports) that are greater than 1/8 inch in width may not exceed 1.0 square inch per foot of tank diameter. **[Authority: COMAR 26.11.13.03A(2)(c)]** (3) **40 CFR 60, Subpart Kb,** which requires the Permittee to equip the storage vessel with a fixed roof in combination with an internal floating roof meeting the following specifications: (a) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be

Table IV – 1	
	accomplished as rapidly as possible. **[Authority: 40 CFR 60.112b(a)(1)(i)]** (b) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof: **[Authority: 40 CFR 60.112b(a)(1)(ii)]** (i) A foam or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank. **[Authority: 40 CFR 60.112b(a)(1)(ii)(A)]** (ii) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous. **[Authority: 40 CFR 60.112b(a)(1)(ii)(B)]** (iii) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof. **[Authority: 40 CFR 60.112b(a)(1)(ii)(C)]** (c) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface. **[Authority: 40 CFR 60.112b(a)(1)(iii)]** (d) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder

Table IV – 1	
	wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use. **[Authority: 40 CFR 60.112b(a)(1)(iv)]** (e) Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. **[Authority: 40 CFR 60.112b(a)(1)(v)]** (f) Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. **[Authority: 40 CFR 60.112b(a)(1)(vi)]** (g) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening. **[Authority: 40 CFR 60.112b(a)(1)(vii)]** (h) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. **[Authority: 40 CFR 60.112b(a)(1)(viii)]** (i) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover. **[Authority: 40 CFR §60.112b(a)(ix)]** (4) If the gasoline storage tank is subject to, and complies with, the control requirements of 40 CFR Part 60, Subpart Kb, the storage tank will be deemed in compliance under 40 CFR, Part 63, Subpart BBBBBB. **[Authority: 40 CFR §63.11087(f)]**
1.2	**<u>Testing Requirements</u>:** <u>Control of VOC and HAP</u>

Table IV – 1	
	(1) See Monitoring, Record Keeping and Reporting Requirements. (2) and (3) The Permittee shall determine the total seal gap by summing the areas of the individual gaps. The lengths and widths of the gaps are measured by passing a 1/8 inch diameter probe between the seal and the tank wall and other obstructions in the tank. (The probe should move freely without forcing or binding against the seal.) **[Authority: COMAR 26.11.13.03A(4)]** (4) See Monitoring, Record Keeping and Reporting Requirements.
1.3	**Monitoring Requirements:** Control of VOC and HAP (1) The Permittee shall perform an annual visual inspection of each tank's gauging and sampling devices. If a visual inspection shows noncompliance with the gas tight requirement, the Permittee shall repair the device within 45 days or empty and remove the tank from service within 45 days. If a repair cannot be made within 45 days and if the tank cannot be emptied within 45 days, a 30-day extension may be requested from the Department. Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the Permittee will take that will assure that the device will be repaired or the tank will be emptied as soon as possible. **[Authority: Permit to Construct issued on February 18, 2016]** (2) (3) and (4) The Permittee shall comply with the following inspection requirements for each tank: (a) The Permittee shall visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling or refilling the storage vessel with volatile organic liquid. If there are holes, tears or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof the Permittee shall repair the items before filling or

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	refilling the storage vessel. **[Authority: 40 CFR §60.113b(a)(1)]** (b) The Permittee shall visually inspect the internal floating roof and the primary seal or the secondary seal through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the volatile organic liquid inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the Permittee shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during the required inspection cannot be repaired within 45 days and if the tank cannot be emptied within 45 days, a 30-day extension may be requested from the Department. Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the Permittee will take that assure that the control equipment will be repaired or the tank will be emptied as soon as possible. **[Authority: COMAR 26.11.13.03A(3)(a) and (b), and 40 CFR §60.113b(a)(2) and (a)(3)(ii)]** Note: the annual inspection requirements of 40 CFR, Part 60, Subpart Kb §60.113b(a)(2) and (a)(3)(ii) satisfy the annual inspection requirements of COMAR 26.11.13.03A(3)(a) and (b). The Permittee shall visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the Permittee shall repair the items as necessary so that none of the conditions exist before refilling the storage vessel with volatile organic liquid. The storage vessel shall be inspected within 10 years from the date of the last internal inspection. **[Authority: COMAR 26.11.13.03A(3)(c) and 40 CFR §60.113b(a)(4)]**

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1.4	**<u>Record Keeping Requirements</u>:** <u>Control of VOC and HAP</u> (1) The Permittee shall record the results of all visual inspections of each tank's gauging and sampling devices. The Permittee shall also record all repairs or replacements including the date and the action taken. **[Authority: Permit to Construct issued on February 18, 2016]** (2) (3) and (4) (a) The Permittee shall keep a record of each inspection performed as required by 40 CFR §60.113b(a)(1), (a)(2), (a)(3), and (a)(4) and COMAR 26.11.13.03A(3) for each storage tank. Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings). **[Authority: COMAR 26.11.13.03C(1) and 40 CFR §60.115b(a)(2)]** (b) The Permittee shall record all repairs or replacement of the seals, or internal floating roof including a detailed description of work performed and the date and the action taken for each storage tank. **[Authority: COMAR 26.11.13.03C(2)]** (c) The Permittee shall record the average monthly storage temperature and throughout for each storage tank. **[Authority: COMAR 26.11.13.03C(3)]** (d) The Permittee shall maintain readily accessible records showing the dimension of each storage vessel and an analysis showing the capacity of each storage vessel. The records shall be maintained on-site for the life of the storage vessels. **[Authority: 40 CFR §60.116b(a) and (b)]**

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	(e) The Permittee shall maintain records of the volatile organic liquid stored, the period of storage, and the maximum true vapor pressure of the volatile organic liquid during the respective storage period for each storage tank. The maximum true vapor pressure shall be determined using the procedures listed in 40 CFR §60.116b(e). **[Authority: 40 CFR §60.116b(c) and (e)]**
1.5	**Reporting Requirements:** Control of VOC and HAP (1) Records of gauging and sampling device inspections shall be made available to the Department upon request. **[Authority: COMAR 26.11.03.06C]** (2) (3) and (4) (a) The Permittee shall notify the Department in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by 40 CFR §60.113b(a)(1) and (a)(4) to afford the Department the opportunity to have an observer present. If the inspection required by 40 CFR 60.113b(a)(4) is not planned and the Permittee could not have known about the inspection 30 days in advance of refilling the tank, the Permittee shall notify the Department at least seven (7) days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Department at least fifteen (15) days prior to the refilling. **[Authority: 40 CFR §60.113b(a)(5) and COMAR 26.11.13.03A(3)(d)]** (b) If any of the conditions described in 40 CFR §60.113b(a)(2) are detected during the annual visual inspection required by 40 CFR §60.113b(a)(2), the Permittee shall furnish a report to the Department within

Table IV – 1	
	30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied, or the nature of and date the repair was made. **[Authority: 40 CFR §60.115b(a)(3)]** (c) After each inspection required by 40 CFR §60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in 40 CFR §60.113b(a)(3)(ii), the Permittee shall furnish a report to the Department within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of 40 CFR §60.112b(a)(1) or §60.113b(a)(3) and list each repair made. **[Authority: 40 CFR §60.115b(a)(4)]**

A permit shield shall cover the applicable requirements of the Clean Air Act that are listed in the table above for Emission Unit Numbers: EU-1 through EU-7.

Table IV – 2	
2.0	**Emissions Unit Number(s)** EU-10: Five (5) bay truck loading rack for loading asphalt, ethanol, and distillate fuels. One (1) vapor combustion unit (VCU) will be used to control emissions from loading of ethanol and distillate fuels. (ARA Registration No. 510-1923-9-0261)
2.1	**Applicable Standards/Limits:** A. Visible Emissions Limitations **COMAR 26.11.06.02C(2)**, which prohibits visible emissions other than water in an uncombined form. This limitation applies to the vapor combustion unit only. Exceptions. COMAR 26.11.06.02A(2) establishes that "Section C does not apply to emissions during start-up, and process modifications or adjustments, or occasional cleaning of control equipment, if: (a) the visible emissions are not greater than 40 percent opacity; and (b) the

Table IV – 2	
	visible emissions do not occur for more than 6 consecutive minutes in any 60 minute period." B. Control of VOC **COMAR 26.11.06.06B(1)(b)**, which limits emissions of VOC to not more than 20 pounds per day unless VOC emissions are reduced by 85 percent or more overall. C. Operational Limitation The Permittee shall not load gasoline through the truck loading rack at this facility unless the Permittee obtains an approval from the Department. **[Authority: ARA Premises-wide Permit to Construct issued December 9, 2011]**
2.2	**Testing Requirements:** A. Visible Emissions Limitations and B. Control of VOC See Monitoring, Record Keeping, and Reporting Requirements. C. Operational Limitation See Record Keeping and Reporting Requirements.
2.3	**Monitoring Requirements:** A. Visible Emissions Limitations At least once per week, the Permittee shall observe the stack of the vapor combustion unit for visible emissions during loading of a tanker truck during switch loading operations as specified in the CAM Plan for the vapor combustion unit. An operator familiar with the maintenance and operation of the vapor combustion unit shall conduct each observation for a 1-minute period. **[Authority: See Indicator 1 of the CAM Plan in Table IV-3]** If exhaust gases are visible, the Permittee shall perform the following: i. Inspect all process and/or control equipment that may affect visible emissions;

Table IV – 2	
	ii. Perform all necessary repairs and/or adjustments to all processes and/or control equipment within 48 hours, so that visible emissions in the exhaust gases are eliminated; iii. Document, in writing, the results of the inspections and the repairs and/or adjustments made to the processes and/or control equipment; and iv. If visible emissions have not been eliminated within 48 hours, the Permittee shall perform a Method 9 observation once daily for an 18-minute period until corrective actions have eliminated the visible emissions. **[Authority: COMAR 26.11.03.06C.]** B. Control of VOC Exhaust gases from all loading of distillate fuels, asphalt, or ethanol into gasoline trucks (referred to as switch loading) at the premises shall vent through the vapor combustion unit prior to discharging to the atmosphere. **[Authority: ARA Premises-wide Permit to Construct issued December 9, 2011]** The vapor combustion unit shall be operated and maintained with an automated control system that prevents switch loading operations until the vapor combustion unit pilot flame has been detected and has reached proper operating temperature. **[Authority: ARA Premises-wide Permit to Construct issued December 9, 2011]** At least once per quarter, the Permittee shall perform preventative maintenance of the photoelectric eye, the bypass valve seals, and vapor combustion unit as specified in the CAM Plan for the vapor combustion unit **[Authority: See Indicators 2, 3, and 4 of the CAM Plan in Table IV-3]** C. Operational Limitation See Record Keeping and Reporting Requirements.
2.4	**Record Keeping Requirements:** A. Visible Emissions Limitations

Table IV – 2	
	The Permittee shall maintain a log of visible emissions observations performed including the date, time, and result of observation as specified in the CAM Plan for the vapor combustion unit. **[Authority: See Indicator 1 of the CAM Plan in Table IV-3]** B. Control of VOC The Permittee shall maintain the following records for the vapor combustion unit (including the vapor collection system): 1. Records of the results of all inspections and repairs and/or adjustments made to the vapor combustion unit. **[Authority: ARA Premises-wide Permit to Construct issued December 9, 2011]** 2. Records of all preventative maintenance as required by the CAM Plan for the vapor combustion unit. **[Authority: See Indicators 2, 3, and 4 of the CAM Plan in Table IV-3]** C. Operational Limitation The Permittee shall maintain monthly records of each type of material and amount of material loaded through the truck loading rack. **[Authority: ARA Premises-wide Permit to Construct issued December 9, 2011]**
2.5	**Reporting Requirements:** A. Visible Emissions Limitations The Permittee shall report incidents of visible emissions as specified in the CAM Plan for the vapor combustion unit. **[Authority: See Indicator 1 of the CAM Plan in Table IV-3]** B. Control of VOC The Permittee shall report all deviations from Indicators 2, 3, and 4 of the CAM Plan requirements as specified in the CAM Plan for the vapor combustion unit. **[Authority: See Indicators 2, 3, and 4 of the CAM Plan in Table IV-3]**

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	C. Operational Limitation The Permittee shall report incidences of excess emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, "Report of Excess Emissions and Deviations". **[Authority: COMAR 26.11.03.06C]**

A permit shield shall cover the applicable requirements of the Clean Air Act that are listed in the table above for Emissions Unit No. EU-10.

CAM PLAN TABLE IV-3
FOR THE VAPOR COMBUSTION UNIT (VCU)

Part 64 Requirement	**CAM Plan**
	Indicator No. 1
I. Indicator 64.4(a)(1)	Operate flare with no visible emissions.
Monitoring Approach	A visible emission observation is made of the exhaust gases at the outlet of the flare during the loading of a gasoline tank truck.
II. Indicator Range 64.4(a)(2) Reporting Threshold	No visible emissions. An excursion occurs if the visible emissions are observed. An excursion will trigger an investigation, corrective action, and a reporting requirement. All excursions will be reported to the ARA in the semi-annual monitoring reports.
Performance Criteria 64.4(a)(3)	
A. Data Representatives	Observations made by trained personnel.
B. Verification of Operational Status	Visible emission observation with manual log entry.
C. QA/QC Practices and Criteria	The observers are trained on procedures in making an observation and the record keeping requirements.

D. Monitoring Frequency	At least once per week when the gasoline tank truck is loading.
E. Data Collection	Results of observations will be manually recorded and maintained on site. Records will include date, time, and result of observation or reason.
F. Averaging Period	None.

Part 64 Requirement	**CAM Plan**
	Indicator No. 2
I. Indicator 64.4(a)(1)	Operate flare with pilot flame present at all times.
Monitoring Approach	Monitor temperature of pilot flame.
II. Indicator Range 64.4(a)(2) Reporting Threshold	Presence of flame. An excursion occurs if the pilot flame temperature is out of normal operation range or pilot flame is not present. An excursion will trigger an investigation, corrective action, and a reporting requirement. All excursions and corrective actions taken shall be reported to the ARA in the semi-annual monitoring reports.
III. Performance Criteria 64.4(a)(3)	
A. Data Representatives	Temperature recorded automatically on chart paper.
B. Verification of Operational Status	Daily check of temperature chart recording with manual log entry of verification of presence of pilot flame.
C. QA/QC Practices and Criteria	Calibration, maintenance and operation of thermocouple according to manufacturer's specification.
D. Monitoring Frequency	Continuous
E. Data Collection	Automatically record the temperature of the flare when it is operating with records maintained on site.
F. Averaging Period	None.

Part 64 Requirement	**CAM Plan**
	Indicator No. 3
I. Indicator 64.4(a)(1)	Ensure no bypass of the flare is occurring.
Monitoring Approach	Inspect bypass valve seals.
II. Indicator Range 64.4(a)(2) Reporting Threshold	Closed valve. An excursion occurs if the bypass valve is not closed or sealed completely. An excursion will trigger an investigation, corrective action, and a reporting requirement. All excursions and corrective actions taken shall be reported to the ARA in the semi-annual monitoring reports.
III. Performance Criteria 64.4(a)(3)	
A. Data Representatives	Inspections made by trained personnel.
B. Verification of Operational Status	Not applicable.
C. QA/QC Practices and Criteria	None.
D. Monitoring Frequency	At least once per month.
E. Data Collection	Results of inspection are manually recorded and maintained on site.
F. Averaging Period	None.

Part 64 Requirement	**CAM Plan**
	Indicator No. 4
I. Indicator 64.4(a)(1)	Documentation of preventative maintenance.
Monitoring Approach	Proper vapor combustion unit operation is verified by performing preventative maintenance as recommended by the vapor combustion unit manufacturer four (4) times a year.
II. Indicator Range 64.4(a)(2)	An excursion occurs if the preventative maintenance is not performed or documented.

Reporting Threshold	All excursions will be reported to the ARA in the semi-annual monitoring reports.
III. Performance Criteria 64.4(a)(3)	
A. Data Representatives	Vapor combustion unit operation verified by trained personnel or service person using a preventative maintenance checklist that is based on recommendations provided by the vapor combustion unit manufacturer.
B. Verification of Operational Status	Not applicable.
C. QA/QC Practices and Criteria	Service persons are trained on inspection and maintenance procedures.
D. Monitoring Frequency	Preventative maintenance will be performed four (4) times during a calendar year.
E. Data Collection	Results of inspection and maintenance performed during preventative maintenance are manually recorded and maintained on site.
F. Averaging Period	None.

Table IV – 4	
4.0	**Emissions Unit Number(s)** EU-11: One (1) marine tank vessel loading operation for the loading of gasoline, ethanol, fuel oils, and liquid asphalt. Gasoline and ethanol loading at the north dock is controlled by a carbon adsorption system vapor recovery unit (VRU). (ARA Registration No. 510-1923-9-0261)
4.1	**Applicable Standards/Limits:** A. Control of VOC (Vapor Control and Operational Requirements)

Table IV – 4	
	1. When loading gasoline and fuel ethanol into marine vessels, the marine vessel shall be equipped with a vapor return line and the vapor shall be vented into the vapor recovery unit that recovers or destroys at least 90 percent of the captured vapor. **[Authority: COMAR 26.11.13.08B(1)]** 2. The vapor recovery unit shall be operated such that exhaust gases from all loading of gasoline and fuel ethanol into marine vessels at the north dock vent through the vapor recovery unit prior to discharging to the atmosphere. **[Authority: ARA Premises-wide Permit to Construct issued December 9, 2011]** 3. The Permittee shall not load gasoline or fuel ethanol into marine vessels at the south dock and shall not load other petroleum products into marine vessels at the south dock if the marine vessels loaded gasoline during a previous load unless the Permittee obtains an approval from the Department. **[Authority: ARA Premises-wide Permit to Construct issued December 9, 2011]** B. Control of VOC (Pressure and Leak Requirements) The Permittee shall operate and maintain the vapor recovery unit controlling emissions from the marine vessel loading operations so that VOC vapor leaks are minimized during the transfer of VOCs into a marine vessel. **[Authority: COMAR 26.11.13.08B(2)]**
4.2	**Testing Requirements:** A. Control of VOC (Vapor Collection and Control Requirements) 1. The Permittee shall conduct performance tests to determine the collection efficiency of the vapor recovery unit, to demonstrate compliance with the 90% VOC control efficiency requirements of COMAR 26.11.13.08B(1), and to determine total VOC emissions from the vapor recovery unit at least once every five (5) years during the period between May and September 15. The tests shall be conducted in accordance with Method 1009 of the Department's Technical Memorandum 91-01, "Test Methods and

Table IV – 4	
	Equipment Specifications for Stationary Sources" (January 1991) or other test methods approved by the Department. During the performance tests, the vapor recovery unit shall be controlling vapors from gasoline loading into a marine vessel at the marine loading operation. The Permittee shall notify the Department not less than 15 days before the scheduled test date, the notification shall contain a copy of the test protocol. A copy of the test results shall be submitted to the Department no later than 60 days after the test date. **[Authority: COMAR 26.11.03.06C]** 2. The Permittee shall calculate the annual estimate of HAP emissions, excluding commodities exempted by §63.560(d), from marine tank vessel loading operations. Emission estimates and emission factors shall be based on test data, or if test data is not available, shall be based on measurement or estimating techniques generally accepted in industry practice for operating conditions at the source. **[Authority: 40 CFR §63.565(l)]** B. Control of VOC (Pressure and Leak Requirements) VOCs may not be transferred into a marine vessel unless the vessel has been leak tested or pressure tested within the past two (2) years using the Coast Guard requirements at 33 CFR §156.150. **[Authority: COMAR 26.11.13.08B(3)]**
4.3	**Monitoring Requirements:** A. Control of VOC (Vapor Collection and Control Requirements) 1. The Permittee shall monitor the vacuum pressure of the carbon bed daily when the vapor recovery unit is in operation to ensure that the vacuum pressure achieves at least 25 inches of mercury during regeneration. **[Authority: See Indicator 1 of the CAM Plan in Table IV-5 and ARA Premises-wide Permit to Construct issued December 9, 2011]**

Table IV – 4	
	2. The Permittee shall monitor the vacuum pressure of the vapor recovery unit carbon bed weekly during a complete carbon bed regeneration cycle when the vapor recovery unit is in operation to ensure proper operation. **[Authority: See Indicator 1 of the CAM Plan in Table IV-5 and ARA Premises-wide Permit to Construct issued December 9, 2011]** 3. The Permittee shall perform preventative maintenance on the vacuum regeneration gauge at least four (4) times per calendar year and calibrate the gauge at least once per calendar year. **[Authority: See Indicator 1 of the CAM Plan in Table IV-5 and ARA Premises-wide Permit to Construct issued December 9, 2011]** 4. The Permittee shall conduct preventative maintenance on the vapor recovery unit as recommended by the manufacturer at least four (4) times per calendar year. **[Authority: See Indicator 3 of the CAM Plan in Table IV-5]** B. <u>Control of VOC (Pressure and Leak Requirements)</u> The Permittee shall inspect the vapor recovery unit for leaks by sight, sound, and smell at least once per month. **[Authority: See Indicator 2 of the CAM Plan in Table IV-5]**
4.4	**<u>Record Keeping Requirements</u>:** The Permittee shall maintain the following records on-site for at least five (5) years and shall make these records available to the Department upon request: A. <u>Control of VOC (Vapor Collection and Control Requirements)</u> 1. For all marine vessel loading, except fuel oils, the date and time when each marine vessel commenced and completed the loading of product, identification of the product loaded, and the total volume loaded. **[Authority: COMAR 26.11.13.08C(1)(a) and (b)]** 2. Daily and weekly records of the vacuum pressure measurements of the vapor recovery unit carbon bed during regeneration. **[Authority: See Indicator 1 of the CAM Plan in Table IV-5 and**

Table IV – 4	
	ARA Premises-wide Permit to Construct issued December 9, 2011] 3. Records of all preventative maintenance performed on the vapor recovery unit including the dates and descriptions of maintenance performed. **[Authority: See Indicator 3 of the CAM Plan in Table IV-5 and ARA Premises-wide Permit to Construct issued December 9, 2011]** 4. Records of all performance test results. **[Authority: ARA Premises-wide Permit to Construct issued December 9, 2011]** 5. Records of the emissions estimates determined in 40 CFR 63.565(l) and records of their actual throughput by commodity. **[Authority: 40 CFR §63.567(j)(2) and (4)]** B. Control of VOC (Pressure and Leak Requirements) 1. The date when each marine vessel used was leak tested or pressure tested. **[Authority: COMAR 26.11.13.08C(1)(c)]** 2. Records of all equipment leak inspections of the vapor recovery unit including the date of each inspection, the results of each inspection, and any repairs made. **[Authority: See Indicator 2 of the CAM Plan in Table IV-5 and ARA Premises-wide Permit to Construct issued December 9, 2011]**
4.5	**Reporting Requirements:** A. Control of VOC (Vapor Collection and Control Requirements) The Permittee shall report all deviations from Indicator 1 and Indicator 3 of the CAM Plan requirements as specified in the CAM Plan for the vapor recovery unit. **[Authority: See Indicators 1 and 3 of the CAM Plan in Table IV-5]** B. Control of VOC (Pressure and Leak Requirements) The Permittee shall report all deviations from Indicator 2 of the CAM Plan requirements as specified in the CAM Plan for equipment leaks. **[Authority: See Indicator 2 of the CAM Plan in Table IV-5]**

Table IV – 4	

A permit shield shall cover the applicable requirements of the Clean Air Act that are listed in the table above for Emissions Unit No. EU-11.

Table IV-5 CAM PLAN
FOR THE VAPOR RECOVERY UNIT (VRU)

Part 64 Requirement	**CAM Plan**
	Indicator No. 1
I. Indicator 64.4(a)(1)	Carbon Bed Regeneration Vacuum
Monitoring Approach	Vacuum gauge.
II. Indicator Range 64.4(a)(2)	An excursion is defined as when the vacuum gauge does not reach 25 inches of mercury or greater during a daily inspection or fails to hold at 25 inches or greater for at least three (3) minutes during a weekly inspection. An excursion will trigger an investigation, corrective action, and a reporting requirement.
Reporting Threshold	All excursions will be reported to the ARA in the semi-annual monitoring reports.
III. Performance Criteria 64.4(a)(3)	
A. Data Representatives	The vacuum gauge is located on the vapor recovery unit piping, approximately two (2) feet from the shell of each carbon bed vessel. The minimum accuracy of the vacuum gauge is +/- 2.0 percent.
B. Verification of Operational Status	Daily visual check with manual log entry.
C. QA/QC Practices and Criteria	Preventative maintenance is performed on vacuum regeneration gauge four (4) times per year and is calibrated annually.
D. Monitoring Frequency	The entire regeneration cycle will be monitored weekly. Once daily when

	the vapor recovery unit is in operation, the vacuum pressure will be observed and recorded.
E. Data Collection	Weekly and daily visual readings when the vapor recovery unit is in operation with manual log entry of readings.
F. Averaging Period	None.

Part 64 Requirement	**CAM Plan**
	Indicator No. 2
I. Indicator 64.4(a)(1)	Equipment Leaks
Monitoring Approach	Monthly leak check of vapor recovery system by sight, sound, and smell.
II. Indicator Range 64.4(a)(2)	An excursion is defined as detection of a leak by sight, sound, or smell. An excursion will trigger an investigation, corrective action, and a reporting requirement.
Reporting Threshold	All excursions and corrective actions taken shall be reported to the ARA in the semi-annual monitoring reports.
III. Performance Criteria 64.4(a)(3)	
A. Data Representatives	The terminal operations personnel will be trained on the procedures to detect leaks, record results, and initiate corrective actions.
B. Verification of Operational Status	Not Applicable.
C. QA/QC Practices and Criteria	The operations' personnel responsible for performing the monthly inspections will be trained on the procedures to follow. The terminal will maintain a record of employees trained to perform the inspections.
D. Monitoring Frequency	Monthly.

E. Data Collection	Manual records of inspections, leaks found, and leaks repaired.
F. Averaging Period	None.

Part 64 Requirement	**CAM Plan**
	Indicator No. 3
I. Indicator 64.4(a)(1)	Documentation of preventative maintenance.
Monitoring Approach	Proper vapor recovery unit operation is verified by performing preventative maintenance as recommended by the vapor recovery unit manufacturer four (4) times a year.
II. Indicator Range 64.4(a)(2) Reporting Threshold	An excursion occurs if the preventative maintenance is not performed or documented. All excursions will be reported to the ARA in the semi-annual monitoring reports.
III. Performance Criteria 64.4(a)(3)	
A. Data Representatives	Vapor recovery unit operation verified by trained personnel or service person using a preventative maintenance checklist that is based on recommendations provided by the vapor recovery unit manufacturer.
B. Verification of Operational Status	Not applicable.
C. QA/QC Practices and Criteria	Service persons are trained on inspection and maintenance procedures.
D. Monitoring Frequency	Preventative maintenance will be performed four (4) times during a calendar year.
E. Data Collection	Results of inspection and maintenance performed during preventative maintenance are manually recorded and maintained on site.
F. Averaging Period	None.

Table IV – 6	
6.0	**Emissions Unit Number(s)** EU-12: Two (2) natural gas-fired heaters each rated at 6.0 million BTU per hour (ARA Registration Nos. 510-1923-5-2267 and 5-2268). EU-13: One (1) natural gas-fired heater rated at 8.4 million BTU per hour (ARA Registration No. 510-1923-5-1435). EU-14: One (1) natural gas-fired heater rated at 8.6 million BTU per hour (ARA Registration No. 510-1923-5-2385). EU-15: One (1) natural gas-fired heater rated at 8.4 million BTU per hour (ARA Registration No. 510-1923-9-0284). EU-16: One (1) natural gas-fired boiler rated at 14.65 million BTU per hour (ARA Registration No. 510-1923-5-2111).
6.1	**Applicable Standards/Limits:** A. Visible Emissions In accordance with COMAR 26.11.09.05A(2), the Permittee may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers. In accordance with COMAR 26.11.09.05A(3), COMAR 26.11.09.05A(2) does not apply to emissions during load changing, soot blowing, start-up, or adjustments or occasional cleaning of control equipment if: 1. The visible emissions are not greater than 40 percent opacity; and 2. The visible emissions do not occur for more than six (6) consecutive minutes in any 60 minute period. B. Operational Requirements 1. The Permittee shall burn only natural gas in the following heaters and boiler unless the Permittee applies for and receives an approval or permit from the Department to burn alternate fuels:

Table IV – 6	
	(a) Three (3) natural gas-fired heaters (EU-13, 14, and 15). (b) One (1) natural gas-fired boiler rated at 14.65 million BTU per hour (EU-16). **[Authority: COMAR 26.11.02.09A and ARA Premises-wide Permit to Construct issued December 9, 2011]** 2. The Permittee shall burn fuel oil in the one (1) natural gas-fired heater with No. 2 fuel oil as back-up fuel rated at 9.99 million BTU per hour (EU-12, ARA Registration No. 510-1923-4-3061) only during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel (not to exceed 48 hours during any calendar year), unless the Permittee applies for and receives an approval or permit from the Department to burn an alternative fuel. A natural gas curtailment or supply interruption means any period during which the supply of natural gas to the affected facility is halted for reasons beyond the control of the facility. The act of entering into a contractual agreement with a supplier of natural gas established for curtailment purposes does not constitute a reason that is under the control of a facility for the purposes of this definition. An increase in the cost or unit price of natural gas does not constitute a period of natural gas curtailment or interruption. **[Authority: 40 CFR §63.11195(e) and §63.11237]** C. Control of Sulfur Oxides **COMAR 26.11.09.07A(2)(b)**, which limits the sulfur content of distillate fuel oil to 0.3% by weight.
6.2	**Testing Requirements:** A. Visible Emissions See Monitoring, Record Keeping, and Reporting Requirements. B. Operational Requirements

Table IV – 6	
	See Record Keeping and Reporting Requirements. C. Control of Sulfur Oxides See Record Keeping and Reporting Requirements.
6.3	**Monitoring Requirements:** A. Visible Emissions The Permittee shall properly operate and maintain the heaters and boiler in a manner to prevent visible emissions. **[Authority: COMAR 26.11.03.06C]** B. Operational Requirements See Record Keeping and Reporting Requirements. C. Control of Sulfur Oxides See Record Keeping and Reporting Requirements.
6.4	**Record Keeping Requirements:** A. Visible Emissions The Permittee shall: 1. Maintain records of maintenance performed on the heaters and boiler that relates to combustion performance on site for at least five (5) years and shall make these records available to the Department upon request; and 2. Maintain an operations manual and preventative maintenance plan on site and shall make the plan available to the Department upon request. **[Authority: COMAR 26.11.03.06C]** B. Operational Requirements

Table IV – 6	
	The Permittee shall maintain the following records for at least five (5) years and make available to the Department upon request: Records of the amount of natural gas combusted during each calendar month in the one (1) natural gas-fired steam boiler rated at 14.65 million BTU per hour (EU-16, ARA Registration No. 510-1923-5-2111) and each of the four (4) natural gas-fired heaters (EU-12 through 15, ARA Registration No. 510-1923-4-3061, 5-1435, 9-0284, and 5-0285). **[Authority: 40 CFR §60.48c(g)(2) and §60.48c(i), and COMAR 26.11.03.06C]** C. Control of Sulfur Oxides Annual fuel oil supplier certifications depicting the sulfur content of distillate fuel oil burned in the natural gas-fired boiler with No. 2 fuel oil as a back-up fuel rated at 9.99 million BTU per hour (EU-12, ARA Registration No. 510-1923-4-3061). **[Authority: ARA Premises-wide Permit to Construct issued December 9, 2011]**
6.5	**Reporting Requirements:** A. Visible Emissions The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, “Report of Excess Emissions and Deviations”. **[Authority: COMAR 26.11.03.06C]** B. Operational Requirements The Permittee shall submit records of the quantity and type of fuels burned with the annual emissions certification report. See permit condition 8 of Section III. **[Authority: COMAR 26.11.02.19C&D]** C. Control of Sulfur Oxides The Permittee shall submit records of the quantity and type of fuels burned with the annual emissions certification report. See permit condition 8 of Section III. **[Authority: COMAR 26.11.02.19C&D]**

A permit shield shall cover the applicable requirements of the Clean Air Act that are listed in the table above for Emissions Unit Nos. EU-12 through EU-16.

Table IV – 7	
7.0	**Emissions Unit Number(s)** Facility Wide Requirements
7.1	**Applicable Standards/Limits:** Control of VOC The Permittee shall, at all times, operate and maintain any affected source subject to the requirements of 40 CFR, Part 63, Subpart BBBBBB, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The Department will determine whether such operation and maintenance procedures are being used based on information available to the Department which may include review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. **[Authority: 40 CFR §63.11085(a)]**
7.2	**Testing Requirements:** Control of VOC See Monitoring, Record Keeping, and Reporting Requirements.
7.3	**Monitoring Requirements:** Control of VOC The Permittee shall perform monthly leak inspections of all equipment in gasoline service, as defined in 40 CFR §63.11100. For these inspections, detection methods incorporating sight, sound, and smell are acceptable. **[Authority: 40 CFR §63.11089(a)]**
7.4	**Record Keeping Requirements:** Control of VOC

Table IV – 7

The Permittee shall:

1. Prepare and maintain a record describing the types, identification numbers, and locations of all equipment in gasoline service to demonstrate compliance with the leak detection requirements under 40 CFR §63.11089. If the Permittee elects to implement an instrument program under §63.11089, the record shall include a full description of the program. **[Authority: 40 CFR §63.11094(d)]**

2. Use a log book to record the required monthly leak inspections. The log book shall be signed by the Permittee at the completion of each inspection. A section of the log book shall contain a list, summary description, or diagram(s) showing the location of all equipment in gasoline service at the facility. **[Authority: 40 CFR §63.11089(b)]**

3. Record each detection of a liquid or vapor leak in the log book. When a leak is detected, an initial attempt at repair shall be made as soon as practicable, but no later than five (5) calendar days after the leak is detected. Repair or replacement of leaking equipment shall be completed within 15 calendar days after detection of each leak, except if there is a delay of repair. Delay of repair of leaking equipment is allowed if the repair is not feasible within 15 days. The Permittee shall provide in the semiannual report specified in 40 CFR §63.11095(b), the reason(s) why the repair was not feasible and the date each repair was completed. **[Authority: 40 CFR §63.11089(c) and (d)]**

   The Permittee shall record in the log book for each leak that is detected the following information: **[Authority: 40 CFR §63.11094(e)]**

   (a) The equipment type and identification number.

   (b) The nature of the leak (i.e., vapor or liquid) and the method of detection (i.e., sight, sound, or smell).

Table IV – 7	
	(c) The date the leak was detected, the date of each attempt to repair the leak, and reasons for any repair interval in excess of fifteen (15) days. (d) Repair methods applied in each attempt to repair the leak. (e) The expected date of successful repair of the leak if the leak is not repaired within 15 days. (f) The date of successful repair of the leak. 4. Maintain records of the following for at least five (5) years and shall make available to the Department upon request: (a) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment. **[Authority: 40 CFR §63.11094(g)(1)]** (b) Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR §63.11085(a), including corrective actions to restore manufacturing process and air pollution control and monitoring equipment to its normal or usual manner of operation. **[Authority: 40 CFR §63.11094(g)(2)]**
7.5	**<u>Reporting Requirements</u>:** <u>Control of VOC</u> The Permittee shall: 1. Submit notifications specified in 40 CFR §63.9, as applicable, in accordance with 40 CFR, Part 63, Subpart BBBBBB. **[Authority: 40 CFR §63.11093(d) and 40 CFR §63.9]** 2. Submit an excess emissions report to the Department at the same time the semiannual compliance report is submitted. The excess emissions report shall include the following information: **[Authority: 40 CFR §63.11095(b)]**

Table IV – 7	
	For each occurrence of an equipment leak for which no repair attempt was made within five (5) days or for which repair was not completed within 15 days after detection: (a) The date on which the leak was detected. (b) The date of each attempt to repair the leak. (c) The reasons for the delay of repair. (d) The date of successful repair. **[Authority: 40 CFR §63.11095(b)]**
	3. The Permittee shall submit a semiannual report including the number, duration, and a brief description of each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by the Permittee during a malfunction of an affected source to minimize emissions in accordance with 40 CFR §63.11085(a), including actions taken to correct a malfunction. The report shall be submitted as a part of the semiannual compliance report. The number of equipment leaks not repaired within 15 days after detection shall also be included in the semiannual compliance report. **[Authority: 40 CFR §63.11095(a)(3) and (d)]**

SECTION V INSIGNIFICANT ACTIVITIES

This section provides a list of insignificant emissions units that were reported in the Title V permit application. The applicable Clean Air Act requirements, if any, are listed below the insignificant activity.

(1) No. 1 Fuel-burning equipment using solid fuel and having a heat input of less than 350,000 Btu (0.37 gigajoule) per hour;

(2) Containers, reservoirs, or tanks used exclusively for:

(a) ✓ Storage of butane, propane, or liquefied petroleum, or natural gas;

- Twelve (12) 30,000-gallon butane storage tanks

(b) No. 14 Storage of Numbers 1, 2, 4, 5, and 6 fuel oil and aviation jet engine fuel. These storage tanks are listed below:

- Three (3) 7,350,000-gallon asphalt storage tanks (Tank Nos. 175-18, 175-19, and 175-20).
- Two (2) 420,000-gallon asphalt storage tanks (Tank Nos. 10-2 and 10-4).
- One (1) 3,360,000-gallon asphalt storage tank (Tank No. 80-13).
- Two (2) 210,000-gallon fuel oil tank (Tank Nos. 5-3 and 5-10).
- One (1) 1,260,000-gallon fuel oil tank (Tank No. 30-12).
- One (1) 2,268,000-gallon fuel oil tank (Tank No. 54-11).
- One (1) 7,250,000-gallon fuel oil storage tank (Tank No. 175-15).
- One (1) 840,000-gallon biodiesel storage tank (Tank No. 20-1)
- One (1) 500-gallon fuel oil tank
- One (1) 275-gallon fuel oil tank

(3) any other emissions unit at the facility which is not subject to an applicable requirement of the Clean Air Act (list and describe):

No. 2 Two (2) 6,000 gallon storage tanks for asphalt additives. The asphalt additives do not include any component identified as a regulated air pollutant, hazardous air pollutant, or Class I toxic air pollutant. (Tanks 21 and 22)

SECTION VI STATE-ONLY ENFORCEABLE CONDITIONS

The Permittee is subject to the following State-only enforceable requirements:

1. Applicable Regulations:

   (a) COMAR 26.11.06.08 and 26.11.06.09, which generally prohibit the discharge of emissions beyond the property line in such a manner that a nuisance or air pollution is created.

   (b) COMAR 26.11.15.05, which requires that the Permittee implement "Best Available Control Technology for Toxics" (T – BACT) to control emissions of toxic air pollutants.

   (c) COMAR 26.11.15.06, which prohibits the discharge of toxic air pollutants to the extent that such emissions will unreasonably endanger human health

2. Record Keeping and Reporting:

   The Permittee shall submit to the Department, by April 1 of each year during the term of this permit, a written certification of the results of an analysis of emissions of toxic air pollutants from the Permittee's facility during the previous calendar year. The analysis shall include either:

   (a) a statement that previously submitted compliance demonstrations for emissions of toxic air pollutants remain valid; or

   (b) a revised compliance demonstration, developed in accordance with requirements included under COMAR 26.11.15 & 16, that accounts for changes in operations, analytical methods, emissions determinations, or other factors that have invalidated previous demonstrations.

Part 70 Permit Application for Renewal

Permit # 24-510-1923
AI # 3581

Petroleum Fuel & Terminal Company
1622 South Clinton Street
Baltimore, MD 21224

May 2021

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Part 70 Permit Renewal Application
Petroleum Fuel & Terminal Company
Clinton Street Terminal – Baltimore South

Introduction

The Part 70 (Title V) operating permit expires May 31, 2022. The Maryland Department of Environment (MDE) requires that a renewal application be submitted by May 31, 2021. A Part 70 permit application for renewal is included in Attachment A. Petroleum Fuel & Terminal Company (PF&T) is requesting that a permit shield be granted.

Emission Units and Control Equipment

Summary of Changes to Existing Permitted Emission Units

Emission Unit Number	Existing Unit Name and Description	Change to Unit Name and Description
EU-12	One (1) natural gas-fired heater with No. 2 fuel oil as back-up rated a 9.9 million BTU per hour	Two (2) new natural gas-fired heaters each rated a 6.0 million BTU per hour with no fuel oil back-up.
EU-14	One (1) natural gas-fired heater rated at 8.4 million BTU per hour	One (1) new natural gas-fired heater rated at 8.5 million BTU per hour with no fuel oil back-up.

Note that the above referenced changes results with all the fuel combustion units referenced in the permit (EU-12 to EU-16) being natural gas-fired with no capability of using fuel oil as a back-up fuel source.

Deletion of Existing Permitted Emission Units from Permit not Constructed

None has occurred.

Emission Units Exempt from Part 70 Permit Application

Insignificant Activities Listed in Permit
The Title V permit lists insignificant emissions units as 12 storage tanks as follows:

- Three 7,350,000 gallon asphalt oil storage tanks (Tanks 175-18, 175-19, and 175-20);
- Two 420,000 gallon asphalt oil storage tanks (Tanks 10-2, and 10-4);
- One 3,360,000 gallon asphalt oil storage tank (Tank 80-13);
- Two 210,000 gallon asphalt oil storage tanks (Tanks 5-3 and 5-10);
- One 1,260,000 gallon fuel oil storage tank (Tank 30-12);
- One 2,268,000 gallon fuel oil storage tank (Tank 54-11);
- One 7,250,000 gallon fuel oil storage tank (Tank 175-15);
- One 840,000 gallon bio-diesel storage tank (Tank 20-1);
- Twelve 30,000 gallon butane storage tanks;

- One fuel oil-fired office comfort heating unit having a maximum heat input of less than one million Btu/hr.;
- One 500 gallon and one 275 gallon fuel oil storage tanks (support tank for office comfort heating unit); and
- Two 6,000 gallon asphalt additive tanks (Tanks 21 and 22).

Notes:

1. PF&T is informing the MDE the tanks may store products with a similar composition to asphalt oil (i.e., heavy residual oils). In addition, the tanks may store products similar in composition to fuel oil.
2. Tanks 21 and 22 are exempt because the products to be stored (asphalt additives) do not include any component identified as a regulated air pollutant, hazardous air pollutant, or Class 1 toxic air pollutant. Attachment C includes Safety Data Sheets (SDS) for the asphalt additives.
3. The above-referenced emission units are identified in the Insignificant Emissions Check-Off List of the Part 70 application (see Attachment A).

Emission Units Included in Part 70 Permit Renewal Application

The following emission units are included in the renewal application.

Table 1
Emission Units Included in Part 70 Permit Renewal Application

Permit ID Number (Facility ID)	Emission Unit Type	Emission Unit Description	ARMA Registration Number
EU-1 (Tank 80-5)	Storage Tank	3,360,000 gallon tank equipped with an internal floating roof. Equipped with a mechanical shoe seal and secondary wiper.	510-1923-9-0261
EU-2 (Tank 30-6)	Storage Tank	1,260,000 gallon tank equipped with an internal floating roof. Equipped with a mechanical shoe seal and secondary wiper.	510-1923-9-0261
EU-3 (Tank 34-7)	Storage Tank	1,428,000 gallon tank equipped with an internal floating roof. Equipped with a mechanical shoe seal.	510-1923-9-0261
EU-4 (Tank 54-8)	Storage Tank	2,268,000 gallon tank equipped with an internal floating roof. Equipped with a mechanical shoe seal.	510-1923-9-0261
EU-5 (Tank 54-9)	Storage Tank	2,268,000 gallon tank equipped with an internal floating roof. Equipped with a mechanical shoe seal.	510-1923-9-0261
EU-7 (Tank 195-17)	Storage Tank	8,190,000 gallon tank equipped with an internal floating roof. Equipped with a mechanical shoe seal and secondary wiper.	510-1923-9-0261
EU-10	Truck Rack	Five bay truck rack with VCU for load-out of asphalt, ethanol, and distillate fuels.	510-1923-9-0261

EU-11	Marine Dock	South dock for the load-out of asphalt and distillate fuels. North dock equipped with carbon absorption unit for then load-out of gasoline and ethanol.	510-1923-9-0261
EU-12	Heater	Two (2) 6.0 MM Btu/hr natural gas-fired heaters.	510-1923-4-3061
EU-13	Heater	8.4 MMBtu/hr natural gas-fired heater.	510-1923-5-1435
EU-14	Heater	8.5 MMBtu/hr natural gas-fired heater.	510-1923-9-0283
EU-15	Heater	8.4 MMBtu/hr natural gas-fired heater.	510-1923-9-0284
EU-16	Boiler	14.65 MMBtu/hr natural gas-fired boiler.	510-1923-5-2111

Potential Emissions

Section 5 of the application is requesting a summary of potential emissions. Information on source-wide emissions follows.

Fuel Combustion Units

The following table summarizes emissions from the natural gas-fired heaters and boiler. See the Emission Worksheet – Fuel Combustion Units in Attachment B.

Table 2 -Emissions from Fuel Combustion Units

Pollutant	CO (tons/yr)	NOx (tons/yr)	Total PM (tons/yr)	Filterable PM (tons/yr)	Condensable PM (tons/yr)	SO2 (tons/yr)	VOC (tons/yr)
Emissions (tons/yr)	19.1	22.8	1.73	0.43	1.25	0.14	1.25

IFR Storage Tanks

Working and Breathing Losses
VOC emissions from the internal floating roof (IFR) storage tanks are based on gasoline RVP 15 and 24 tank turnovers per year. Tanks Reports are included in Attachment B. Table 3 summaries the VOC emissions from the tanks.

Roof Landing Losses
Roof landing losses are being calculated using AP-42, Chapter 7.1.3.2.2. Losses are based on each roof landing event occurring over two days, and two landing events per year. Emission Worksheets are included in Attachment B. The following table summarizes the VOC emissions.

Table 3 - VOC Emissions from IFR Storage Tank			
Tank ID	**Working & Breathing Losses (tons/yr)**	**Roof Landing Losses (tons/yr)**	**Total Losses (tons/yr)**
Tank 80-5 (EU-1)	2.37	3.92	6.29
Tank 30-6 (EU-2)	1.36	1.38	2.74
Tank 34-7 (EU-3)	3.38	1.24	4.62
Tank 54-8 (EU-4)	4.27	2.21	6.48
Tank 54-9(EU-5)	4.27	2.94	7.21
Tank 200-16 (EU-6)	4.59	6.23	10.82
Tank 195-17 (EU-7)	3.12	8.00	11.12
Total	**23.40**	**25.90**	**49.30**

Load-Out Platforms

Load-out platforms include the truck rack and marine dock. The truck rack is identified as emission unit EU-10. An Emission Worksheet detailing VOC emissions from the VCU and fugitive emissions from the truck rack is included in Attachment B. The marine dock is identified as emission unit EU-11. An Emission Worksheet detailing VOC emissions from the VCU and fugitive emissions from the marine dock is included in Attachment B The following table summarizes the VOC emissions.

Table 5 - VOC Emissions from Load-Out Platforms		
Emission Unit	**Product Type**	**VOC Emissions (tons/yr)**
Truck Rack	Ethanol	10.20
Truck Rack	Fuel Oil	0.50
Truck Rack	Asphalt	7.90
Marine Dock (North Dock)	Gasoline/Ethanol	24.30
Marine Dock (South Dock)	Asphalt/Distillates (note: emission potential from distillates is greater and is listed)	5.2
Total		**48.1**

Fugitive Emissions from Equipment Components

VOC emissions are estimated at 0.21 tons/yr. An Emission Worksheet detailing fugitive VOC emissions from equipment components in gasoline service is included in Attachment B.

Source-Wide Emissions of Regulated Air Pollutants

Table 6 –Source-Wide Emissions of Regulated Air Pollutants							
Emission Unit	**VOC (tons/yr)**	**NOx (tons/yr)**	**Total PM (tons/yr)**	**Filterable PM (tons/yr)**	**Condensable PM (tons/yr)**	**SO2 (tons/yr)**	**CO (tons/yr)**
Fuel Combustion Units	1.25	22.8	1.66	0.43	1.25	0.14	19.1
IFR Storage Tanks	49.3	NA	NA	NA	NA	NA	NA
Truck Load-Out	18.60	NA	NA	NA	NA	NA	NA
Marine Load-Out	29.50	NA	NA	NA	NA	NA	NA
Equipment Components	0.21	NA	NA	NA	NA	NA	NA
Total	**98.9**	**22.8**	**1.66**	**0.43**	**1.25**	**0.14**	**19.1**

Source-Wide Emissions of Hazardous Air Pollutants (HAP)

HAP emissions from gasoline vapors are being estimated. HAP emissions from fuel ethanol and distillate fuels are considered as insignificant. Using EPA document # EPA-453/R-94-002a, January 1994, Gasoline Distribution Industry (Stage 1) - Background Information for Proposed Standards, Appendix C, Calculation of HAP Vapor Profiles for Gasoline. Using weight by percentage for "normal gasoline" as listed in Table C-5.

Table 7 – Source-Wide HAP Emissions from Gasoline Vapors			
HAP	**Percentage by Weight in Normal Gasoline Vapors**	**Calculation** (VOC Emissions x HAP Percent)	**HAP Emissions (tons/yr)**
Benzene	0.9	97.6 tons/yr x 0.009	0.88
EthylBenzene	0.1	97.6 tons/yr x 0.001	0.10
Hexane	1.6	97.6 tons/yr x 0.016	1.56
Toluene	1.3	97.6 tons/yr x 0.013	1.27
2,2,4-Trimethylpentane	0.8	97.6 tons/yr x 0.008	0.78
Xylenes	0.5	97.6 tons/yr x 0.005	0.49
Total			**5.08**

Compliance Assurance Monitoring (CAM) Plan

The CAM Plans for the VCU (Table IV-3) and VRU (Table IV-5) from the Title V Air Permit are included in the permit renewal application.

Attachment A
Table of Contents

MARYLAND DEPARTMENT OF THE ENVIRONMENT
1800 Washington Boulevard • Baltimore MD 21230
(410) 537-3000 • 1-800-633-6101 • http://www.mde.state.md.us

PART 70 PERMIT APPLICATION FOR RENEWAL

AIR AND RADIATION ADMINISTRATION

Facilities required to obtain a Part 70 permit under COMAR 26.11.03.01 must complete and return this form. Applications are incomplete unless all applicable information required by COMAR 26.11.03.03 and 26.11.03.13 is supplied. Failure to supply additional information required by the Department to enable it to act on the application may result in loss of the application shield and denial of this application.

Owner and Operator:

Name of Owner or Operator:	Petroleum Fuel & Terminal Company		
Street Address:	8235 Forsyth Blvd., Suite 400		
City: Clayton	State: MO	Zip Code: 63105	
Telephone Number 314-889-9652		Fax Number	

Facility Information:

Name of Facility: Petroleum Fuel & Terminal Company		
Street Address: 1626 South Clinton Street		
City: Baltimore	State: MD	Zip Code: 21224
Plant Manager: Clay Baer	Telephone Number: 410-342-7800	Fax Number:
24-Hour Emergency Telephone Number for Air Pollution Matters: 410-342-7800		

List, on a separate page, the names and telephone numbers of other facility owners and persons with titles.

SECTION 1. CERTIFICATION STATEMENTS

1. Compliance Status with Applicable Enhanced Monitoring and Compliance Certification Requirements

The emissions units identified in this application are in compliance with applicable enhanced monitoring and compliance certification requirements.

2. Certification of Current Compliance with All Applicable Federally Enforceable Requirements

Except for the requirements identified in Section 7 of this application, for which compliance is not achieved, I hereby certify, based on information and belief formed after reasonable inquiry, that the facility is currently in compliance with all applicable federally enforceable requirements and agree that the facility will continue to comply with those requirements during the permit term.

You must complete a Section 7 form for each non-complying emissions unit.

3. Statement of Compliance with Respect to All New Applicable Requirements Effective During the Permit Term

I hereby state, based on information and belief formed after reasonable inquiry, that the facility agrees to meet, in a timely manner, all applicable federally enforceable requirements that become effective during the permit term, unless a more detailed schedule is expressly required by the applicable requirement.

4. Risk Management Plan Compliance

I hereby certify that, based on information and belief formed after reasonable inquiry, that a Risk Management Plan as required under 112(r) of the Clean Air Act:

[ ] has been submitted;

[ ] will be submitted at a future date; or

[ ] does not need to be submitted.

5. Statement of Truth, Accuracy, and Completeness

"I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision and in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person(s) who manage the system, or those persons directly responsible for gathering the information, the information submitted 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 OFFICIAL:
X_____

SIGNATURE DATE

Bernie Sheil

PRINTED NAME

Compliance Manager

TITLE

SECTION 2. FACILITY DESCRIPTION SUMMARY

1. Major Activities of Facility

Briefly describe the major activities, including the applicable SIC Code(s) and end product(s).

Bulk Petroleum Terminal, SIC 4226

2. Facility-Wide Emissions

A. This facility is required to obtain a Part 70 Operating Permit because it is: Check appropriate box:

- ☑ Actual Major
- ☐ Potential Major
- ☐ Solid Waste Incineration Unit Requiring Permit Under § 129(e) of CAA

B. List the actual facility-wide emissions below:

PM10 1.66 NOx 22.8 VOC 98.9 SOx 0.14 CO 19.1 HAPs 5.08

3. Include With the Application:

Flow Diagrams showing all emissions units, emission points, and control devices;
Emissions Certification Report (copy of the most recent submitted to the Department.)

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU-1 to EU-9 1a. Date of installation (month/year):	2. MDE Registration No.:(if applicable) 510-1923-9-0261

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

See Table IV-1 for a description of the emission units

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: COMAR 26.11.03.06

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	N/A		
2.			
3.			

6. Emissions in Tons:

A. Actual Major: _____ Potential Major: _____ (note: before control device)

B. Actual Emissions: NOx_____ SOx_____ VOC_____ PM10_____ HAPs_____

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: EU-1 to EU-9 **General Reference:** COMAR 26.11.13.03B

Briefly describe the Emission Standard/Limit or Operational Limitation:

See attached Table IV-1 from the Title V permit

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:
- ☒ Annual Compliance Certification:
- ☐ Semi-Annual Monitoring Report:

Methods used to demonstrate compliance:

Monitoring: Reference Describe:

See attached Table IV-1 from the Title V permit

Testing: Reference Describe:

See attached Table IV-1 from the Title V permit

Record Keeping: Reference Describe:

See attached Table IV-1 from the Title V permit

Reporting: Reference Describe:

See attached Table IV-1 from the Title V permit

Frequency of submittal of the compliance demonstration: COMAR 26.11.03.06 C(7)

SECTION 3C. OBSOLETE, EXTRANEOUS, OR INSIGNIFICANT PERMIT CONDITIONS

List permit to construct conditions which should be considered to be obsolete, extraneous, or environmentally insignificant.

Emissions Unit No.: EU-1 to EU-9 **Permit to Construct No.** _____

Emissions Point No.	Date Permit Issued	Condition No.	Brief Description of Condition and Reason for Exclusion
N/A			

SECTION 3D. ALTERNATE OPERATING SCENARIOS

Emissions Unit No.: EU-1 to EU-9

Briefly describe any alternate operating scenarios. Assign a number to each scenario for identification purposes.

Operating Scenario # 2: The tanks may be used for the storage of fuel oils 1, 2, 4, 5, and 6. During the storage period involving the fuel oils the tanks are not subject to the control requirements of COMAR 26.11.13 (Control of Gasoline and VOC Storage and Handling.

SECTION 3E. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS FOR AN ALTERNATE OPERATING SCENARIO

Scenario No.: 2

Emissions Unit No.: EU-1 to EU-9 **General Reference:** COMAR 26.11.03.06

Briefly describe any applicable Emissions Standard/Limits/Operational Limitations:

During the storage of fuel oil the tanks are not subject to COMAR 26.11.13 (Control of Gasoline and VOC Storage and Handling

Compliance Demonstration

Methods used to demonstrate compliance:

Monitoring: Reference N/A Describe:

Testing: Reference N/A Describe:

Record Keeping: Reference Describe: Maintain a log detailing the scenario under which the tanks are operating and the date and time that the scenario started and ended. Reference: COMAR 26.11.03.06(9).

Reporting: Reference N/A Describe:

Frequency of submittal of the compliance demonstration: N/A

Table IV-1 (Emission Units EU-1 to EU-9)

Table IV – 1	
1.0	Emissions Unit Number(s) EU-1: One (1) 3,360,000-gallon internal floating roof storage tank equipped with a mechanical shoe seal and a secondary wiper seal for gasoline, ethanol, residual, or distillate fuel oil storage (Tank No. 80-5). EU-2: One (1) 1,260,000-gallon internal floating roof storage tank equipped with a mechanical shoe seal and a secondary wiper seal for gasoline, ethanol, residual, or distillate fuel oil storage (Tank No. 30-6). EU-3: One (1) 1,428,000-gallon internal floating roof storage tank equipped with a mechanical shoe seal for gasoline, ethanol, residual, or distillate fuel oil storage (Tank No. 34-7). EU-4: One (1) 2,268,000-gallon internal floating roof storage tank equipped with a mechanical shoe seal for gasoline, ethanol, residual, or distillate fuel oil storage (Tank No. 54-8). EU-5: One (1) 2,268,000-gallon internal floating roof storage tank equipped with a mechanical shoe seal for gasoline, ethanol, residual, or distillate fuel oil storage (Tank No. 54-9). EU-6: One (1) 8,400,000-gallon internal floating roof storage tank equipped with double wiper seals for gasoline, ethanol, residual, or distillate fuel oil storage (Tank No. 200-16). EU-7: One (1) 8,190,000-gallon internal floating roof storage tank equipped with a mechanical shoe seal and a secondary wiper seal for gasoline, ethanol, residual, or distillate fuel oil storage (Tank No. 195-17). (ARMA Registration No. 510-1923-9-0261)

Table IV-1 (Emission Units EU-1 to EU-9)

1.1	Applicable Standards/Limits: Control of VOC and HAP (1) **COMAR 26.11.13.03A(1)(a) and (b),** which require when storing gasoline or VOC with a true vapor pressure between 1.5 psia and 11 psia, that: (a) Each tank's gauging and sampling devices be gas tight except when in use. **[Authority: COMAR 26.11.13.03A(1)(a)]** (b) Each tank be equipped with one of the following properly installed, operating, and well maintained emission control systems: **[Authority: COMAR 26.11.13.03A(1)(b)]** (i) An internal floating roof equipped with a primary and secondary seal; (ii) A pressure tank system that maintains a pressure at all times to prevent loss of vapors to the atmosphere; or (iii) A vapor control system capable of collecting the vapors from the tank and disposing of these vapors to prevent their emission to the atmosphere. Note: The Department has determined that the installation of an internal floating roof equipped with a mechanical shoe seal satisfies the requirement of COMAR 26.11.13.03A(1)(b)(i), which requires large, closed top gasoline storage tanks to be equipped with an internal floating roof equipped with a primary and secondary seal.

Table IV-1 (Emission Units EU-1 to EU-9)

Table IV – 1	
	(2) **COMAR 26.11.13.03A(2),** which requires the Permittee to meet the following seal requirements when storing gasoline or VOC with a true vapor pressure between 1.5 psia and 11 psia: (a) There shall be no visible holes, tears, or other openings in a seal or seal fabric. **[Authority: COMAR 26.11.13.03A(2)(a)]** (b) Each seal shall be intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall. **[Authority: COMAR 26.11.13.03A(2)(b)]** (c) The accumulated area of the gaps between the secondary seal and the tank wall and between the seal and other obstructions inside the tank (that is, ladder, roof supports) that are greater than 1/8 inch in width may not exceed 1.0 square inch per foot of tank diameter. **[Authority: COMAR 26.11.13.03A(2)(c)]** (3) **40 CFR 60, Subpart Kb,** which requires the Permittee to equip the storage vessel with a fixed roof in combination with an internal floating roof meeting the following specifications: (a) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible. **[Authority: 40 CFR 60.112b(a)(1)(i)]** (b) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof: **[Authority: 40 CFR 60.112b(a)(1)(ii)]** (i) A foam or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank. **[Authority: 40 CFR 60.112b(a)(1)(ii)(A)]**

Table IV-1 (Emission Units EU-1 to EU-9)

Table IV – 1	
	(ii) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous. **[Authority: 40 CFR 60.112b(a)(1)(ii)(B)]** (iii) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof. **[Authority: 40 CFR 60.112b(a)(1)(ii)(C)]** (c) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface. **[Authority: 40 CFR 60.112b(a)(1)(iii)]** (d) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use. **[Authority: 40 CFR 60.112b(a)(1)(iv)]** (e) Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. **[Authority: 40 CFR 60.112b(a)(1)(v)]** (f) Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. **[Authority: 40 CFR 60.112b(a)(1)(vi)]**

Table IV-1 (Emission Units EU-1 to EU-9)

Table IV – 1	
	(g) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening. **[Authority: 40 CFR 60.112b(a)(1)(vii)]** (h) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. **[Authority: 40 CFR 60.112b(a)(1)(viii)]** (i) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover. **[Authority: 40 CFR §60.112b(a)(ix)]** (4) If the gasoline storage tank is subject to, and complies with, the control requirements of 40 CFR Part 60, Subpart Kb, the storage tank will be deemed in compliance under 40 CFR, Part 63, Subpart BBBBBB. **[Authority: 40 CFR §63.11087(f)]**
1.2	**Testing Requirements**: Control of VOC and HAP (1) See Monitoring, Record Keeping and Reporting Requirements. (2) and (3) The Permittee shall determine the total seal gap by summing the areas of the individual gaps. The lengths and widths of the gaps are measured by passing a 1/8 inch diameter probe between the seal and the tank wall and other obstructions in the tank. (The probe should move freely without forcing or binding against the seal.) **[Authority: COMAR 26.11.13.03A(4)]** (4) See Monitoring, Record Keeping and Reporting Requirements.
1.3	**Monitoring Requirements:** Control of VOC and HAP (1) The Permittee shall perform an annual visual inspection of each tank's gauging and sampling devices. If a visual inspection shows noncompliance with the gas tight requirement, the Permittee shall repair the device within 45 days or empty and remove the tank from

Table IV-1 (Emission Units EU-1 to EU-9)

Table IV – 1		
		service within 45 days. If a repair cannot be made within 45 days and if the tank cannot be emptied within 45 days, a 30-day extension may be requested from the Department. Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the Permittee will take that will assure that the device will be repaired or the tank will be emptied as soon as possible. **[Authority: Permit to Construct issued on February 18, 2016]** (2) (3) and (4) The Permittee shall comply with the following inspection requirements for each tank: (a) The Permittee shall visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling or refilling the storage vessel with volatile organic liquid. If there are holes, tears or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof the Permittee shall repair the items before filling or refilling the storage vessel. **[Authority: 40 CFR §60.113b(a)(1)]** (b) The Permittee shall visually inspect the internal floating roof and the primary seal or the secondary seal through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the volatile organic liquid inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the Permittee shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during the required inspection cannot be repaired within 45 days and if the tank cannot be emptied within 45 days, a 30-day extension may be requested from the Department. Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the Permittee will take that assure that the control equipment will be repaired or the tank will be emptied as soon as possible. **[Authority: COMAR 26.11.13.03A(3)(a) and (b), and 40**

Table IV-1 (Emission Units EU-1 to EU-9)

Table IV – 1	
	CFR §60.113b(a)(2) and (a)(3)(ii)] Note: the annual inspection requirements of 40 CFR, Part 60, Subpart Kb §60.113b(a)(2) and (a)(3)(ii) satisfy the annual inspection requirements of COMAR 26.11.13.03A(3)(a) and (b). The Permittee shall visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the Permittee shall repair the items as necessary so that none of the conditions exist before refilling the storage vessel with volatile organic liquid. The storage vessel shall be inspected within 10 years from the date of the last internal inspection. **[Authority: COMAR 26.11.13.03A(3)(c) and 40 CFR §60.113b(a)(4)]**
1.4	<u>Record Keeping Requirements</u>: <u>Control of VOC and HAP</u> (1) The Permittee shall record the results of all visual inspections of each tank's gauging and sampling devices. The Permittee shall also record all repairs or replacements including the date and the action taken. **[Authority: Permit to Construct issued on February 18, 2016]** (2) (3) and (4) (a) The Permittee shall keep a record of each inspection performed as required by 40 CFR §60.113b(a)(1), (a)(2), (a)(3), and (a)(4) and COMAR 26.11.13.03A(3) for each storage tank. Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings). **[Authority: COMAR 26.11.13.03C(1) and 40 CFR §60.115b(a)(2)]**

Table IV-1 (Emission Units EU-1 to EU-9)

Table IV – 1	
	(b) The Permittee shall record all repairs or replacement of the seals, or internal floating roof including a detailed description of work performed and the date and the action taken for each storage tank. **[Authority: COMAR 26.11.13.03C(2)]** (c) The Permittee shall record the average monthly storage temperature and throughout for each storage tank. **[Authority: COMAR 26.11.13.03C(3)]** (d) The Permittee shall maintain readily accessible records showing the dimension of each storage vessel and an analysis showing the capacity of each storage vessel. The records shall be maintained on-site for the life of the storage vessels. **[Authority: 40 CFR §60.116b(a) and (b)]** (e) The Permittee shall maintain records of the volatile organic liquid stored, the period of storage, and the maximum true vapor pressure of the volatile organic liquid during the respective storage period for each storage tank. The maximum true vapor pressure shall be determined using the procedures listed in 40 CFR §60.116b(e). **[Authority: 40 CFR §60.116b(c) and (e)]**
1.5	Reporting Requirements: Control of VOC and HAP (1) Records of gauging and sampling device inspections shall be made available to the Department upon request. **[Authority: COMAR 26.11.03.06C]** (2) (3) and (4) (a) The Permittee shall notify the Department in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by 40 CFR §60.113b(a)(1) and (a)(4) to afford the Department the opportunity to have an observer present. If the inspection required by 40 CFR 60.113b(a)(4) is not planned and the Permittee could not have known about the inspection 30 days in advance of refilling the tank, the Permittee shall notify the Department at least seven (7) days prior to the refilling of the storage vessel.

Table IV-1 (Emission Units EU-1 to EU-9)

Table IV – 1	
	Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Department at least fifteen (15) days prior to the refilling. **[Authority: 40 CFR §60.113b(a)(5) and COMAR 26.11.13.03A(3)(d)]**
	(b) If any of the conditions described in 40 CFR §60.113b(a)(2) are detected during the annual visual inspection required by 40 CFR §60.113b(a)(2), the Permittee shall furnish a report to the Department within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied, or the nature of and date the repair was made. **[Authority: 40 CFR §60.115b(a)(3)]**
	(c) After each inspection required by 40 CFR §60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in 40 CFR §60.113b(a)(3)(ii), the Permittee shall furnish a report to the Department within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of 40 CFR §60.112b(a)(1) or §60.113b(a)(3) and list each repair made. **[Authority: 40 CFR §60.115b(a)(4)]**

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU-10 1a. Date of installation (month/year): 1979 and modified in 1986	2. MDE Registration No.:(if applicable) 510-1923-9-0261

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

Truck loading rack equipped with vapor combustion unit for the loading asphalt, ethanol, and distillate fuels.

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: COMAR 26.11.03.06

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1. NA		
2.		
3.		

6. Emissions in Tons:

A. Actual Major: X Potential Major: _____ (note: before control device)

B. Actual Emissions: NOx NA SOx NA VOC 18.6 PM10 NA HAPs 1.0

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: EU-10 **General Reference:** COMAR 26.11.03.06

Briefly describe the Emission Standard/Limit or Operational Limitation:

See attached Table IV-2 from the Title V permit

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report: _____
- ☒ Annual Compliance Certification: _____
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference _____ Describe:

See attached Table IV-2 from the Title V permit

Testing: Reference _____ Describe:

See attached Table IV-2 from the Title V permit

Record Keeping: Reference _____ Describe:

See attached Table IV-2 from the Title V permit

Reporting: Reference _____ Describe:

See attached Table IV-2 from the Title V permit

Frequency of submittal of the compliance demonstration: COMAR 26.11.02.19

SECTION 3C. OBSOLETE, EXTRANEOUS, OR INSIGNIFICANT PERMIT CONDITIONS

List permit to construct conditions which should be considered to be obsolete, extraneous, or environmentally insignificant.

Emissions Unit No.: EU-10 **Permit to Construct No.** _____

Emissions Point No.	Date Permit Issued	Condition No.	Brief Description of Condition and Reason for Exclusion
N/A			

SECTION 3D. ALTERNATE OPERATING SCENARIOS

Emissions Unit No.: EU-10

Briefly describe any alternate operating scenarios. Assign a number to each scenario for identification purposes.

NA

SECTION 3E. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS FOR AN ALTERNATE OPERATING SCENARIO

Scenario No.: _____

Emissions Unit No.: _____ **General Reference:** _____

Briefly describe any applicable Emissions Standard/Limits/Operational Limitations:

Compliance Demonstration

Methods used to demonstrate compliance:

Monitoring: Reference _____ Describe: _____
NA

Testing: Reference _____ Describe: _____
NA

Record Keeping: Reference _____ Describe: _____
NA

Reporting: Reference _____ Describe: _____
NA

Frequency of submittal of the compliance demonstration: NA

SECTION 4. CONTROL EQUIPMENT

1. Associated Emissions Units No. : EU-10	2. Emissions Point No.: EP-10
3. Type and Description of Control Equipment:	
Vapor Combustion Unit (VCU).	

4. Pollutants Controlled: VOC and HAP	Control Efficiency:

5. Capture Efficiency:

Table IV-2 (Emission Unit EU-10)

Table IV – 2	
2.0	Emissions Unit Number(s) EU-10: Five (5) bay truck loading rack for loading asphalt, ethanol, and distillate fuels. One (1) vapor combustion unit (VCU) will be used to control emissions from loading of ethanol and distillate fuels. (ARMA Registration No. 510-1923-9-0261)

Table IV-2 (Emission Unit EU-10)

Table IV – 2	
2.1	**Applicable Standards/Limits:** A. Visible Emissions Limitations **COMAR 26.11.06.02C(2)**, which prohibits visible emissions other than water in an uncombined form. This limitation applies to the vapor combustion unit only. Exceptions. COMAR 26.11.06.02A(2) establishes that "Section C does not apply to emissions during start-up, and process modifications or adjustments, or occasional cleaning of control equipment, if: (a) the visible emissions are not greater than 40 percent opacity; and (b) the visible emissions do not occur for more than 6 consecutive minutes in any 60 minute period." B. Control of VOC **COMAR 26.11.06.06B(1)(b)**, which limits emissions of VOC to not more than 20 pounds per day unless VOC emissions are reduced by 85 percent or more overall. C. Operational Limitation The Permittee shall not load gasoline through the truck loading rack at this facility unless the Permittee obtains an approval from the Department. **[Authority: ARMA Premises-wide Permit to Construct issued December 9, 2011]**
2.2	**Testing Requirements:** A. Visible Emissions Limitations and B. Control of VOC See Monitoring, Record Keeping, and Reporting Requirements. C. Operational Limitation See Record Keeping and Reporting Requirements.
2.3	**Monitoring Requirements:** A. Visible Emissions Limitations At least once per week, the Permittee shall observe the stack of the

Table IV-2 (Emission Unit EU-10)

Table IV – 2	
	vapor combustion unit for visible emissions during loading of a tanker truck during switch loading operations as specified in the CAM Plan for the vapor combustion unit. An operator familiar with the maintenance and operation of the vapor combustion unit shall conduct each observation for a 1-minute period. **[Authority: See Indicator 1 of the CAM Plan in Table IV-3]** If exhaust gases are visible, the Permittee shall perform the following: 1. Inspect all process and/or control equipment that may affect visible emissions; 2. Perform all necessary repairs and/or adjustments to all processes and/or control equipment within 48 hours, so that visible emissions in the exhaust gases are eliminated; 3. Document, in writing, the results of the inspections and the repairs and/or adjustments made to the processes and/or control equipment; and 4. If visible emissions have not been eliminated within 48 hours, the Permittee shall perform a Method 9 observation once daily for an 18-minute period until corrective actions have eliminated the visible emissions. **[Authority: COMAR 26.11.03.06C.]** B. Control of VOC Exhaust gases from all loading of distillate fuels, asphalt, or ethanol into gasoline trucks (referred to as switch loading) at the premises shall vent through the vapor combustion unit prior to discharging to the atmosphere. **[Authority: ARMA Premises-wide Permit to Construct issued December 9, 2011]** The vapor combustion unit shall be operated and maintained with an automated control system that prevents switch loading operations until the vapor combustion unit pilot flame has been detected and has reached proper operating temperature. **[Authority: ARMA Premises-wide Permit to Construct issued December 9, 2011]** At least once per quarter, the Permittee shall perform preventative maintenance of the photoelectric eye, the bypass valve seals, and vapor combustion unit as specified in the CAM Plan for the vapor combustion

Table IV-2 (Emission Unit EU-10)

Table IV – 2	
	unit **[Authority: See Indicators 2, 3, and 4 of the CAM Plan in Table IV-3]** C. Operational Limitation See Record Keeping and Reporting Requirements.
2.4	**Record Keeping Requirements:** A. Visible Emissions Limitations The Permittee shall maintain a log of visible emissions observations performed including the date, time, and result of observation as specified in the CAM Plan for the vapor combustion unit. **[Authority: See Indicator 1 of the CAM Plan in Table IV-3]** B. Control of VOC The Permittee shall maintain the following records for the vapor combustion unit (including the vapor collection system): 1. Records of the results of all inspections and repairs and/or adjustments made to the vapor combustion unit. **[Authority: ARMA Premises-wide Permit to Construct issued December 9, 2011]** 2. Records of all preventative maintenance as required by the CAM Plan for the vapor combustion unit. **[Authority: See Indicators 2, 3, and 4 of the CAM Plan in Table IV-3]** C. Operational Limitation The Permittee shall maintain monthly records of each type of material and amount of material loaded through the truck loading rack. **[Authority: ARMA Premises-wide Permit to Construct issued December 9, 2011]**
2.5	**Reporting Requirements:** A. Visible Emissions Limitations The Permittee shall report incidents of visible emissions as specified in the CAM Plan for the vapor combustion unit. **[Authority: See Indicator**

Table IV-2 (Emission Unit EU-10)

Table IV – 2	
	1 of the CAM Plan in Table IV-3] B. Control of VOC The Permittee shall report all deviations from Indicators 2, 3, and 4 of the CAM Plan requirements as specified in the CAM Plan for the vapor combustion unit. **[Authority: See Indicators 2, 3, and 4 of the CAM Plan in Table IV-3]** C. Operational Limitation The Permittee shall report incidences of excess emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, "Report of Excess Emissions and Deviations". **[Authority: COMAR 26.11.03.06C]**

Table IV-3 (CAM Plan for Truck Rack VCU)

Part 64 Requirement	CAM Plan
	Indicator No. 1
I. Indicator 64.4(a)(1)	Operate flare with no visible emissions.
Monitoring Approach	A visible emission observation is made of the exhaust gases at the outlet of the flare during the loading of a gasoline tank truck.
II. Indicator Range 64.4(a)(2)	No visible emissions. An excursion occurs if the visible emissions are observed. An excursion will trigger an investigation, corrective action, and a reporting requirement.
Reporting Threshold	All excursions will be reported to the ARMA in the semi-annual monitoring reports.
Performance Criteria 64.4(a)(3)	
A. Data Representatives	Observations made by trained personnel.
B. Verification of Operational Status	Visible emission observation with

Table IV-3 (CAM Plan for Truck Rack VCU)

	manual log entry.
C. QA/QC Practices and Criteria	The observers are trained on procedures in making an observation and the record keeping requirements.
D. Monitoring Frequency	At least once per week when the gasoline tank truck is loading.
E. Data Collection	Results of observations will be manually recorded and maintained on site. Records will include date, time, and result of observation or reason.
F. Averaging Period	None.

Part 64 Requirement	**CAM Plan**
	Indicator No. 2
I. Indicator 64.4(a)(1)	Operate flare with pilot flame present at all times.
Monitoring Approach	Monitor temperature of pilot flame.
II. Indicator Range 64.4(a)(2)	Presence of flame. An excursion occurs if the pilot flame temperature is out of normal operation range or pilot flame is not present. An excursion will trigger an investigation, corrective action, and a reporting requirement.
Reporting Threshold	All excursions and corrective actions taken shall be reported to the ARMA in the semi-annual monitoring reports.
III. Performance Criteria 64.4(a)(3)	
A. Data Representatives	Temperature recorded automatically on chart paper.
B. Verification of Operational Status	Daily check of temperature chart recording with manual log entry of verification of presence of pilot flame.
C. QA/QC Practices and Criteria	Calibration, maintenance and operation of thermocouple according to manufacturer's specification.
D. Monitoring Frequency	Continuous
E. Data Collection	Automatically record the temperature of the flare when it is operating with records maintained on site.

Table IV-3 (CAM Plan for Truck Rack VCU)

F. Averaging Period	None.

Part 64 Requirement	CAM Plan
	Indicator No. 3
I. Indicator 64.4(a)(1)	Ensure no bypass of the flare is occurring.
Monitoring Approach	Inspect bypass valve seals.
II. Indicator Range 64.4(a)(2)	Closed valve. An excursion occurs if the bypass valve is not closed or sealed completely. An excursion will trigger an investigation, corrective action, and a reporting requirement.
Reporting Threshold	All excursions and corrective actions taken shall be reported to the ARMA in the semi-annual monitoring reports.
III. Performance Criteria 64.4(a)(3)	
A. Data Representatives	Inspections made by trained personnel.
B. Verification of Operational Status	Not applicable.
C. QA/QC Practices and Criteria	None.
D. Monitoring Frequency	At least once per month.
E. Data Collection	Results of inspection are manually recorded and maintained on site.
F. Averaging Period	None.

Part 64 Requirement	CAM Plan
	Indicator No. 4
I. Indicator 64.4(a)(1)	Documentation of preventative maintenance.
Monitoring Approach	Proper vapor combustion unit operation is verified by performing preventative maintenance as recommended by the vapor combustion unit manufacturer four (4) times a year.
II. Indicator Range 64.4(a)(2)	An excursion occurs if the preventative maintenance is not performed or documented.

Table IV-3 (CAM Plan for Truck Rack VCU)

Reporting Threshold	All excursions will be reported to the ARMA in the semi-annual monitoring reports.
III. Performance Criteria 64.4(a)(3)	
A. Data Representatives	Vapor combustion unit operation verified by trained personnel or service person using a preventative maintenance checklist that is based on recommendations provided by the vapor combustion unit manufacturer.
B. Verification of Operational Status	Not applicable.
C. QA/QC Practices and Criteria	Service persons are trained on inspection and maintenance procedures.
D. Monitoring Frequency	Preventative maintenance will be performed four (4) times during a calendar year.
E. Data Collection	Results of inspection and maintenance performed during preventative maintenance are manually recorded and maintained on site.
F. Averaging Period	None.

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU-11 1a. Date of installation (month/year): 1979 and modified in 2011	2. MDE Registration No.:(if applicable) 510-1923-9-0261

3. Detailed description of the emissions unit, including all emission point(s) and the assigned number(s):

Marine tank vessel loading operation for loading gasoline, ethanol, fuel oils, and liquid asphalt. Gasoline and ethanol loading at North Dock controlled by a carbon adsorption system vapor recovery unit.

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: COMAR 26.11.03.06

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.	NA		
2.			
3.			

6. Emissions in Tons:

A. Actual Major: X Potential Major: _____ (note: before control device)

B. Actual Emissions: NOx NA SOx NA VOC 29.5 PM10 NA HAPs 1.3

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: EU-11 **General Reference:** COMAR 26.11.03.06

Briefly describe the Emission Standard/Limit or Operational Limitation:

See attached Table IV-4 from the Title V permit

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:
- ☒ Annual Compliance Certification:
- ☐ Semi-Annual Monitoring Report:

Methods used to demonstrate compliance:

Monitoring: Reference Describe:

See attached Table IV-4 from the Title V permit

Testing: Reference Describe:

See attached Table IV-4 from the Title V permit

Record Keeping: Reference Describe:

See attached Table IV-4 from the Title V permit

Reporting: Reference Describe:

See attached Table IV-4 from the Title V permit

Frequency of submittal of the compliance demonstration: COMAR 26.11.02.19

SECTION 3C. OBSOLETE, EXTRANEOUS, OR INSIGNIFICANT PERMIT CONDITIONS

List permit to construct conditions which should be considered to be obsolete, extraneous, or environmentally insignificant.

Emissions Unit No.: EU-11 **Permit to Construct No.** _____

Emissions Point No.	Date Permit Issued	Condition No.	Brief Description of Condition and Reason for Exclusion
N/A			

SECTION 3D. ALTERNATE OPERATING SCENARIOS

Emissions Unit No.: EU-11

Briefly describe any alternate operating scenarios. Assign a number to each scenario for identification purposes.

NA

SECTION 3E. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS FOR AN ALTERNATE OPERATING SCENARIO

Scenario No.: _____

Emissions Unit No.: _____ **General Reference:** _____

Briefly describe any applicable Emissions Standard/Limits/Operational Limitations:

Compliance Demonstration

Methods used to demonstrate compliance:

Monitoring: Reference _____ Describe: _____

NA

Testing: Reference _____ Describe: _____

NA

Record Keeping: Reference _____ Describe: _____

NA

Reporting: Reference _____ Describe: _____

NA

Frequency of submittal of the compliance demonstration: NA

SECTION 4. CONTROL EQUIPMENT

1. Associated Emissions Units No. : EU-11	2. Emissions Point No.: EP-11
3. Type and Description of Control Equipment:	
Carbon Adsorption System vapor recovery unit	

4. Pollutants Controlled: VOC and HAP	Control Efficiency: 99.81% (from 7/23/13 testing event)

5. Capture Efficiency:

Table IV-4 (Marine Rack)

Table IV – 4	
4.0	**Emissions Unit Number(s)** EU-11: One (1) marine tank vessel loading operation for the loading of gasoline, ethanol, fuel oils, and liquid asphalt. Gasoline and ethanol loading at the north dock is controlled by a carbon adsorption system vapor recovery unit (VRU). (ARMA Registration No. 510-1923-9-0261)
4.1	**Applicable Standards/Limits:** A. Control of VOC (Vapor Control and Operational Requirements) 1. When loading gasoline and fuel ethanol into marine vessels, the marine vessel shall be equipped with a vapor return line and the vapor shall be vented into the vapor recovery unit that recovers or

Table IV-4 (Marine Rack)

Table IV – 4	
	destroys at least 90 percent of the captured vapor. **[Authority: COMAR 26.11.13.08B(1)]** 2. The vapor recovery unit shall be operated such that exhaust gases from all loading of gasoline and fuel ethanol into marine vessels at the north dock vent through the vapor recovery unit prior to discharging to the atmosphere. **[Authority: ARMA Premises-wide Permit to Construct issued December 9, 2011]** 3. The Permittee shall not load gasoline or fuel ethanol into marine vessels at the south dock and shall not load other petroleum products into marine vessels at the south dock if the marine vessels loaded gasoline during a previous load unless the Permittee obtains an approval from the Department. **[Authority: ARMA Premises-wide Permit to Construct issued December 9, 2011]** B. Control of VOC (Pressure and Leak Requirements) The Permittee shall operate and maintain the vapor recovery unit controlling emissions from the marine vessel loading operations so that VOC vapor leaks are minimized during the transfer of VOCs into a marine vessel. **[Authority: COMAR 26.11.13.08B(2)]**
4.2	**Testing Requirements:** A. Control of VOC (Vapor Collection and Control Requirements) 1. The Permittee shall conduct performance tests to determine the collection efficiency of the vapor recovery unit, to demonstrate compliance with the 90% VOC control efficiency requirements of COMAR 26.11.13.08B(1), and to determine total VOC emissions from the vapor recovery unit at least once every five (5) years during the period between May and September 15. The tests shall be conducted in accordance with Method 1009 of the Department's Technical Memorandum 91-01, "Test Methods and Equipment Specifications for Stationary Sources" (January 1991) or other test methods approved by the Department. During the performance tests, the vapor recovery unit shall be controlling vapors from gasoline loading into a marine vessel at the marine loading operation. The Permittee shall notify the Department not less than 15 days

Table IV-4 (Marine Rack)

Table IV – 4	
	before the scheduled test date, the notification shall contain a copy of the test protocol. A copy of the test results shall be submitted to the Department no later than 60 days after the test date. **[Authority: COMAR 26.11.03.06C]** 2. The Permittee shall calculate the annual estimate of HAP emissions, excluding commodities exempted by §63.560(d), from marine tank vessel loading operations. Emission estimates and emission factors shall be based on test data, or if test data is not available, shall be based on measurement or estimating techniques generally accepted in industry practice for operating conditions at the source. **[Authority: 40 CFR §63.565(l)]** B. Control of VOC (Pressure and Leak Requirements) VOCs may not be transferred into a marine vessel unless the vessel has been leak tested or pressure tested within the past two (2) years using the Coast Guard requirements at 33 CFR §156.150. **[Authority: COMAR 26.11.13.08B(3)]**
4.3	**Monitoring Requirements:** A. Control of VOC (Vapor Collection and Control Requirements) 1. The Permittee shall monitor the vacuum pressure of the carbon bed daily when the vapor recovery unit is in operation to ensure that the vacuum pressure achieves at least 25 inches of mercury during regeneration. **[Authority: See Indicator 1 of the CAM Plan in Table IV-5 and ARMA Premises-wide Permit to Construct issued December 9, 2011]** 2. The Permittee shall monitor the vacuum pressure of the vapor recovery unit carbon bed weekly during a complete carbon bed regeneration cycle when the vapor recovery unit is in operation to ensure proper operation. **[Authority: See Indicator 1 of the CAM Plan in Table IV-5 and ARMA Premises-wide Permit to Construct issued December 9, 2011]** 3. The Permittee shall perform preventative maintenance on the vacuum regeneration gauge at least four (4) times per calendar year

Table IV-4 (Marine Rack)

Table IV – 4	
	and calibrate the gauge at least once per calendar year. **[Authority: See Indicator 1 of the CAM Plan in Table IV-5 and ARMA Premises-wide Permit to Construct issued December 9, 2011]** 4. The Permittee shall conduct preventative maintenance on the vapor recovery unit as recommended by the manufacturer at least four (4) times per calendar year. **[Authority: See Indicator 3 of the CAM Plan in Table IV-5]** B. Control of VOC (Pressure and Leak Requirements) The Permittee shall inspect the vapor recovery unit for leaks by sight, sound, and smell at least once per month. **[Authority: See Indicator 2 of the CAM Plan in Table IV-5]**
4.4	**Record Keeping Requirements**: The Permittee shall maintain the following records on-site for at least five (5) years and shall make these records available to the Department upon request: A. Control of VOC (Vapor Collection and Control Requirements) 1. For all marine vessel loading, except fuel oils, the date and time when each marine vessel commenced and completed the loading of product, identification of the product loaded, and the total volume loaded. **[Authority: COMAR 26.11.13.08C(1)(a) and (b)]** 2. Daily and weekly records of the vacuum pressure measurements of the vapor recovery unit carbon bed during regeneration. **[Authority: See Indicator 1 of the CAM Plan in Table IV-5 and ARMA Premises-wide Permit to Construct issued December 9, 2011]** 3. Records of all preventative maintenance performed on the vapor recovery unit including the dates and descriptions of maintenance performed. **[Authority: See Indicator 3 of the CAM Plan in Table IV-5 and ARMA Premises-wide Permit to Construct issued December 9, 2011]** 4. Records of all performance test results. **[Authority: ARMA Premises-wide Permit to Construct issued December 9, 2011]**

Table IV-4 (Marine Rack)

Table IV – 4	
	5. Records of the emissions estimates determined in 40 CFR 63.565(l) and records of their actual throughput by commodity. **[Authority: 40 CFR §63.567(j)(2) and (4)]** B. Control of VOC (Pressure and Leak Requirements) 1. The date when each marine vessel used was leak tested or pressure tested. **[Authority: COMAR 26.11.13.08C(1)(c)]** 2. Records of all equipment leak inspections of the vapor recovery unit including the date of each inspection, the results of each inspection, and any repairs made. **[Authority: See Indicator 2 of the CAM Plan in Table IV-5 and ARMA Premises-wide Permit to Construct issued December 9, 2011]**
4.5	**Reporting Requirements:** A. Control of VOC (Vapor Collection and Control Requirements) The Permittee shall report all deviations from Indicator 1 and Indicator 3 of the CAM Plan requirements as specified in the CAM Plan for the vapor recovery unit. **[Authority: See Indicators 1 and 3 of the CAM Plan in Table IV-5]** B. Control of VOC (Pressure and Leak Requirements) The Permittee shall report all deviations from Indicator 2 of the CAM Plan requirements as specified in the CAM Plan for equipment leaks. **[Authority: See Indicator 2 of the CAM Plan in Table IV-5]**

Table IV-5 (CAM for Marine Rack VRU)

Part 64 Requirement	CAM Plan
	Indicator No. 1
I. Indicator 64.4(a)(1)	Carbon Bed Regeneration Vacuum
Monitoring Approach	Vacuum gauge.
II. Indicator Range 64.4(a)(2)	An excursion is defined as when the vacuum gauge does not reach 25 inches of mercury or greater during a daily inspection or fails to hold at 25 inches or greater for at least three (3) minutes during a weekly inspection. An excursion will trigger an investigation, corrective action, and a reporting requirement.
Reporting Threshold	All excursions will be reported to the ARMA in the semi-annual monitoring reports.
III. Performance Criteria 64.4(a)(3)	
A. Data Representatives	The vacuum gauge is located on the vapor recovery unit piping, approximately two (2) feet from the shell of each carbon bed vessel. The minimum accuracy of the vacuum gauge is +/- 2.0 percent.
B. Verification of Operational Status	Daily visual check with manual log entry.
C. QA/QC Practices and Criteria	Preventative maintenance is performed on vacuum regeneration gauge four (4) times per year and is calibrated annually.
D. Monitoring Frequency	The entire regeneration cycle will be monitored weekly. Once daily when the vapor recovery unit is in operation, the vacuum pressure will be observed and recorded.
E. Data Collection	Weekly and daily visual readings when the vapor recovery unit is in operation with manual log entry of readings.
F. Averaging Period	None.

Table IV-5 (CAM for Marine Rack VRU)

Part 64 Requirement	CAM Plan
	Indicator No. 2
I. Indicator 64.4(a)(1)	Equipment Leaks
Monitoring Approach	Monthly leak check of vapor recovery system by sight, sound, and smell.
II. Indicator Range 64.4(a)(2)	An excursion is defined as detection of a leak by sight, sound, or smell. An excursion will trigger an investigation, corrective action, and a reporting requirement.
Reporting Threshold	All excursions and corrective actions taken shall be reported to the ARMA in the semi-annual monitoring reports.
III. Performance Criteria 64.4(a)(3)	
A. Data Representatives	The terminal operations personnel will be trained on the procedures to detect leaks, record results, and initiate corrective actions.
B. Verification of Operational Status	Not Applicable.
C. QA/QC Practices and Criteria	The operations' personnel responsible for performing the monthly inspections will be trained on the procedures to follow. The terminal will maintain a record of employees trained to perform the inspections.
D. Monitoring Frequency	Monthly.
E. Data Collection	Manual records of inspections, leaks found, and leaks repaired.
F. Averaging Period	None.

Part 64 Requirement	CAM Plan
	Indicator No. 3
I. Indicator 64.4(a)(1)	Documentation of preventative maintenance.
Monitoring Approach	Proper vapor recovery unit operation is verified by performing preventative

Table IV-5 (CAM for Marine Rack VRU)

	maintenance as recommended by the vapor recovery unit manufacturer four (4) times a year.
II. Indicator Range 64.4(a)(2) Reporting Threshold	An excursion occurs if the preventative maintenance is not performed or documented. All excursions will be reported to the ARMA in the semi-annual monitoring reports.
III. Performance Criteria 64.4(a)(3)	
A. Data Representatives	Vapor recovery unit operation verified by trained personnel or service person using a preventative maintenance checklist that is based on recommendations provided by the vapor recovery unit manufacturer.
B. Verification of Operational Status	Not applicable.
C. QA/QC Practices and Criteria	Service persons are trained on inspection and maintenance procedures.
D. Monitoring Frequency	Preventative maintenance will be performed four (4) times during a calendar year.
E. Data Collection	Results of inspection and maintenance performed during preventative maintenance are manually recorded and maintained on site.
F. Averaging Period	None.

SECTION 3A. EMISSIONS UNIT DESCRIPTIONS

1. Emissions Unit No.: EU-12 to EU-16

2. MDE Registration No.:(if applicable) See Below

1a. Date of installation (month/year):

EU-12 (510-1923-4-0261)	9.99 MMBtu/hr natural gas-fired heater with #2 fuel oil as back-up fuel.	Two (2) new natural gas fired heaters each rated a 6.0 MMBtu/hr with no fuel oil back-up.
EU-13 (510-1923-5-1435)	8.4 MMBtu/hr natural gas-fired heater	none
EU-14 (510-1923-9-0283)	8.4 MMBtu/hr natural gas-fired heater (modified in 1980 from fuel oil to natural gas usage)	One (1) new natural gas fired heaters each rated at 8.5 MMBtu/hr with no fuel oil back-up.
EU-15 (510-1923-9-0284)	8.4 MMBtu/hr natural gas-fired heater (modified in 1980 from fuel oil to natural gas usage)	
EU-16 (510-1923-5-2111)	14.65 MMBtu/hr natural gas-fired boiler	

3. D

4. Federally Enforceable Limit on the Operating Schedule for this Emissions Unit:

General Reference: COMAR 26.11.03.06

Continuous Processes: 24 hours/day 365 days/year

Batch Processes: _____ hours/batch _____ batches/day

_____ days/year

5. Fuel Consumption:

	Type(s) of Fuel	% Sulfur	Annual Usage (specify units)
1.			
2.	Natural Gas		
3.			

6. Emissions in Tons: See attached Emission Worksheet for Fuel Combustion Units

A. Actual Major: _____ Potential Major: _____ (note: before control device)

B. Actual Emissions: NOx_____ SOx_____ VOC_____ PM10_____ HAPs_____

SECTION 3B. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Emissions Unit No.: EU-12 to EU-16 **General Reference:** COMAR 26.11.13.03B

Briefly describe the Emission Standard/Limit or Operational Limitation:

See attached Table IV-6 from Title V permit

Permit Shield Request: Yes

Compliance Demonstration:

Check appropriate reports required to be submitted:

- ☐ Quarterly Monitoring Report:_____
- ☒ Annual Compliance Certification:_____
- ☐ Semi-Annual Monitoring Report: _____

Methods used to demonstrate compliance:

Monitoring: Reference _____ Describe: _____

See attached Table IV-6 from Title V permit

Testing: Reference _____ Describe: _____

See attached Table IV-6 from Title V permit

Record Keeping: Reference _____ Describe: _____

See attached Table IV-6 from Title V permit

Reporting: Reference _____ Describe: _____

See attached Table IV-6 from Title V permit

Frequency of submittal of the compliance demonstration: Annually

SECTION 3C. OBSOLETE, EXTRANEOUS, OR INSIGNIFICANT PERMIT CONDITIONS

List permit to construct conditions which should be considered to be obsolete, extraneous, or environmentally insignificant.

Emissions Unit No.: EU-12 to EU-16 **Permit to Construct No.** _____

Emissions Point No.	Date Permit Issued	Condition No.	Brief Description of Condition and Reason for Exclusion
N/A			

SECTION 3D. ALTERNATE OPERATING SCENARIOS

Emissions Unit No.: EU-12 to EU-16

Briefly describe any alternate operating scenarios. Assign a number to each scenario for identification purposes.

EU-12 can operate using No 2 fuel oil as back-up fuel

SECTION 3E. CITATION TO AND DESCRIPTION OF APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS FOR AN ALTERNATE OPERATING SCENARIO

Scenario No.: _____

Emissions Unit No.: EU-12 to EU-16 **General Reference:** _____

Briefly describe any applicable Emissions Standard/Limits/Operational Limitations:

None

Compliance Demonstration

Methods used to demonstrate compliance:

Monitoring: Reference _____ Describe: _____

Testing: Reference _____ Describe: _____

Record Keeping: Reference _____ Describe: _____

Reporting: Reference N/A Describe: _____

Frequency of submittal of the compliance demonstration: N/A

Table IV-6 (Heaters and Boiler)

6.1	**Applicable Standards/Limits:** A. Visible Emissions In accordance with COMAR 26.11.09.05A(2), the Permittee may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers. In accordance with COMAR 26.11.09.05A(3), COMAR 26.11.09.05A(2) does not apply to emissions during load changing, soot blowing, start-up, or adjustments or occasional cleaning of control equipment if: 1. The visible emissions are not greater than 40 percent opacity; and 2. The visible emissions do not occur for more than six (6) consecutive minutes in any 60 minute period. B. Operational Requirements 1. The Permittee shall burn only natural gas in the following heaters and boiler unless the Permittee applies for and receives an approval or permit from the Department to burn alternate fuels: (a) Three (3) natural gas-fired heaters (EU-13, 14, and 15). (b) One (1) natural gas-fired boiler rated at 14.65 million BTU per hour (EU-16). **[Authority: COMAR 26.11.02.09A and ARMA Premises-wide Permit to Construct issued December 9, 2011]** 2. The Permittee shall burn fuel oil in the one (1) natural gas-fired heater with No. 2 fuel oil as back-up fuel rated at 9.99 million BTU per hour (EU-12, ARMA Registration No. 510-1923-4-3061) only during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel (not to exceed 48 hours during any

Table IV-6 (Heaters and Boiler)

Table IV – 6	
	calendar year), unless the Permittee applies for and receives an approval or permit from the Department to burn an alternative fuel. A natural gas curtailment or supply interruption means any period during which the supply of natural gas to the affected facility is halted for reasons beyond the control of the facility. The act of entering into a contractual agreement with a supplier of natural gas established for curtailment purposes does not constitute a reason that is under the control of a facility for the purposes of this definition. An increase in the cost or unit price of natural gas does not constitute a period of natural gas curtailment or interruption. **[Authority: 40 CFR §63.11195(e) and §63.11237]** C. Control of Sulfur Oxides **COMAR 26.11.09.07A(2)(b)**, which limits the sulfur content of distillate fuel oil to 0.3% by weight.
6.2	**Testing Requirements:** A. Visible Emissions See Monitoring, Record Keeping, and Reporting Requirements. B. Operational Requirements See Record Keeping and Reporting Requirements. C. Control of Sulfur Oxides See Record Keeping and Reporting Requirements.
6.3	**Monitoring Requirements:** A. Visible Emissions The Permittee shall properly operate and maintain the heaters and boiler in a manner to prevent visible emissions. **[Authority: COMAR 26.11.03.06C]**

Table IV-6 (Heaters and Boiler)

Table IV – 6	
	B. Operational Requirements See Record Keeping and Reporting Requirements. C. Control of Sulfur Oxides See Record Keeping and Reporting Requirements.
6.4	**Record Keeping Requirements:** A. Visible Emissions The Permittee shall: 1. Maintain records of maintenance performed on the heaters and boiler that relates to combustion performance on site for at least five (5) years and shall make these records available to the Department upon request; and 2. Maintain an operations manual and preventative maintenance plan on site and shall make the plan available to the Department upon request. **[Authority: COMAR 26.11.03.06C]** B. Operational Requirements The Permittee shall maintain the following records for at least five (5) years and make available to the Department upon request: Records of the amount of natural gas combusted during each calendar month in the one (1) natural gas-fired steam boiler rated at 14.65 million BTU per hour (EU-16, ARMA Registration No. 510-1923-5-2111) and each of the four (4) natural gas-fired heaters (EU-12 through 15, ARMA Registration No. 510-1923-4-3061, 5-1435, 9-0283, and 9-0284). **[Authority: 40 CFR §60.48c(g)(2) and §60.48c(i), and COMAR 26.11.03.06C]** C. Control of Sulfur Oxides Annual fuel oil supplier certifications depicting the sulfur content of distillate fuel oil burned in the natural gas-fired boiler with No. 2 fuel oil as a back-up fuel rated at 9.99 million BTU per hour (EU-12, ARMA Registration No. 510-1923-4-3061). **[Authority: ARMA Premises-wide Permit to Construct issued December 9, 2011]**

Table IV-6 (Heaters and Boiler)

Table IV – 6	
6.5	**Reporting Requirements**: A. Visible Emissions The Permittee shall report incidents of visible emissions in accordance with permit condition 4, Section III, Plant Wide Conditions, "Report of Excess Emissions and Deviations". **[Authority: COMAR 26.11.03.06C]** B. Operational Requirements The Permittee shall submit records of the quantity and type of fuels burned with the annual emissions certification report. See permit condition 8 of Section III. **[Authority: COMAR 26.11.02.19C&D]** C. Control of Sulfur Oxides The Permittee shall submit records of the quantity and type of fuels burned with the annual emissions certification report. See permit condition 8 of Section III. **[Authority: COMAR 26.11.02.19C&D]**

SECTION 5. SUMMARY SHEET OF POTENTIAL EMISSIONS

List all applicable pollutants in tons per year (tpy) pertaining to this facility. The Emissions Unit No. should be consistent with numbers used in Section 3. Attach a copy of all calculations.

Pollutant	VOC	PM	CO	NOx	SO2
Emission Unit # EU-1	6.29	NA	NA	NA	NA
Emission Unit # EU-2	2.74	NA	NA	NA	NA
Emission Unit # EU-3	4.62	NA	NA	NA	NA
Emission Unit # EU-4	6.48	NA	NA	NA	NA
Emission Unit # EU-5	7.21	NA	NA	NA	NA
Emission Unit # EU-6	10.82	NA	NA	NA	NA
Emission Unit # EU-7	11.12	NA	NA	NA	NA
Emission Unit # EU-10	18.6	NA	NA	NA	NA
Emission Unit # EU-11	29.5	NA	NA	NA	NA
Emission Units # EU-12 to EU-16	1.25	1.66	19.1	22.8	0.14
Fugitive Emissions from Equipment Components	0.21	NA	NA	NA	NA
Total	98.9	1.66	19.1	22.8	0.14

SECTION 6. EXPLANATION OF PROPOSED EXEMPTIONS FROM OTHERWISE APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

Describe and cite the applicable requirements to be exempted. Complete this Section only if the facility is claiming exemptions from or the non-applicability of any federally enforceable requirements.

1. Applicable Requirement: NA
2. Brief Description:
3. Reasons for Proposed Exemption or Justification of Non-applicability:

SECTION 7. COMPLIANCE SCHEDULE FOR NONCOMPLYING EMISSIONS UNITS

1. Emissions Unit # NA	Anticipated Compliance Date
Applicable Federally Enforceable Requirement being Violated:	

2. Description of Plan to Achieve Compliance:

Certified Progress Reports for sources in noncompliance shall be submitted at least quarterly to the Department.

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STATE-ONLY ENFORCEABLE REQUIREMENTS

Facility Information:

Name of Facility: Petroleum Fuel & Terminal Company	County: Baltimore
Premises Number:	
Street Address: 1626 South Clinton Street, Baltimore, MD 21224	
24-hour Emergency Telephone Number for Air Pollution Matters: 410-342-7800	
Type of Equipment (List Significant Units):	
7 IFR Storage Tanks	
6 Fuel Combustion Units (heaters and boiler)	
Truck Load-Out Rack with VCU and Marine Load-Out with VRU	

CITATION TO AND DESCRIPTION OF APPLICABLE STATE-ONLY ENFORCEABLE REQUIREMENTS

Registration No.: ~~510-1923-9-0261/510-1923-4-3061/~~510-1923-5-1435/510-1923-9-0283/

Emissions Unit No.: 510-1923-5-2111 Source-wide **General Reference:**

Briefly describe the requirement and the emissions limit (if applicable):

See attached Section VI from the the Title V Permit

Methods used to demonstrate compliance: Reporting

Table IV-7 (Facility Wide Requirements)

Table IV – 7	
7.0	**Emissions Unit Number(s)** Facility Wide Requirements
7.1	**Applicable Standards/Limits**: Control of VOC The Permittee shall, at all times, operate and maintain any affected source subject to the requirements of 40 CFR, Part 63, Subpart BBBBBB, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The Department will determine whether such operation and maintenance procedures are being used based on information available to the Department which may include review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. **[Authority: 40 CFR §63.11085(a)]**

Table IV-7 (Facility Wide Requirements)

Table IV – 7	
7.2	**Testing Requirements:** Control of VOC See Monitoring, Record Keeping, and Reporting Requirements.
7.3	**Monitoring Requirements:** Control of VOC The Permittee shall perform monthly leak inspections of all equipment in gasoline service, as defined in 40 CFR §63.11100. For these inspections, detection methods incorporating sight, sound, and smell are acceptable. **[Authority: 40 CFR §63.11089(a)]**
7.4	**Record Keeping Requirements:** Control of VOC The Permittee shall: 1. Prepare and maintain a record describing the types, identification numbers, and locations of all equipment in gasoline service to demonstrate compliance with the leak detection requirements under 40 CFR §63.11089. If the Permittee elects to implement an instrument program under §63.11089, the record shall include a full description of the program. **[Authority: 40 CFR §63.11094(d)]** 2. Use a log book to record the required monthly leak inspections. The log book shall be signed by the Permittee at the completion of each inspection. A section of the log book shall contain a list, summary description, or diagram(s) showing the location of all equipment in gasoline service at the facility. **[Authority: 40 CFR §63.11089(b)]** 3. Record each detection of a liquid or vapor leak in the log book. When a leak is detected, an initial attempt at repair shall be made as soon as practicable, but no later than five (5) calendar days after the leak is detected. Repair or replacement of leaking equipment shall be completed within 15 calendar days after detection of each

Table IV-7 (Facility Wide Requirements)

Table IV – 7	
	leak, except if there is a delay of repair. Delay of repair of leaking equipment is allowed if the repair is not feasible within 15 days. The Permittee shall provide in the semiannual report specified in 40 CFR §63.11095(b), the reason(s) why the repair was not feasible and the date each repair was completed. **[Authority: 40 CFR §63.11089(c) and (d)]** The Permittee shall record in the log book for each leak that is detected the following information: **[Authority: 40 CFR §63.11094(e)]** (a) The equipment type and identification number. (b) The nature of the leak (i.e., vapor or liquid) and the method of detection (i.e., sight, sound, or smell). (c) The date the leak was detected, the date of each attempt to repair the leak, and reasons for any repair interval in excess of fifteen (15) days. (d) Repair methods applied in each attempt to repair the leak. (e) The expected date of successful repair of the leak if the leak is not repaired within 15 days. (f) The date of successful repair of the leak. 4. Maintain records of the following for at least five (5) years and shall make available to the Department upon request: (a) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment. **[Authority: 40 CFR §63.11094(g)(1)]** (b) Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR §63.11085(a), including corrective actions to restore manufacturing process and air pollution control and monitoring equipment to its normal or usual manner of operation. **[Authority: 40 CFR §63.11094(g)(2)]**

Table IV-7 (Facility Wide Requirements)

Table IV – 7	
7.5	**Reporting Requirements:** Control of VOC The Permittee shall: 1. Submit notifications specified in 40 CFR §63.9, as applicable, in accordance with 40 CFR, Part 63, Subpart BBBBBB. **[Authority: 40 CFR §63.11093(d) and 40 CFR §63.9]** 2. Submit an excess emissions report to the Department at the same time the semiannual compliance report is submitted. The excess emissions report shall include the following information: **[Authority: 40 CFR §63.11095(b)]** For each occurrence of an equipment leak for which no repair attempt was made within five (5) days or for which repair was not completed within 15 days after detection: (a) The date on which the leak was detected. (b) The date of each attempt to repair the leak. (c) The reasons for the delay of repair. (d) The date of successful repair. **[Authority: 40 CFR §63.11095(b)]** 3. The Permittee shall submit a semiannual report including the number, duration, and a brief description of each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by the Permittee during a malfunction of an affected source to minimize emissions in accordance with 40 CFR §63.11085(a), including actions taken to correct a malfunction. The report shall be submitted as a part of the semiannual compliance report. The number of equipment leaks not repaired within 15 days after detection shall also be included in the semiannual compliance report. **[Authority: 40 CFR §63.11095(a)(3) and (d)]**

MARYLAND DEPARTMENT OF THE ENVIRONMENT
AIR AND RADIATION ADMINISTRATION
RENEWAL TITLE V APPLICATION INSIGNIFICANT ACTIVITIES LIST

III. Check-off List of Emissions Units and Activities Exempt from the Part 70 Permit Application

Insignificant Activities

Place a check mark beside each type of emissions unit or activity that is located at the facility. Where noted, please indicate the number of that type of emissions unit or activity located at the facility.

(1) No. ✓ Fuel burning equipment using gaseous fuels or no. 1 or no. 2 fuel oil, and having a heat input less than 1,000,000 Btu (1.06 gigajoules) per hour;

(2) No. ___ Fuel-burning equipment using solid fuel and having a heat input of less than 350,000 Btu (0.37 gigajoule) per hour;

(3) No. ___ Stationary internal combustion engines with less than 500 brake horsepower (373 kilowatts)of power output

(4) ___ Space heaters utilizing direct heat transfer and used solely for comfort heat;

(5) ___ Water cooling towers and water cooling ponds unless used for evaporative cooling of water from barometric jets or barometric condensers, or used in conjunction with an installation requiring a permit to operate;

(6) No. ___ Unheated VOC dispensing containers or unheated VOC rinsing containers of 60 gallons (227 liters) capacity or less;

(7) ___ Commercial bakery ovens with a rated heat input capacity of less than 2,000,000 Btu per hour;

(8) ___ Kilns used for firing ceramic ware, heated exclusively by natural gas, liquefied petroleum gas, electricity, or any combination of these;

(9) ___ Confection cookers where the products are edible and intended for human consumption;

(10) ___ Die casting machines;

(11)___ Photographic process equipment used to reproduce an image upon sensitized material through the use of radiant energy;

(12)___ Equipment for drilling, carving, cutting, routing, turning, sawing, planing, spindle sanding, or disc sanding of wood or wood products;

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(13)___ Brazing, soldering, or welding equipment, and cutting torches related to manufacturing and construction activities that emit HAP metals and not directly related to plant maintenance, upkeep and repair or maintenance shop activities;

(14)___ Equipment for washing or drying products fabricated from metal or glass, provided that no VOC is used in the process and that no oil or solid fuel is burned;

(15)___ Containers, reservoirs, or tanks used exclusively for electrolytic plating work, or electrolytic polishing, or electrolytic stripping of brass, bronze, cadmium, copper, iron, lead, nickel, tin, zinc, and precious metals;

(16) Containers, reservoirs, or tanks used exclusively for:

(a) ___ Dipping operations for applying coatings of natural or synthetic resins that contain no VOC;

(b) ___ Dipping operations for coating objects with oils, waxes, or greases, and where no VOC is used;

(c) ✓ Storage of butane, propane, or liquefied petroleum, or natural gas;

(d) No. ___ Storage of lubricating oils:

(e) No. ___ Unheated storage of VOC with an initial boiling point of 300 °F (

(f) No. 13 Storage of Numbers 1, 2, 4, 5, and 6 fuel oil and aviation jet engine fuel,

(g) No. ___ Storage of motor vehicle gasoline and having individual tank capacities of 2,000 gallons (7.6 cubic meters) or less;

(h) No. ___ The storage of VOC normally used as solvents, diluents, thinners, inks, colorants, paints, lacquers, enamels, varnishes, liquid resins, or other surface coatings and having individual capacities of 2,000 gallons (7.6 cubic meters) or less;

(17) ___ Gaseous fuel-fired or electrically heated furnaces for heat treating glass or metals, the use of which does not involve molten materials;

(18) Crucible furnaces, pot furnaces, or induction furnaces, with individual capacities of 1,000 pounds (454 kilograms) or less each, in which no sweating or distilling is conducted, or any fluxing is conducted using chloride, fluoride,

or ammonium compounds, and from which only the following metals are poured or in which only the following metals are held in a molten state:

(a) ____ Aluminum or any alloy containing over 50 percent aluminum, if no gaseous chloride compounds, chlorine, aluminum chloride, or aluminum fluoride is used;

(b) ____ Magnesium or any alloy containing over 50 percent magnesium;

(c) ____ Lead or any alloy containing over 50 percent lead;

(d) ____ Tin or any alloy containing over 50 percent tin;

(e) ____ Zinc or any alloy containing over 50 percent zinc;

(f) ____ Copper;

(g) ____ Precious metals;

(19)____ Charbroilers and pit barbecues as defined in COMAR 26.11.18.01 with a total cooking area of 5 square feet (0.46 square meter) or less;

(20) ____ First aid and emergency medical care provided at the facility, including related activities such as sterilization and medicine preparation used in support of a manufacturing or production process;

(21) ____ Certain recreational equipment and activities, such as fireplaces, barbecue pits and cookers, fireworks displays, and kerosene fuel use;

(22) ____ Potable water treatment equipment, not including air stripping equipment;

(23)____ Firing and testing of military weapons and explosives;

(24)____ Emissions resulting from the use of explosives for blasting at quarrying operations and from the required disposal of boxes used to ship the explosive;

(25)____ Comfort air conditioning subject to requirements of Title VI of the Clean Air Act;

(26)____ Grain, metal, or mineral extrusion presses;

(27)____ Breweries with an annual beer production less than 60,000 barrels;

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(28)____ Natural draft hoods or natural draft ventilators that exhaust air pollutants into the ambient air from manufacturing/industrial or commercial processes;

(29)____ Laboratory fume hoods and vents;

(30)No. ___ Sheet-fed letter or lithographic printing press(es) with a cylinder width of less than 18 inches;

For the following, attach additional pages as necessary:

(31) any other emissions unit, not listed in this section, with a potential to emit less than the "de minimus" levels listed in COMAR 26.11.02.10X (list and describe units):

No. ___ _____

No. ___ _____

No. ___ _____

No. ___ _____

No. ___ _____

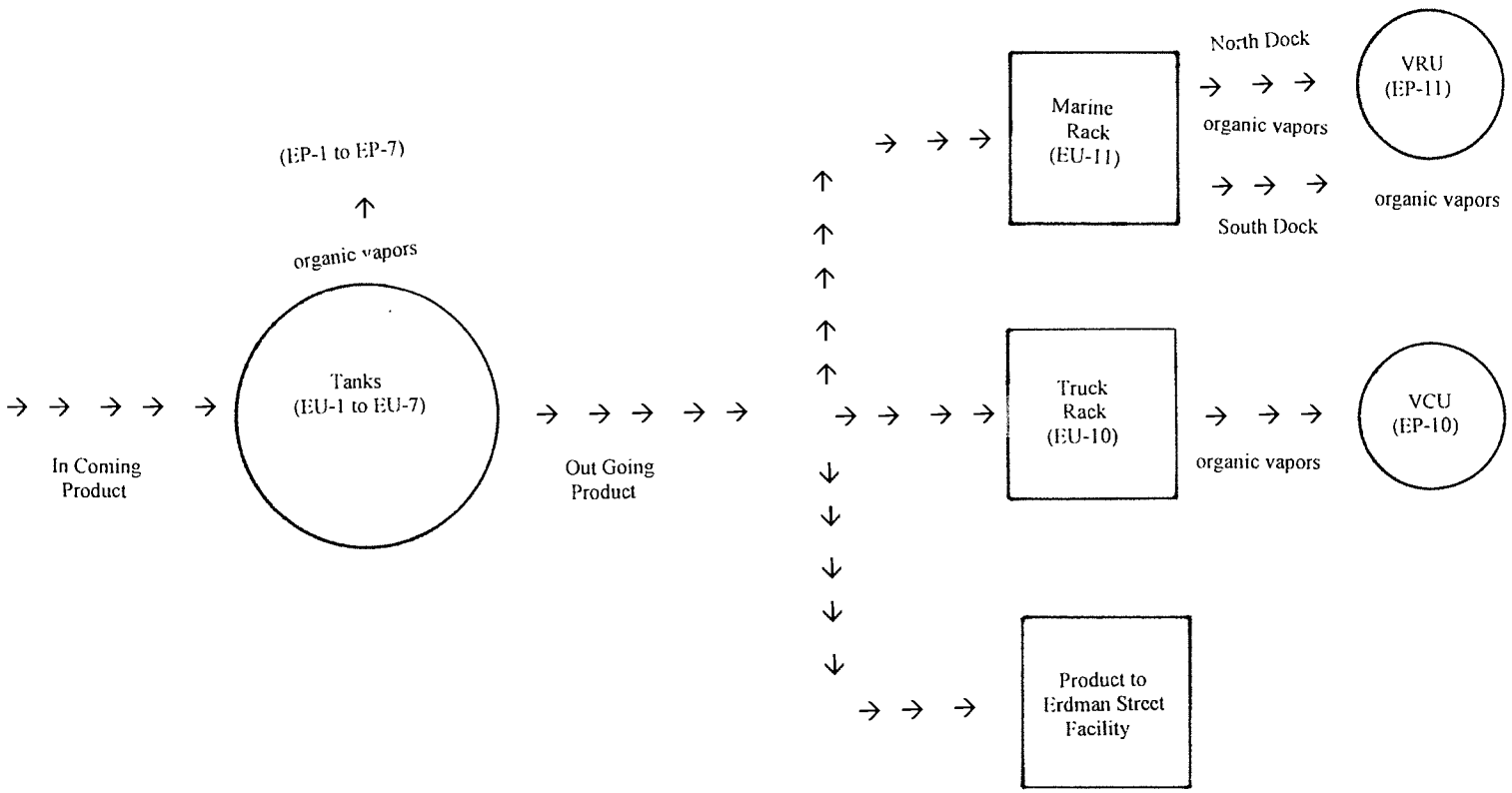
(32) any other emissions unit at the facility which is not subject to an applicable requirement of the Clean Air Act (list and describe):

No. 2 Two 6,000 gallon storage tanks for asphalt additives. The additives do not include any component identified as a regulated air pollutant, hazardous air pollutant, or Class I toxic air pollutant.

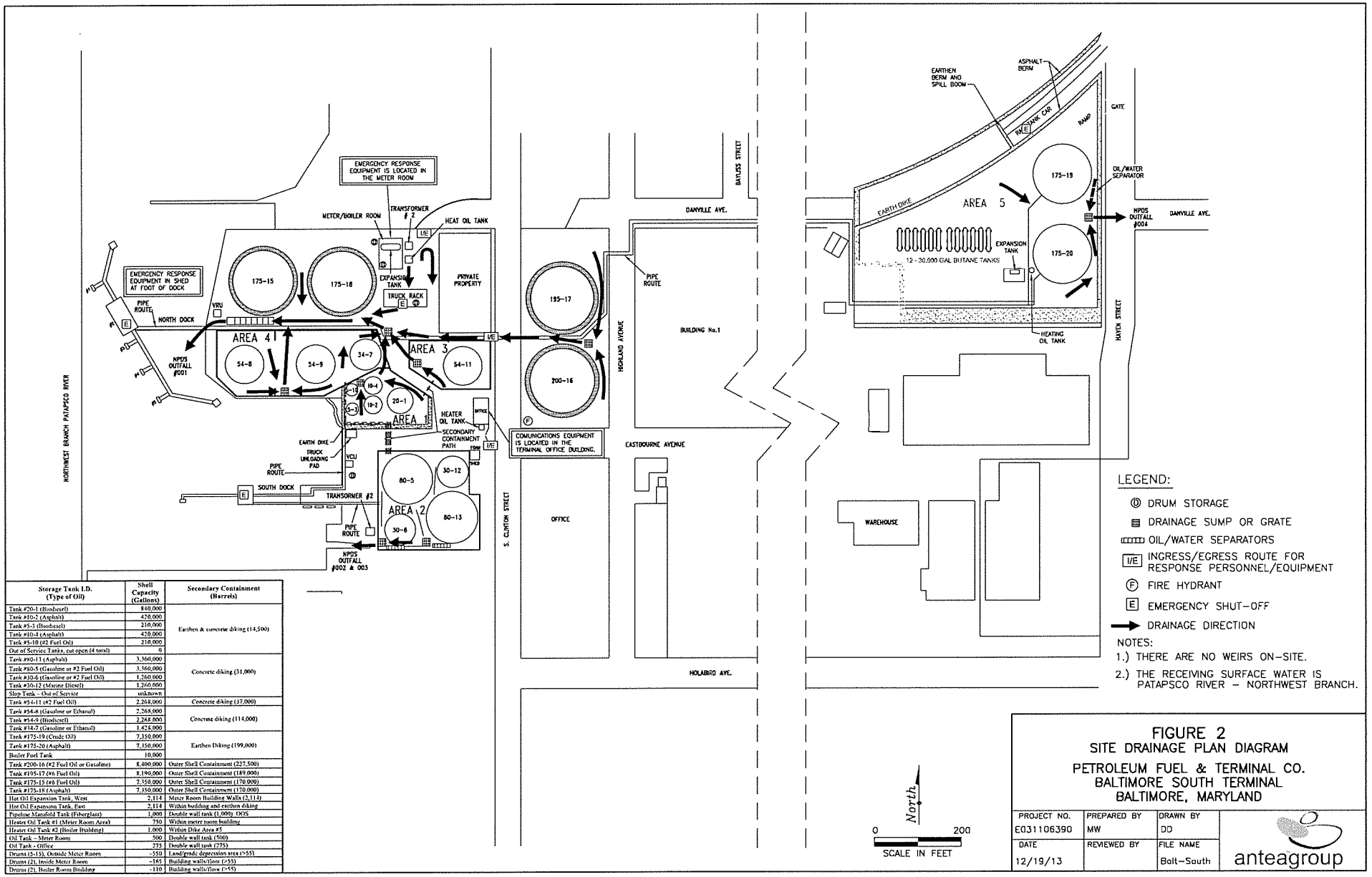
No. ___

No. ___ _____

Figure 1 – Flow Diagram
Petroleum Fuel & Terminal Company



Key: (EP-2) – Emission Point
(EU-2) – Emission Unit



Storage Tank I.D. (Type of Oil)	Shell Capacity (Gallons)	Secondary Containment (Barrels)
Tank #20-1 (Biodiesel)	840,000	Earthen & concrete diking (14,500)
Tank #10-2 (Asphalt)	420,000	
Tank #5-3 (Biodiesel)	210,000	
Tank #10-4 (Asphalt)	420,000	
Tank #5-10 (#2 Fuel Oil)	210,000	
Out of Service Tanks, cut open (4 total)	0	
Tank #80-13 (Asphalt)	3,360,000	Concrete diking (31,000)
Tank #30-5 (Gasoline or #2 Fuel Oil)	3,360,000	
Tank #30-6 (Gasoline or #2 Fuel Oil)	1,260,000	
Tank #30-12 (Marine Diesel)	1,260,000	
Slop Tank - Out of Service	unknown	
Tank #54-11 (#2 Fuel Oil)	2,268,000	Concrete diking (37,000)
Tank #54-8 (Gasoline or Ethanol)	2,268,000	Concrete diking (114,000)
Tank #54-9 (Biodiesel)	2,268,000	
Tank #34-7 (Gasoline or Ethanol)	1,428,000	
Tank #175-19 (Crude Oil)	7,350,000	Earthen Diking (199,000)
Tank #175-20 (Asphalt)	7,350,000	
Boiler Fuel Tank	10,000	
Tank #200-16 (#2 Fuel Oil or Gasoline)	8,400,000	Outer Shell Containment (227,500)
Tank #195-17 (#6 Fuel Oil)	8,190,000	Outer Shell Containment (189,000)
Tank #175-15 (#6 Fuel Oil)	7,350,000	Outer Shell Containment (170,000)
Tank #175-18 (Asphalt)	7,350,000	Outer Shell Containment (170,000)
Hot Oil Expansion Tank, West	2,114	Meter Room Building Walls (2,114)
Hot Oil Expansion Tank, East	2,114	Within building and earthen diking
Pipeline Manifold Tank (Fiberglass)	1,000	Double wall tank (1,000) OOS
Heater Oil Tank #1 (Meter Room Area)	750	Within meter room building
Heater Oil Tank #2 (Boiler Building)	1,000	Within Dike Area #5
Oil Tank - Meter Room	500	Double wall tank (500)
Oil Tank - Office	275	Double wall tank (275)
Drums (5-15), Outside Meter Room	~550	Land/grade depression area (>55)
Drums (2), Inside Meter Room	~165	Building walls/floor (>55)
Drums (2), Boiler Room Building	~110	Building walls/floor (>55)

FIGURE 2
SITE DRAINAGE PLAN DIAGRAM
PETROLEUM FUEL & TERMINAL CO.
BALTIMORE SOUTH TERMINAL
BALTIMORE, MARYLAND

PROJECT NO.	PREPARED BY	DRAWN BY	
E031106390	MW	DD	anteagroup
DATE	REVIEWED BY	FILE NAME	
12/19/13		Balt-South	

PETROLEUM FUEL & TERMINAL COMPANY
a Subsidiary of Apex Oil Company

8235 Forsyth Boulevard – 4th Floor
St. Louis, Missouri 63105

March 31, 2021

Maryland Department of the Environment
Air Quality Compliance Program
1800 Washington Boulevard, Suite 715
Baltimore, MD 21230-1720
Attn: Laramie Daniel, Compliance Program

Re: Petroleum Fuel and Terminal Company
5101 Erdman Avenue, Baltimore, MD 21205
Part 70 Operating Permit No. 24-510-0677

Dear Ms. Daniel:

Enclosed are the Annual Compliance Certifications for CY 2020, as required by our Part 70 Operating Permit.

Please contact me at 314/889-9652, or by e-mail at bsheil@apexoil.com, if we may provide anything further.

Sincerely,

Bernie Sheil

Bernie Sheil
Compliance Manager

enclosures

cc: U.S. EPA Region III, w/att. (via e-mail)
B. Beam, w/enc.

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR FEDERAL OPERATING PERMIT, 40 CFR PART 71

FORM A-COMP - ANNUAL COMPLIANCE CERTIFICATION

INSTRUCTIONS: There are 3 pages to this form. On this page, complete Sections A and B once with respect to the entire annual compliance certification.

A. GENERAL INFORMATION

1. **Identifying Information**

Source or company name: **Petroleum Fuel & Terminal Company**

Mailing address: Street or P.O. Box **5101 Erdman Avenue**

City: **Baltimore** State: **Maryland** ZIP: **21205**

Contact person: **Bob Beam** Title: **Terminal Manager**

Telephone: **(410) 327-3808** Ext. _____ Part 71 permit no.: **24-510-0677**

2. **Reporting Period**

The reporting period should be the one-year, or shorter, period required by your part 71 permit. It will be assumed that the beginning date begins and ends at midnight (12 a.m.), unless you specify otherwise.

Period beginning: **01/01/20** Period ending: **12/31/20**

B. CERTIFICATION OF TRUTH, ACCURACY, AND COMPLETENESS

1. **RESPONSIBLE OFFICIAL:** Identify the responsible official and provide contact information.

Name: (Last) Sheil (First) Bernie (Middle) J

Title Compliance Manager

Street or Post Office Box 8235 Forsyth Blvd., Suite 400

City Clayton State MO ZIP 63105 - _____

Telephone (314) 889 - 9652 Ext. _____ Facsimile (314) 889 - 0220

2. **Certification of Truth, Accuracy and Completeness.** The Responsible Official must sign this statement after the form is completed for each applicable requirement.

I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in these documents are true, accurate, and complete.

Name (signed) Bernie Sheil

Name (printed or typed) Bernie Sheil Date: 03 / 31 / 21

INSTRUCTIONS: Use this page to describe the compliance status of each permit term or condition. This page may be used to provide information on two different permit terms or conditions. Copy this page as many times as necessary to cover all permit terms and conditions.

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s):	Compliance status during reporting period
A. **COMAR 26.11.09.05A(2)** – The Permittee may not cause or permit the discharge of emissions from any fuel burning equipment, other than water in an uncombined form, which is visible to human observers. **COMAR 26.11.09.05A(3)** – Exceptions. "Section A(2) does not apply to emissions during load changing, soot blowing, start-up or occasional cleaning of control equipment if: 1. The visible emissions are not greater than 40 percent opacity; and 2. The visible emissions do not occur for more than 6 consecutive minutes in any 60-minute period." B. **COMAR 26.11.09.07A(2)(b)** – The Permittee may not burn, sell or make available for sale any distillate fuel with a sulfur content by weight in excess of 0.3 percent.	EU-1: No. 2 fuel oil-fired boiler rated at 4.6 million BTU per hour (EP-1). EU-1: No. 2 fuel oil-fired boiler rated at 2.0 million BTU per hour (EP-2).	____ Intermittent __X__ Continuous

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

A. No testing required. The Company operates and maintains the boilers in a manner to prevent visible emissions. The records of maintenance performed on the boilers to prevent visible emissions are retained at the facility. There were no excess emissions or deviations to report in 2006. Monitoring strategy provides intermittent data.

B. No testing required. The Company obtains certification from the fuel supplier that shows the fuel oil is in compliance with the content requirement. These certifications are retained at the facility for at least five years and are available to the Department upon request. Monitoring strategy provides intermittent data.

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s):	Compliance status during reporting period
A. VOC RACT (1) COMAR 26.11.13.03A(1)(a) which requires the tank's gauging and sampling devices be gas tight except when in use. (2) COMAR 26.11.13.03A(1)(b) which requires the tank is equipped with one of the following properly installed, operating and well-maintained emission control systems: a. An internal floating roof equipped with a primary and secondary seal, b. A pressure tank system that maintains a pressure at all times to prevent a loss of vapors to the atmosphere, or c. A vapor control system capable of collecting the vapors from the tank and disposing of these vapors to prevent their emission to the atmosphere. (3) COMAR 26.11.13.03A(2) which requires the Permittee to meet the following seal requirements: a. There shall be no visible holes, tears or other openings in the seal or seal fabric. b. Each seal shall be intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall. c. The accumulated area of the gaps between the secondary seal and the tank wall, and between the seal and other obstructions inside the tank (that is, ladder, roof supports, gauging and sampling devices), that are greater than 1/8 inch in width may not exceed 1.0 square inch per foot of tank diameter. B. New Source Performance Standards (NSPS) Subpart Kb 40 CFR 60.112b(a)(1) which requires the Permittee to equip the storage vessel with a fixed roof in combination with an internal floating roof meeting the specifications listed in 40 CFR 60.112b(a)(1)(i) through (ix).	EU-2: 2,982,000 gallon internal floating roof storage tank with primary and secondary seals for gasoline or ethanol storage (Tank-103).	____ Intermittent _X_ Continuous

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

A. Petroleum Fuel & Terminal Company (PF&T) determines the total seal gap during an internal inspection of the tank by summing the areas of the individual gaps. The lengths and widths of the gaps are measured by passing a 1/8 inch diameter probe between the seal and the tank wall and other obstructions in the tank.

PF&T performs an annual visual inspection of the tank's gauging and sampling devices. If the visual inspection shows non-compliance with the gas-tight requirement, repairs are made to return the gauging and sampling devices to a gas-tight condition.

Results of all visual inspections of the tank's gauging and sampling devices are recorded. Also recorded are all repairs or replacements, including the date and the action taken. Records are kept on-site for at least five years. There are no reporting requirements.

B. Petroleum Fuel & Terminal Company (PF&T) determines the total seal gap during an internal inspection of the tank by summing the areas of the individual gaps. The lengths and widths of the gaps are measured by passing a 1/8 inch diameter probe between the seal and the tank wall and other obstructions in the tank.

PF&T visually inspects the internal floating roof, the primary seal and the secondary seal prior to filling or refilling the storage vessel with gasoline. If there are holes, tears or other openings in the primary seal, the secondary seal or the seal fabric, or defects in the internal floating roof, or both, PF&T repairs the items before filling or refilling the storage vessel.

PF&T also visually inspects the storage vessel in accordance with 40 CFR 60.113b(a)(2), which requires an inspection through the manholes and roof hatches at least once every 12 months after the initial fill, or 40 CFR 60.113b(a)(4), which requires an inspection of the internal floating roof, the primary seal, the secondary seal, gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied or degassed, at intervals no greater than five years.

PF&T keeps a record of each inspection performed as required by 40 CFR 60.113b(a)(1) and 40 CFR 60.113b(a)(3). Each record identifies the storage vessel and contains the date of inspection and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings). PF&T also records all repairs or replacement of seals, including the date and the action taken. These records are kept on site for at least five years.

PF&T maintains readily accessible records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel. The records are kept on site for the life of the storage vessel. PF&T also maintains records of the Volatile Organic Liquid (VOL) stored, the period of storage and the maximum true vapor pressure of the VOL during the respective storage period. The maximum true vapor pressure is determined using the procedures listed in 40 CFR 60.116b(e). All records are kept on site for at least five years.

PF&T notifies the Administrator in writing at least 30 days prior to the filling or refilling of the storage vessel when an inspection is required. If the inspection is not planned and PF&T could not have known about the inspection 30 days in advance or refilling the tank, PF&T notifies the Administrator at least 7 days prior to the refilling of the storage vessel. Notification is made by telephone, immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

After each inspection required by 40 CFR 60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in 40 CFR 60.113b(a)(3)(ii), PF&T furnishes the Administrator with a report within 30 days of the inspection. The report identifies the storage vessel and the reason it did not meet the specifications of 40 CFR 60.112b(a)(1) or 40 CFR 60.113b(a)(3), and lists each repair made.

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s):	Compliance status during reporting period
B. COMAR 26.11.13.03A(1)(a) and (b) which requires the Permittee to meet the following equipment requirements: 1. Each tank's gauging and sampling devices shall be gas tight except when in use. 2. Each tank shall be equipped with one of the following properly installed, operating and well-maintained emission control systems: a. An internal floating roof equipped with a primary and secondary seal, b. A pressure tank system that maintains a pressure at all times to prevent a loss of vapors to the atmosphere, or c. A vapor control system capable of collecting the vapors from the tank and disposing of these vapors to prevent their emission to the atmosphere. C. COMAR 26.11.13.03A(2) which requires the Permittee to meet the following seal requirements: 1. There shall be no visible holes, tears or other openings in the seal or seal fabric. 2. Each seal shall be intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall. 3. The accumulated area of the gaps between the secondary seal and the tank wall, and between the seal and other obstructions inside the tank (that is, ladder, roof supports, gauging and sampling devices), that are greater than 1/8 inch in width may not exceed 1.0 square inch per foot of tank diameter.	EU-3: 2,982,000 gallon internal floating roof storage tank with a mechanical shoe seal for gasoline storage (Tank-104). EU-3: 2,982,000 gallon internal floating roof storage tank with a mechanical shoe seal for gasoline storage (Tank-105). EU-3: 892,500 gallon internal floating roof storage tank with primary and secondary seals for gasoline storage (Tank-110). EU-5: 5,000,000 gallon internal floating roof storage tank with a mechanical shoe seal for gasoline storage (Tank-108). EU-5: 4,500,000 gallon internal floating roof storage tank with a mechanical shoe seal for gasoline storage (Tank-109).	___ Intermittent _X_ Continuous

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

C. No testing requirements. Petroleum Fuel & Terminal Company performs an annual visual inspection of the gauging and sampling devices for each tank. If there is any non-compliance with the gas-tight requirement, repairs are made to return the gauging and sampling devices to a gas-tight condition. Records of visual inspections and all repairs and replacements, including the date and the action taken, are kept on-site for at least five years. There are no reporting requirements.

D. Petroleum Fuel & Terminal Company determines the total seal gap during an internal inspection of a tank by summing the areas of the individual gaps. The lengths and widths of the gaps are measured by passing a 1/8 inch diameter probe between the seal and the tank wall and other obstructions in the tank. An annual visual inspection of the floating roof and seals of each tank is performed from the roof hatch. The company conducts an internal inspection of each tank and its seals within 10 years of the date of the last internal inspection. Records of these inspections and all repairs and replacement of seals, including the date and the action taken, are kept on-site for at least five years. The Department is notified of an intended internal tank inspection at least 15 days before the proposed inspection date.

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s):	Compliance status during reporting period
A. **COMAR 26.11.13.04A(1)(a)** which requires the Permittee to equip the loading rack with a vapor collection system designed to collect all vapors and control at least 90 percent of all vapors from the loading rack. B. **40 CFR 60.502(a) and (b)** and **COMAR 26.11.13.04A(1)(a)(i):** The Permittee shall equip the loading rack with a vapor collection system designed to collect all vapors and control at least 90 percent of all vapors from the loading rack, and reduce VOC emissions from the loading rack to less than 35 milligrams of VOC per liter of gasoline loaded. Note: The Permittee has accepted a limit of 10 mg per liter of gasoline loaded in order to be recognized as a synthetic minor source for MACT requirements under 40 CFR Part 63 Subpart R. C. **COMAR 26.11.13.04A(1)(c)** which requires the Permittee to equip the loading rack with a top submerged or bottom loading system. D. **40 CFR 60.502(e)** and **COMAR 26.11.13.05A** which requires that loadings of liquid product be limited to vapor-tight gasoline tanker trucks. E. **40 CFR 60.502(f) and (g)** which requires the Permittee to act to assure that loadings of gasoline tanker trucks are made only into tanks equipped with vapor collection equipment that is compatible with the terminal's vapor collection system, and that the terminal's and the tanker truck's vapor collection systems are connected during each loading of a gasoline tanker truck. F. **40 CFR 60.502(h) and (i)** and **COMAR 26.11.13.04A(1)(b)(i) and (ii)** which requires the Permittee to equip the loading rack with vapor collection and liquid loading equipment designed and operated to: 1. Prevent gauge pressure from exceeding 4,500 pascals during product loading and assure that no pressure-vacuum vent in the bulk gasoline terminal's vapor collection system shall begin to open at a system pressure less than 4,500 pascals (450 mm of water); 2. Prevent gasoline tanker truck pressure from exceeding 18 inches of water, and vacuum from exceeding 6 inches of water; and 3. Prevent gasoline leaks in the system during loading of gasoline tanker trucks.	Three-Bay (#1, #2, and #35) Loading Rack for Gasoline with John Zink Carbon Adsorption/Absorption Recovery Unit	____ Intermittent __X__ Continuous

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

A. & B. Performance tests to determine mass emission rate compliance are conducted once every five years. The tests are conducted in accordance with the test methods and procedures listed in 40 CFR 60.503(b) and (c) and Method 1009 of MDE's Technical Memorandum 91-01. The Permittee is in compliance with the CAM plan submitted with the Part 70 permit application. Records of all mass emission rate performance tests, and records of maintenance and repair of the vapor recovery unit, are kept on-site for at least 5 years. The Department is notified at least 15 days before the scheduled test date of the vapor recovery unit, including a copy of the test protocol. The test results are then submitted to the Department within 60 days after the test date. Vapor tightness certifications are spot-checked at the rack at least eight times per week. If less than eight trucks are loaded in any week, all trucks are checked to ensure that they have current vapor tightness certifications.

C. No testing requirements, no monitoring requirements, no record keeping requirements and no reporting requirements. The loading rack is equipped with a bottom loading system.

D. No testing requirements.

The Permittee assures that loadings of liquid product into gasoline tank trucks are limited to vapor-tight gasoline tank trucks using the following procedures:

1. The Permittee obtains the vapor tightness documentation as specified in 40 CFR 60.505(b) and COMAR 26.11.13.05A for each gasoline tank truck which is to be loaded at the facility.

2. The Permittee records the tank identification number as each gasoline tank truck is loaded.

3. The Permittee cross-checks each tank identification number with the file of tank vapor tightness documentation within 2 weeks after the corresponding tank is loaded.

4. The Permittee takes steps to assure that any nonvapor-tight gasoline tank trucks will not be reloaded at the facility until vapor tightness documentation for the tanks is obtained.

The Permittee keeps records of each tank truck's vapor tightness documentation on-site for at least five years. This documentation file is updated at least once per year to reflect current test results as determined by EPA Reference Method 27. This documentation includes, as a minimum, the following information:

1. Test title: Gasoline Delivery Tank Pressure Test – EPA Reference Method 27.
2. Tank owner and address.
3. Tank identification number.
4. Testing location.
5. Date of test.

The Permittee notifies the owner or operator of each nonvapor-tight gasoline tank truck loaded at the facility within three weeks after the loading has occurred.

E. No testing requirements.

The Permittee operates and maintains an interlock system that prevents trucks from loading until the trucks are connected to the vapor collection system and the vapor control/recovery unit is operating.

No record keeping requirements,

No reporting requirements.

F. No testing requirements.

Pressure and leak monitoring is conducted as follows:

1. Each calendar month, the Permittee checks the back pressure in the vapor collection system during the loading of tank trucks. The system is checked during a period of maximum flow and at a point as close to a tank truck's vapor adapter as possible.
2. Each calendar month the vapor collection system, the vapor processing system and each loading rack handling gasoline is inspected during the loading of gasoline tank trucks for total organic compounds, liquid or vapor leaks. Detection methods used are sight, sound and smell.

The following records are kept on-site for at least five years:

1. The Permittee keeps monthly records of the back pressure reading in the vapor collection system during the loading of tank trucks.
2. The Permittee keeps a record of the monthly leak inspection on-site for at least five years. Inspection records include, as a minimum, the following information
    a. Date of inspection
    b. Findings
    c. Leak determination method
    d. Corrective action
    e. Inspector name and signature

No reporting requirement.

C. COMPLIANCE STATUS OF EACH PERMIT TERM OR CONDITION

Identify (Describe and Cross-reference) the Permit Term or Condition	Unit ID(s):	Compliance status during reporting period
A. Facility wide HAP emissions shall not exceed 10 tons for any single HAP and 25 tons for the total combination of all HAPs in any rolling 12-month period. B. Annual gasoline throughput shall not exceed 273,000,000 gallons in any rolling twelve-month period. C. VOC emissions from the gasoline loading operations that are controlled with a John Zink Vapor Recovery Unit shall not exceed 10 milligrams per liter of gasoline loaded.	EU: General Facility	____ Intermittent _X_ Continuous

D. METHODS USED TO DETERMINE COMPLIANCE

Describe all methods or means you used to determine compliance with the permit term and condition described in section C.

A. & B. No testing requirements.

No monitoring requirements.

The Permittee maintains for at least five years monthly records of gasoline throughput.

The Permittee submits facility-wide HAP emissions and gasoline throughput totals to the Department as part of the Annual Emissions Certification due April 1st of each year.

E. DEVIATIONS FROM PERMIT TERMS AND CONDITIONS

The table below is appropriate for reporting deviations from permit terms or conditions that have been previously reported in a six-month monitoring report (assuming that the most recent six-month monitoring report and the annual compliance certification both end on the same date). Copy this page as many times as necessary to include all such deviations. Note that you may cross-reference deviations already reported in the six-month report in the first column of the table and leave the other columns blank, however such cross-reference must be clear and unambiguous with respect to the six-month monitoring report and the individual deviation being cross-referenced. In addition, in the first column, whether you cross-reference deviations or not, you must indicate whether each deviation is a "possible exception to compliance." If a deviation is not a possible exception to compliance, please briefly explain why it is allowed by the permit and cite the relevant permit term that provides the excuse. In addition, if there are deviations that have never been reported in writing to the permitting authority, more information than required by this table will be needed. In such cases, you must include information consistent with Section D of the six-month monitoring report form, and indicate whether it is a "possible exception to compliance."

Permit Term for Which There is a Deviation & Whether the Deviation is a "Possible Exception to Compliance"	Emission Units (unit IDs)	Deviation Time Periods Date (mo/day/yr) Time (hr/min) Time Zone	Written Deviation Report Submittal Date (mo/dy/year)
No Deviations to report.		Beginning ___/___/___ ___:___ ___ Ending ___/___/___ ___:___ ___	___/___/___
		Beginning ___/___/___ ___:___ ___ Ending ___/___/___ ___:___ ___	___/___/___
		Beginning ___/___/___ ___:___ ___ Ending ___/___/___ ___:___ ___	___/___/___
		Beginning ___/___/___ ___:___ ___ Ending ___/___/___ ___:___ ___	___/___/___
		Beginning ___/___/___ ___:___ ___ Ending ___/___/___ ___:___ ___	___/___/___
		Beginning ___/___/___ ___:___ ___ Ending ___/___/___ ___:___ ___	___/___/___

Petroleum Fuel & Terminal Company
5101 Erdman Ave., Baltimore, MD 21205
Part 70 Operating Permit No. 24-510-0677

CERTIFICATION OF PLANT-WIDE CONDITIONS

(SECTION III OF PART 70 OPERATING PERMIT)

Indicate compliance with the following requirements of Section III of your Part 70 Operating Permit in the space provided below:

1. Particulate Matter from Construction and Demolition

   There was no construction or demolition to cause particulate matter.

2. Open Burning

   There was no open burning at the facility.

3. Air Pollution Episode

   N/A

4. Report of Excess Emissions and Deviations
   (All deviations from permit requirements should be clearly identified in quarterly monitoring reports.)

   No excess emissions or deviations.

5. Accidental Release Provisions (if applicable)

   N/A

6. General Testing Requirements

   No testing conducted.

7. Emissions Test Methods

   Emission standards and limitations were determined by the test methods designated and approved by the Department.

8. Emission Certification Report

   Report was submitted on 03/31/21.

9. Compliance Certification Report

   Report was submitted on 03/31/21.

10. Certification by Responsible Official

    This report was certified by a responsible official of Petroleum Fuel & Terminal Company.

11. Sampling and Emissions Testing Record Keeping

    All records of all monitoring data and support information that supports the compliance certification are kept at the facility for a period of five years.

12. General Record Keeping

    N/A

13. General Conformity (N/A except for federal facilities)

    N/A

14. Asbestos Provisions (if applicable)

    N/A

15. Ozone Depleting Regulations (if applicable)

    N/A

16. Acid Rain Permit (if applicable)

    N/A

VI .Application Completeness Checklist

The purpose of this part is to list the information required to achieve a Part 70 application shield.

Cover Page

(X) Name and address of owner or operator, including telephone number.

(X) Name and address of facility, including the plant manager's name and telephone number.

(X) A 24-hour emergency telephone number for air pollution matters.

Section 1 CERTIFICATION STATEMENTS

(X) The certification statement completed and signed by a responsible official.

Section 2 FACILITY DESCRIPTION SUMMARY

(X) A brief description of each of the source's process(es), including all applicable SIC codes and end products.

(X) Flow diagrams indicating all emissions units, emission points, and control devices.

(X) A plot plan of the entire facility.

(X) Emission Certification Report.

(X) General Emissions Information.

Section 3 EMISSIONS UNIT DESCRIPTIONS –

This section must be completed for each emissions unit.

Part A

(X) Emissions unit number.

(X) Detailed description of unit, including all emission points.

(X) Federally enforceable limit(s) on the operating schedule.

(X) Fuel consumption information for any emissions unit that consumes fuel including the type of fuel, percent sulfur, and annual usage of fuel.

Part B

(X) A citation and description of each federally enforceable requirement, including all emission standards, for each emissions unit.

(X) A statement of compliance demonstration techniques for each requirement, including a description of monitoring, record keeping, reporting requirements, and test methods.

(X) The frequency of submittal of the compliance demonstration during the permit term.

Part C

(X) Emissions unit number.

(X) Permit to construct number.

(X) Emissions point number(s).

(X) Date(s) the permit to construct was issued.

(X) Condition number(s) as indicated on the permit to construct.

(X) Description of the permit condition(s) and the reason(s) why they are believed to be obsolete, extraneous, or insignificant.

Part D

(X) Description of all alternate operating scenarios that apply to an emissions unit.

(X) Number assigned to each scenario.

(X) Emissions unit number.

(X) Description of the operating parameters for the emissions unit and other information which describes the how the operation of the unit will change under the different scenario.

Part E

(X) A citation and description of each federally enforceable requirement triggered by an operating scenario, including all emission standards, for each emissions unit.

(X) As an attachment, the date and results of the most recent compliance demonstration for each emission standard and/or emissions certification report with relevant supporting documentation.

(X) A statement of compliance demonstration techniques for each requirement, including a description of monitoring, record keeping, reporting requirements, and test methods.

(X) The frequency of submittal of the compliance demonstration during the permit term.

Section 4 CONTROL EQUIPMENT

(X) The type of each piece of air pollution control equipment

(X) The capture and control efficiencies of the control equipment.

Section 5 SUMMARY SHEET OF POTENTIAL EMISSIONS

(X) Quantity of potential emissions for criteria pollutants and HAPs emitted in tons per year for each emissions unit.

(X) Fugitive emission estimations for the entire facility for criteria pollutants and HAPs emitted in tons per year.

(X) Basis for all emission calculations.

Section 6 AN EXPLANATION OF PROPOSED EXEMPTIONS FROM OTHERWISE APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS

(X) An explanation of the proposed exemption.

Section 7 COMPLIANCE SCHEDULE FOR NONCOMPLYING EMISSIONS UNITS

( ) Identification of emissions unit(s) not in compliance, including the requirement being violated and the effective compliance date.

( ) Detailed description of methods to be used to achieve compliance.

( ) A schedule of remedial measures, including an enforceable sequence of actions with milestones.

Attachment

(X) Checklist of Insignificant Activities

(X) CAM Plan (If Applicable)

Attachment B
Table of Contents

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Baltimore South Tank 80-5
City:	
State:	
Company:	
Type of Tank:	Internal Floating Roof Tank
Description:	

Tank Dimensions

Diameter (ft):	120.00
Volume (gallons):	3,360,000.00
Turnovers:	24.00
Self Supp. Roof? (y/n):	Y
No. of Columns:	0.00
Eff. Col. Diam. (ft):	0.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Mechanical Shoe
Secondary Seal	Rim-mounted

Deck Characteristics

Deck Fitting Category:	Detail
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Bolted Cover, Gasketed	1
Roof Leg or Hanger Well/Adjustable	41
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Baltimore, Maryland (Avg Atmospheric Pressure = 14.67 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Baltimore South Tank 80-5 - Internal Floating Roof Tank

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Gasoline (RVP 15.0)	All	56.82	51.74	61.91	55.11	7.6856	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Baltimore South Tank 80-5 - Internal Floating Roof Tank

Annual Emission Calcaulations	
Rim Seal Losses (lb):	792.1170
Seal Factor A (lb-mole/ft-yr):	0.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.4000
Value of Vapor Pressure Function:	0.1834
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	7.6856
Tank Diameter (ft):	120.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	126.7392
Number of Columns:	0.0000
Effective Column Diameter (ft):	0.0000
Annual Net Throughput (gal/yr.):	80,640,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	5.6000
Tank Diameter (ft):	120.0000
Deck Fitting Losses (lb):	3,812.0630
Value of Vapor Pressure Function:	0.1834
Vapor Molecular Weight (lb/lb-mole):	60.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	346.5000
Deck Seam Losses (lb):	0.0000
Deck Seam Length (ft):	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000
Tank Diameter (ft):	120.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000
Product Factor:	1.0000
Total Losses (lb):	4,730.9192

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	17.6026
Automatic Gauge Float Well/Bolted Cover, Gasketed	1	2.80	0.00	0.00	30.8045
Roof Leg or Hanger Well/Adjustable	41	7.90	0.00	0.00	3,563.4263
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	132.0195
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	68.2101

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Baltimore South Tank 80-5 - Internal Floating Roof Tank

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 15.0)	792.12	126.74	3,812.06	0.00	4,730.92

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Baltimore South Tank 30-6
City:	
State:	
Company:	
Type of Tank:	Internal Floating Roof Tank
Description:	

Tank Dimensions

Diameter (ft):	73.00
Volume (gallons):	1,260,000.00
Turnovers:	24.00
Self Supp. Roof? (y/n):	Y
No. of Columns:	0.00
Eff. Col. Diam. (ft):	0.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Mechanical Shoe
Secondary Seal	Rim-mounted

Deck Characteristics

Deck Fitting Category:	Detail
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Bolted Cover, Gasketed	1
Roof Leg or Hanger Well/Adjustable	22
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Baltimore, Maryland (Avg Atmospheric Pressure = 14.67 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Baltimore South Tank 30-6 - Internal Floating Roof Tank

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Gasoline (RVP 15.0)	All	56.82	51.74	61.91	55.11	7.6856	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Baltimore South Tank 30-6 - Internal Floating Roof Tank

Annual Emission Calcaulations	
Rim Seal Losses (lb):	481.8712
Seal Factor A (lb-mole/ft-yr):	0.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.4000
Value of Vapor Pressure Function:	0.1834
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	7.6856
Tank Diameter (ft):	73.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	78.1269
Number of Columns:	0.0000
Effective Column Diameter (ft):	0.0000
Annual Net Throughput (gal/yr.):	30,240,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	5.6000
Tank Diameter (ft):	73.0000
Deck Fitting Losses (lb):	2,160.7191
Value of Vapor Pressure Function:	0.1834
Vapor Molecular Weight (lb/lb-mole):	60.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	196.4000
Deck Seam Losses (lb):	0.0000
Deck Seam Length (ft):	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000
Tank Diameter (ft):	73.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000
Product Factor:	1.0000
Total Losses (lb):	2,720.7172

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	17.6026
Automatic Gauge Float Well/Bolted Cover, Gasketed	1	2.80	0.00	0.00	30.8045
Roof Leg or Hanger Well/Adjustable	22	7.90	0.00	0.00	1,912.0824
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	132.0195
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	68.2101

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Baltimore South Tank 30-6 - Internal Floating Roof Tank

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 15.0)	481.87	78.13	2,160.72	0.00	2,720.72

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Baltimore South Tank 34-7
City:	
State:	
Company:	
Type of Tank:	Internal Floating Roof Tank
Description:	

Tank Dimensions

Diameter (ft):	72.00
Volume (gallons):	1,470,000.00
Turnovers:	24.00
Self Supp. Roof? (y/n):	Y
No. of Columns:	0.00
Eff. Col. Diam. (ft):	0.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Mechanical Shoe
Secondary Seal	None

Deck Characteristics

Deck Fitting Category:	Detail
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Bolted Cover, Gasketed	1
Roof Leg or Hanger Well/Adjustable	21
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Baltimore, Maryland (Avg Atmospheric Pressure = 14.67 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Baltimore South Tank 34-7 - Internal Floating Roof Tank

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Gasoline (RVP 15.0)	All	56.82	51.74	61.91	55.11	7.6856	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Baltimore South Tank 34-7 - Internal Floating Roof Tank

Annual Emission Calcaulations	
Rim Seal Losses (lb):	4,594.2785
Seal Factor A (lb-mole/ft-yr):	5.8000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000
Value of Vapor Pressure Function:	0.1834
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	7.6856
Tank Diameter (ft):	72.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	92.4140
Number of Columns:	0.0000
Effective Column Diameter (ft):	0.0000
Annual Net Throughput (gal/yr.):	35,280,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	5.6000
Tank Diameter (ft):	72.0000
Deck Fitting Losses (lb):	2,073.8063
Value of Vapor Pressure Function:	0.1834
Vapor Molecular Weight (lb/lb-mole):	60.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	188.5000
Deck Seam Losses (lb):	0.0000
Deck Seam Length (ft):	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000
Tank Diameter (ft):	72.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000
Product Factor:	1.0000
Total Losses (lb):	6,760.4988

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	17.6026
Automatic Gauge Float Well/Bolted Cover, Gasketed	1	2.80	0.00	0.00	30.8045
Roof Leg or Hanger Well/Adjustable	21	7.90	0.00	0.00	1,825.1695
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	132.0195
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	68.2101

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Baltimore South Tank 34-7 - Internal Floating Roof Tank

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 15.0)	4,594.28	92.41	2,073.81	0.00	6,760.50

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Baltimore South Tank 54-8
City:	
State:	
Company:	
Type of Tank:	Internal Floating Roof Tank
Description:	

Tank Dimensions

Diameter (ft):	90.00
Volume (gallons):	2,268,000.00
Turnovers:	24.00
Self Supp. Roof? (y/n):	Y
No. of Columns:	0.00
Eff. Col. Diam. (ft):	0.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Mechanical Shoe
Secondary Seal	None

Deck Characteristics

Deck Fitting Category:	Detail
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Bolted Cover, Gasketed	1
Roof Leg or Hanger Well/Adjustable	28
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Baltimore, Maryland (Avg Atmospheric Pressure = 14.67 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Baltimore South Tank 54-8 - Internal Floating Roof Tank

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Gasoline (RVP 15.0)	All	56.82	51.74	61.91	55.11	7.6856	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Baltimore South Tank 54-8 - Internal Floating Roof Tank

Annual Emission Calcaulations	
Rim Seal Losses (lb):	5,742.8481
Seal Factor A (lb-mole/ft-yr):	5.8000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000
Value of Vapor Pressure Function:	0.1834
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	7.6856
Tank Diameter (ft):	90.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	114.0653
Number of Columns:	0.0000
Effective Column Diameter (ft):	0.0000
Annual Net Throughput (gal/yr.):	54,432,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	5.6000
Tank Diameter (ft):	90.0000
Deck Fitting Losses (lb):	2,682.1961
Value of Vapor Pressure Function:	0.1834
Vapor Molecular Weight (lb/lb-mole):	60.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	243.8000
Deck Seam Losses (lb):	0.0000
Deck Seam Length (ft):	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000
Tank Diameter (ft):	90.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000
Product Factor:	1.0000
Total Losses (lb):	8,539.1095

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	17.6026
Automatic Gauge Float Well/Bolted Cover, Gasketed	1	2.80	0.00	0.00	30.8045
Roof Leg or Hanger Well/Adjustable	28	7.90	0.00	0.00	2,433.5594
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	132.0195
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	68.2101

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Baltimore South Tank 54-8 - Internal Floating Roof Tank

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 15.0)	5,742.85	114.07	2,682.20	0.00	8,539.11

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Baltimore South Tank 54-9
City:	
State:	
Company:	
Type of Tank:	Internal Floating Roof Tank
Description:	

Tank Dimensions

Diameter (ft):	90.00
Volume (gallons):	2,268,000.00
Turnovers:	24.00
Self Supp. Roof? (y/n):	Y
No. of Columns:	0.00
Eff. Col. Diam. (ft):	0.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Mechanical Shoe
Secondary Seal	None

Deck Characteristics

Deck Fitting Category:	Detail
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Bolted Cover, Gasketed	1
Roof Leg or Hanger Well/Adjustable	28
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Baltimore, Maryland (Avg Atmospheric Pressure = 14.67 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Baltimore South Tank 54-9 - Internal Floating Roof Tank

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Gasoline (RVP 15.0)	All	56.82	51.74	61.91	55.11	7.6856	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Baltimore South Tank 54-9 - Internal Floating Roof Tank

Annual Emission Calcaulations	
Rim Seal Losses (lb):	5,742.8481
Seal Factor A (lb-mole/ft-yr):	5.8000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000
Value of Vapor Pressure Function:	0.1834
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	7.6856
Tank Diameter (ft):	90.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	114.0653
Number of Columns:	0.0000
Effective Column Diameter (ft):	0.0000
Annual Net Throughput (gal/yr.):	54,432,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	5.6000
Tank Diameter (ft):	90.0000
Deck Fitting Losses (lb):	2,682.1961
Value of Vapor Pressure Function:	0.1834
Vapor Molecular Weight (lb/lb-mole):	60.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	243.8000
Deck Seam Losses (lb):	0.0000
Deck Seam Length (ft):	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000
Tank Diameter (ft):	90.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000
Product Factor:	1.0000
Total Losses (lb):	8,539.1095

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	17.6026
Automatic Gauge Float Well/Bolted Cover, Gasketed	1	2.80	0.00	0.00	30.8045
Roof Leg or Hanger Well/Adjustable	28	7.90	0.00	0.00	2,433.5594
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	132.0195
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	68.2101

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Baltimore South Tank 54-9 - Internal Floating Roof Tank

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 15.0)	5,742.85	114.07	2,682.20	0.00	8,539.11

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Baltimore South Tank 200-16
City:	
State:	
Company:	
Type of Tank:	Internal Floating Roof Tank
Description:	

Tank Dimensions

Diameter (ft):	150.00
Volume (gallons):	8,400,000.00
Turnovers:	24.00
Self Supp. Roof? (y/n):	Y
No. of Columns:	0.00
Eff. Col. Diam. (ft):	0.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Vapor-mounted
Secondary Seal	Rim-mounted

Deck Characteristics

Deck Fitting Category:	Detail
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Bolted Cover, Gasketed	1
Roof Leg or Hanger Well/Adjustable	58
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Baltimore, Maryland (Avg Atmospheric Pressure = 14.67 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Baltimore South Tank 200-16 - Internal Floating Roof Tank

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Gasoline (RVP 15.0)	All	56.82	51.74	61.91	55.11	7.6856	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Baltimore South Tank 200-16 - Internal Floating Roof Tank

Annual Emission Calcaulations	
Rim Seal Losses (lb):	3,630.5362
Seal Factor A (lb-mole/ft-yr):	2.2000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.0030
Value of Vapor Pressure Function:	0.1834
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	7.6856
Tank Diameter (ft):	150.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	253.4784
Number of Columns:	0.0000
Effective Column Diameter (ft):	0.0000
Annual Net Throughput (gal/yr.):	201,600,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	5.6000
Tank Diameter (ft):	150.0000
Deck Fitting Losses (lb):	5,289.5812
Value of Vapor Pressure Function:	0.1834
Vapor Molecular Weight (lb/lb-mole):	60.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	480.8000
Deck Seam Losses (lb):	0.0000
Deck Seam Length (ft):	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000
Tank Diameter (ft):	150.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000
Product Factor:	1.0000
Total Losses (lb):	9,173.5958

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	17.6026
Automatic Gauge Float Well/Bolted Cover, Gasketed	1	2.80	0.00	0.00	30.8045
Roof Leg or Hanger Well/Adjustable	58	7.90	0.00	0.00	5,040.9445
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	132.0195
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	68.2101

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Baltimore South Tank 200-16 - Internal Floating Roof Tank

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 15.0)	3,630.54	253.48	5,289.58	0.00	9,173.60

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Baltimore South Tank 195-17
City:	
State:	
Company:	
Type of Tank:	Internal Floating Roof Tank
Description:	

Tank Dimensions

Diameter (ft):	145.00
Volume (gallons):	7,980,000.00
Turnovers:	24.00
Self Supp. Roof? (y/n):	Y
No. of Columns:	0.00
Eff. Col. Diam. (ft):	0.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Mechanical Shoe
Secondary Seal	Rim-mounted

Deck Characteristics

Deck Fitting Category:	Detail
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Bolted Cover, Gasketed	1
Roof Leg or Hanger Well/Adjustable	55
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Baltimore, Maryland (Avg Atmospheric Pressure = 14.67 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Baltimore South Tank 195-17 - Internal Floating Roof Tank

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Gasoline (RVP 15.0)	All	56.82	51.74	61.91	55.11	7.6856	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Baltimore South Tank 195-17 - Internal Floating Roof Tank

Annual Emission Calcaulations	
Rim Seal Losses (lb):	957.1414
Seal Factor A (lb-mole/ft-yr):	0.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.4000
Value of Vapor Pressure Function:	0.1834
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	7.6856
Tank Diameter (ft):	145.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000
Product Factor:	1.0000
Withdrawal Losses (lb):	249.1081
Number of Columns:	0.0000
Effective Column Diameter (ft):	0.0000
Annual Net Throughput (gal/yr.):	191,520,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015
Average Organic Liquid Density (lb/gal):	5.6000
Tank Diameter (ft):	145.0000
Deck Fitting Losses (lb):	5,028.8427
Value of Vapor Pressure Function:	0.1834
Vapor Molecular Weight (lb/lb-mole):	60.0000
Product Factor:	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	457.1000
Deck Seam Losses (lb):	0.0000
Deck Seam Length (ft):	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000
Tank Diameter (ft):	145.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000
Product Factor:	1.0000
Total Losses (lb):	6,235.0921

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	17.6026
Automatic Gauge Float Well/Bolted Cover, Gasketed	1	2.80	0.00	0.00	30.8045
Roof Leg or Hanger Well/Adjustable	55	7.90	0.00	0.00	4,780.2060
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	132.0195
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	68.2101

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Baltimore South Tank 195-17 - Internal Floating Roof Tank

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 15.0)	957.14	249.11	5,028.84	0.00	6,235.09

Emission Worksheet - Baltimore South
Calculating Emissions from In-Service Roof Landing

Tank ID # 80-5

Input Factors

Tank Type: IFR with liquid heel
Tank Diameter = 120 ft
Tank Height = 40 ft
Days on Legs: 2
Product Stored in Tank: Gasoline (RVP 15)
Product Filled into Tank: Gasoline (RVP 15)
Product height = 3 inches

Emission Calculations

Using EPA AP-42, Chapter 7.1.3.2.2.2

$L_{TL} = L_{SL} + L_{FL}$

$$L_{SL} = n_d \; K_E \; \{P \; V_v\} \; M_v \; K_s$$
$$\{R \; T\}$$

L_{SL} = Standing loss during roof landing, lb
n_d = 2 day
K_E = 0.86
P = Gasoline RVP 15 @ 55 °F = 7.4680 psia
V_v = Volume of vapor space (ft^3)
= 39,564
R = Ideal gas constant (10.731)
T = Average temperature of liquid and vapor below IFR (°R)
= Average temperature for Baltimore area from Tanks program = 55 °F (515°R)
M_v = Vapor molecular weight of gasoline RVP 15 = 60
K_s = 0.42

$$L_{SL} = (2) \; 0.86 \; \frac{\{7.4680 \times 39{,}564\}}{\{10.731 \times 515\}} \; 60 \; (0.42)$$

$$= 1.72 \times 53.46 \times 25.2$$

= 2,317 pounds

Emission Worksheet - Baltimore South
Calculating Emissions from In-Service Roof Landing

Tank ID # 80-5

$$L_{FL} = \{P\ V_V\}\ M_V\ S$$
$$\{R\ T\}$$

P = TVP (gasoline RVP 15 @ 55 °F = 7.4680 psia
V_V = Volume of vapor space (ft^3)
= 39,564
R = Ideal gas constant (10.731)
T = Average temperature of liquid and vapor below IFR (°R)
= Average temperature for Baltimore area from Tanks program = 55 °F (515°R)
M_V = Vapor molecular weight of gasoline RVP 15 = 60
S = Filling saturation factor (0.50 for a partial liquid heel)

$$L_{FL} = \frac{7.4680 \times 39{,}564}{10.731 \times 515} \quad 60 \times 0.5$$

$$= 53.46 \times 60 \times 0.5$$

$$= 1{,}604 \text{ pounds}$$

$$\mathbf{L_{TL}} = \mathbf{L_{SL} + L_{FL}}$$
$$= 2{,}317 \text{ lb} + 1{,}604 \text{ lb}$$
$$= 3{,}921 \text{ lb } \mathbf{(1.961 \text{ ton})}$$

Tank Vapor Space Volume (Vv)		
Vv	=	Is the area formed between the floating roof and the liquid
Input factors:		Distance from the bottom of the roof to the tank floor when roof is landed on leg supports = 3 ft 9 inches Product depth = 3 inches h_v = 3 feet 9 inches – 3 inches = 3 feet 6 inches = 3.5 ft
Vv	=	pi x r^2 x h_v = 3.14 x 60^2 x 3.5 ft
	=	39,564 ft^3

Emission Worksheet - Baltimore South
Calculating Emissions from In-Service Roof Landing

Tank ID # 30-6

Input Factors

Tank Type: IFR with liquid heel
Tank Diameter = 73 ft
Days on Legs: 2
Product Stored in Tank: Gasoline (RVP 15)
Product Filled into Tank: Gasoline (RVP 15)
Product height = 3.0 inches (0.25 ft)

Emission Calculations

Using EPA AP-42, Chapter 7.1.3.2.2.2

$L_{TL} = L_{SL} + L_{FL}$

$$L_{SL} = n_d \; K_E \; \frac{\{P \; V_V\}}{\{R \; T\}} \; M_V \; K_S$$

L_{SL} = Standing loss during roof landing, lb
n_d = 2
K_E = 0.86
P = Gasoline RVP 15 = 7.4680 psia @55 °F
V_V = Volume of vapor space (ft^3)
= 13,595.6
R = Ideal gas constant (10.731)
T = Average temperature of liquid and vapor below IFR (°R)
= Average temperature for Baltimore area from Tanks program = 55 °F (515°R)
M_V = Vapor molecular weight of gasoline RVP 15 = 60
K_S = 0.44

$$L_{SL} = (2) \; 0.86 \; \frac{\{7.4680 \times 13{,}595.6\}}{\{10.731 \times 515\}} \; 60 \; (0.44)$$

= 1.72 x 18.37 x 26.2

= 827.9 pounds

Emission Worksheet - Baltimore South
Calculating Emissions from In-Service Roof Landing

Tank ID # 30-6

$$L_{FL} = \frac{\{P\ V_V\}}{\{R\ T\}}\ M_V\ S$$

P = Gasoline RVP 15 = 7.4680 psia @55 °F
V_V = Volume of vapor space (ft^3)
= 13,595.6
R = Ideal gas constant (10.731)
T = Average temperature of liquid and vapor below IFR (°R)
= Average temperature for Baltimore area from Tanks program = 55 °F (515°R)
M_V = Vapor molecular weight of gasoline RVP 15 = 60
S = Filling saturation factor (0.50 for a partial liquid heel)

$$L_{FL} = \frac{7.4680 \times 13{,}595.6}{10.731 \times 515}\ 60 \times 0.5$$

$$= 18.37 \times 60 \times 0.5$$

$$= 551.1 \text{ pounds}$$

$$\mathbf{L_{TL} = L_{SL} + L_{FL}}$$
$$= 827.9 \text{ lb} + 551.1 \text{ lb}$$
$$= \mathbf{1{,}379.0 \text{ lb } (0.689 \text{ tons})}$$

Tank Vapor Space Volume (Vv)

V_V = Is the area formed between the floating roof and the liquid

Input factors: Distance from the bottom of the roof to the tank floor when roof is landed on leg supports = 3 ft 6 inches
Product depth = 3.0 inches
h_V = 3 feet 6 inches – 3.0 inches = 3 feet 3 inches = 3.25 ft

$V_V = pi \times r^2 \times h_V = 3.14 \times 36.5^2 \times 3.25$ ft
$= 13{,}595.6\ ft^3$

Emission Worksheet - Baltimore South
Calculating Emissions from In-Service Roof Landing

Tank ID # 34-7

Input Factors

Tank Type: IFR with liquid heel
Tank Diameter = 72 ft
Days on Legs: 2
Product Stored in Tank: Gasoline (RVP 15)
Product Filled into Tank: Gasoline (RVP 15)
Product height = 3.0 inches (0.25 ft)

Emission Calculations

Using EPA AP-42, Chapter 7.1.3.2.2.2

$L_{TL} = L_{SL} + L_{FL}$

$$L_{SL} = n_d \; K_E \; \frac{\{P \; V_V\}}{\{R \; T\}} \; M_V \; K_S$$

L_{SL} = Standing loss during roof landing, lb
n_d = 2
K_E = 0.86
P = Gasoline RVP 15 = 7.4680 psia @55 °F
V_V = Volume of vapor space (ft^3)
= 11,871.5
R = Ideal gas constant (10.731)
T = Average temperature of liquid and vapor below IFR (°R)
= Average temperature for Baltimore area from Tanks program = 55 °F (515°R)
M_V = Vapor molecular weight of gasoline RVP 15 = 60
K_S = 0.46

$$L_{SL} = (2) \; 0.86 \; \frac{\{7.4680 \times 11{,}871.5\}}{\{10.731 \times 515\}} \; 60 \; (0.46)$$

= 1.72 x 16.04 x 27.4

= 756.0 pounds

Emission Worksheet - Baltimore South
Calculating Emissions from In-Service Roof Landing

Tank ID # 34-7

$$L_{FL} = \frac{\{P\ V_v\}}{\{R\ T\}}\ M_v\ S$$

P = Gasoline RVP 15 = 7.4680 psia @55 °F
Vv = Volume of vapor space (ft^3)
= 11,871.5
R = Ideal gas constant (10.731)
T = Average temperature of liquid and vapor below IFR (°R)
= Average temperature for Baltimore area from Tanks program = 55 °F (515°R)
Mv = Vapor molecular weight of gasoline RVP 15 = 60
S = Filling saturation factor (0.50 for a partial liquid heel)

$$L_{FL} = \frac{7.4680 \times 11{,}871.5}{10.731 \times 515}\ 60 \times 0.5$$

$$= 16.04 \times 60 \times 0.5$$

$$= 481.2 \text{ pounds}$$

$$\mathbf{L_{TL}} = \mathbf{L_{SL} + L_{FL}}$$
$$= 756.0 \text{ lb} + 481.2 \text{ lb}$$
$$= \mathbf{1{,}237.2 \text{ lb } (0.619 \text{ tons})}$$

Tank Vapor Space Volume (Vv)		
Vv	=	Is the area formed between the floating roof and the liquid
Input factors:		Distance from the bottom of the roof to the tank floor when roof is landed on leg supports = 3 ft 3 inches Product depth = 3.0 inches h_v = 3 feet 3 inches – 3.0 inches = 3 feet 0 inches = 3.0 ft
Vv	=	pi x r^2 x h_v = 3.14 x 35.5^2 x 3.0 ft
	=	11,871.5 ft^3

Emission Worksheet - Baltimore South
Calculating Emissions from In-Service Roof Landing

Tank ID # 54-8

Input Factors

Tank Type: IFR with liquid heel
Tank Diameter = 90 ft
Tank Height = 48 ft
Days on Legs: 2
Product Stored in Tank: Gasoline (RVP 15)
Product Filled into Tank: Gasoline (RVP 15)
Product height = 3.0 inches (0.25 ft)

Emission Calculations

Using EPA AP-42, Chapter 7.1.3.2.2.2

$L_{TL} = L_{SL} + L_{FL}$

$$L_{SL} = n_d \; K_E \; \frac{\{P \; V_V\}}{\{R \; T\}} \; M_V \; K_S$$

L_{SL} = Standing loss during roof landing, lb
n_d = 2
K_E = 0.86
P = Gasoline RVP 15 = 7.4680 psia @55 °F
V_V = Volume of vapor space (ft^3)
= 22,254.7
R = Ideal gas constant (10.731)
T = Average temperature of liquid and vapor below IFR (°R)
= Average temperature for Baltimore area from Tanks program = 55 °F (515°R)
M_V = Vapor molecular weight of gasoline RVP 15 = 60
K_S = 0.42

$$L_{SL} = (2) \; 0.86 \; \frac{\{7.4680 \times 22{,}254.7\}}{\{10.731 \times 515\}} \; 60 \; (0.42)$$

= 1.72 x 30.07 x 25.2

= 1,303.5 pounds

Emission Worksheet - Baltimore South
Calculating Emissions from In-Service Roof Landing

Tank ID # 54-8

$$L_{FL} = \{P\ V_V\}\ M_V\ S$$
$$\{R\ T\}$$

P = Gasoline RVP 15 = 7.4680 psia @55 °F
V_V = Volume of vapor space (ft^3)
= 22,254.7
R = Ideal gas constant (10.731)
T = Average temperature of liquid and vapor below IFR (°R)
= Average temperature for Baltimore area from Tanks program = 55 °F (515°R)
M_V = Vapor molecular weight of gasoline RVP 15 = 60
S = Filling saturation factor (0.50 for a partial liquid heel)

$$L_{FL} = \frac{7.4680 \times 22{,}254.7}{10.731 \times 515} \quad 60 \times 0.5$$

$$= 30.07 \times 60 \times 0.5$$

$$= 902.1 \text{ pounds}$$

$$\mathbf{L_{TL}} = \mathbf{L_{SL} + L_{FL}}$$
$$= 1{,}303.5 \text{ lb} + 902.1 \text{ lb}$$
$$= \mathbf{2{,}205.6 \text{ lb } (1.103 \text{ tons})}$$

Tank Vapor Space Volume (Vv)

Vv = Is the area formed between the floating roof and the liquid

Input factors: Distance from the bottom of the roof to the tank floor when roof is landed on leg supports = 3 ft 9 inches
Product depth = 3.0 inches
h_v = 3 feet 9 inches – 3.0 inches = 3 feet 6 inches = 3.5 ft

Vv = pi x r^2 x h_v = 3.14 x 45^2 x 3.5 ft
= 22,254.7 ft^3

Emission Worksheet - Baltimore South
Calculating Emissions from In-Service Roof Landing

Tank ID # 54-9

Input Factors

Tank Type: IFR with liquid heel
Tank Diameter = 90 ft
Tank Height = 48 ft
Days on Legs: 2
Product Stored in Tank: Gasoline (RVP 15)
Product Filled into Tank: Gasoline (RVP 15)
Product height = 3.0 inches (0.25 ft)

Emission Calculations

Using EPA AP-42, Chapter 7.1.3.2.2.2

$L_{TL} = L_{SL} + L_{FL}$

$$L_{SL} = n_d \; K_E \; \frac{\{P \; V_V\}}{\{R \; T\}} \; M_V \; K_S$$

L_{SL} = Standing loss during roof landing, lb
n_d = 2
K_E = 0.86
P = Gasoline RVP 15 = 7.4680 psia @55 °F
V_V = Volume of vapor space (ft^3)
= 34,971.7
R = Ideal gas constant (10.731)
T = Average temperature of liquid and vapor below IFR (°R)
= Average temperature for Baltimore area from Tanks program = 55 °F (515°R)
M_V = Vapor molecular weight of gasoline RVP 15 = 60
K_S = 0.31

$$L_{SL} = (2) \; 0.86 \; \frac{\{7.4680 \times 34{,}971.7\}}{\{10.731 \times 515\}} \; 60 \; (0.31)$$

= 1.72 x 47.26 x 18.6

= 1,511.9 pounds

Emission Worksheet - Baltimore South
Calculating Emissions from In-Service Roof Landing

Tank ID # 54-9

$$L_{FL} = \frac{\{P\ V_V\}}{\{R\ T\}}\ M_V\ S$$

P = Gasoline RVP 15 = 7.4680 psia @55 °F
V_V = Volume of vapor space (ft^3)
= 34,971.7
R = Ideal gas constant (10.731)
T = Average temperature of liquid and vapor below IFR (°R)
= Average temperature for Baltimore area from Tanks program = 55 °F (515°R)
M_V = Vapor molecular weight of gasoline RVP 15 = 60
S = Filling saturation factor (0.50 for a partial liquid heel)

$$L_{FL} = \frac{7.4680 \times 34{,}971.7}{10.731 \times 515}\ 60 \times 0.5$$

$$= 47.26 \times 60 \times 0.5$$

$$= 1{,}417.8 \text{ pounds}$$

$$\mathbf{L_{TL}} = \mathbf{L_{SL} + L_{FL}}$$
$$= 1{,}511.9 \text{ lb} + 1{,}417.8 \text{ lb}$$
$$= \mathbf{2{,}929.7 \text{ lb } (1.465 \text{ tons})}$$

Tank Vapor Space Volume (Vv)		
Vv	=	Is the area formed between the floating roof and the liquid
Input factors:		Distance from the bottom of the roof to the tank floor when roof is landed on leg supports = 5 ft 9 inches Product depth = 3.0 inches h_v = 5 feet 9 inches – 3.0 inches = 5 feet 6 inches = 5.5 ft
Vv	=	pi x r^2 x h_v = 3.14 x 45^2 x 5.5 ft
	=	34,971.7 ft^3

Emission Worksheet - Baltimore South
Calculating Emissions from In-Service Roof Landing

Tank ID # 200-16

Input Factors

Tank Type: IFR with liquid heel
Tank Diameter = 150 ft
Days on Legs: 2
Product Stored in Tank: Gasoline (RVP 15)
Product Filled into Tank: Gasoline (RVP 15)
Product height = 3.0 inches (0.25 ft)

Emission Calculations

Using EPA AP-42, Chapter 7.1.3.2.2.2

$L_{TL} = L_{SL} + L_{FL}$

$$L_{SL} = n_d \; K_E \; \{P \; V_V\} \; M_V \; K_S$$
$$\{R \; T\}$$

L_{SL} = Standing loss during roof landing, lb
n_d = 2
K_E = 0.86
P = Gasoline RVP 15 = 7.4680 psia @55 °F
V_V = Volume of vapor space (ft^3)
= 64,647.4
R = Ideal gas constant (10.731)
T = Average temperature of liquid and vapor below IFR (°R)
= Average temperature for Baltimore area from Tanks program = 55 °F (515°R)
M_V = Vapor molecular weight of gasoline RVP 15 = 60
K_S = 0.40

$$L_{SL} = (2) \; 0.86 \; \frac{\{7.4680 \times 64{,}647.4\}}{\{10.731 \times 515\}} \; 60 \; (0.40)$$

= 1.72 x 87.36 x 24.0

= 3,606.2 pounds

Emission Worksheet - Baltimore South
Calculating Emissions from In-Service Roof Landing

Tank ID # 200-16

$$L_{FL} = \frac{\{P\ V_V\}}{\{R\ T\}}\ M_V\ S$$

P = Gasoline RVP 15 = 7.4680 psia @55 °F
V_V = Volume of vapor space (ft^3)
= 64,647.4
R = Ideal gas constant (10.731)
T = Average temperature of liquid and vapor below IFR (°R)
= Average temperature for Baltimore area from Tanks program = 55 °F (515°R)
M_V = Vapor molecular weight of gasoline RVP 15 = 60
S = Filling saturation factor (0.50 for a partial liquid heel)

$$L_{FL} = \frac{7.4680 \times 64{,}647.4}{10.731 \times 515} \quad 60 \times 0.5$$

$$= 87.36 \times 60 \times 0.5$$

$$= 2{,}620.8 \text{ pounds}$$

$$\mathbf{L_{TL}} = \mathbf{L_{SL} + L_{FL}}$$
$$= 3{,}606.2 \text{ lb} + 2{,}620.8 \text{ lb}$$
$$= \mathbf{6{,}227.0 \text{ lb } (3.113 \text{ tons})}$$

Tank Vapor Space Volume (Vv)

Vv = Is the area formed between the floating roof and the liquid

Input factors: Distance from the bottom of the roof to the tank floor when roof is landed on leg supports = 4 ft 1 inches
Product depth = 3.0 inches
h_v = 4 feet 1 inches – 3.0 inches = 3 feet 10 inches = 3.83 ft

Vv = pi x r^2 x h_v = 3.14 x 75^2 x 3.83 ft
= 64,647.4 ft^3

Emission Worksheet - Baltimore South
Calculating Emissions from In-Service Roof Landing

Tank ID # 195-17

Input Factors

Tank Type: IFR with liquid heel
Tank Diameter = 146 ft
Days on Legs: 2
Product Stored in Tank: Gasoline (RVP 15)
Product Filled into Tank: Gasoline (RVP 15)
Product height = 3.0 inches (0.25 ft)

Emission Calculations

Using EPA AP-42, Chapter 7.1.3.2.2.2

$L_{TL} = L_{SL} + L_{FL}$

$$L_{SL} = n_d \; K_E \; \{P \; V_V\} \; M_V \; K_S$$
$$\{R \; T\}$$

L_{SL} = Standing loss during roof landing, lb
n_d = 2
K_E = 0.86
P = Gasoline RVP 15 = 7.4680 psia @55 °F
V_V = Volume of vapor space (ft^3)
= 96,215.1
R = Ideal gas constant (10.731)
T = Average temperature of liquid and vapor below IFR (°R)
= Average temperature for Baltimore area from Tanks program = 55 °F (515°R)
M_V = Vapor molecular weight of gasoline RVP 15 = 60
K_S = 0.31

$$L_{SL} = (2) \; 0.86 \; \frac{\{7.4680 \times 96{,}215.1\}}{\{10.731 \times 515\}} \; 60 \; (0.31)$$

= 1.72 x 130.02 x 18.3

= 4,092.4 pounds

Emission Worksheet - Baltimore South
Calculating Emissions from In-Service Roof Landing

Tank ID # 195-17

$$L_{FL} = \frac{\{P\ V_V\}}{\{R\ T\}}\ M_V\ S$$

P = Gasoline RVP 15 = 7.4680 psia @55 °F
V_V = Volume of vapor space (ft^3)
= 96,215.1
R = Ideal gas constant (10.731)
T = Average temperature of liquid and vapor below IFR (°R)
= Average temperature for Baltimore area from Tanks program = 55 °F (515°R)
M_V = Vapor molecular weight of gasoline RVP 15 = 60
S = Filling saturation factor (0.50 for a partial liquid heel)

$$L_{FL} = \frac{7.4680 \times 96{,}215.1}{10.731 \times 515}\ 60 \times 0.5$$

$$= 130.02 \times 60 \times 0.5$$

$$= 3{,}900.6 \text{ pounds}$$

$$\mathbf{L_{TL}} = \mathbf{L_{SL} + L_{FL}}$$
$$= 4{,}092.4 \text{ lb} + 3{,}900.6 \text{ lb}$$
$$= \mathbf{7{,}993.0 \text{ lb } (3.996 \text{ tons})}$$

Tank Vapor Space Volume (Vv)

Vv = Is the area formed between the floating roof and the liquid

Input factors: Distance from the bottom of the roof to the tank floor when roof is landed on leg supports = 6 ft 0 inches
Product depth = 3.0 inches
h_v = 6 feet 0 inches – 3.0 inches = 5 feet 9 inches = 5.75 ft

Vv = pi x r^2 x h_v = 3.14 x 73^2 x 5.75 ft
= 96,215.1 ft^3

Emission Worksheet - Truck Loading Rack
Petroleum Fuel & Terminal Company – Baltimore South
Page 1

Fuel Ethanol and Fuel Oil

Maximum Annual Potential Throughput

The terminal can load up to four (4) trucks per hour. Each tanker truck has a capacity of 9,200 gallons. The terminal operates one loading bay for fuel ethanol.

Fuel Ethanol (gal/yr) = 4 trucks/hr x 9,200 gallons/truck x 1 loading bay x 8,760 hrs/yr
= 322,368,000 gal/yr

The terminal can load up to four (4) trucks per hour. Each tanker truck has a capacity of 9,200 gallons. The terminal operates two loading bays for fuel oil.

Fuel Oil (gal/yr) = 4 trucks/hr x 9,200 gallons/truck x 2 loading bays x 8,760 hrs/yr
= 644,736,000 gal/yr

Note emissions from the loading of fuel ethanol and distillate fuel are directed to a vapor combustion unit (VCU).

Using Equation 1 of AP-42 Section 5.2 (Transportation and Marketing of Petroleum Liquids) to calculate VOC emission potentials

Equation 1: $LL\ (lb/10^3\ gal) = 12.46\ (SPM/T)\ (1\text{-}eff/100)$

Where:

LL = loading loss, pounds of VOC per 1,000 gallons of liquids loaded.
S = saturation factor = Values from Table 5.2-1 of AP-42 Section 5.2.
P = true vapor pressure = Values from Table 7.1-2 of AP-42 Section 7.1 unless otherwise noted.
M = vapor mole weight = Values from Table 7.1-2 of AP-42 Section 7.1 unless otherwise noted.
T = (°R = °F + 460) = 55 + 460 = 515 °R
eff = overall efficiency = capture efficiency x removal efficiency 98.7% x 95% =94%

Emission Worksheet - Truck Loading Rack
Petroleum Fuel & Terminal Company – Baltimore South
Page 2

A. Potential to Emit (PTE) – Fuel Ethanol

The potential to emit (PTE) is being calculated without controlling vapors for the loading of tanker trucks. The terminal can load up to four (4) trucks per hour. Each tanker truck has a capacity of 9,200 gallons. The terminal operates one loading bay for fuel ethanol.

Where:
Potential Fuel Ethanol Throughput = 322,368,000 gal/yr
LL = loading loss, pounds of VOC per 1,000 gallons of liquids loaded
S = saturation factor = 1.0 (Table 5.2-1 of AP-42 Section 5.2)
P = true vapor pressure = 0.8152 psia (From Tanks Report for fuel ethanol at 55°F)
M = vapor mole weight = 53.3507 lb/lb-mole (From Tanks Report for fuel ethanol)
T = (°R = °F + 460) = 55 + 460 = 515 °R

PTE (tons/yr) = 12.46 (SPM/T) x Potential Throughput (10^3 gal/yr) x (1ton/2,000 lb)

$$= \frac{12.46 \times 1.0 \times 0.8152 \times 53.3507}{515} \times (322{,}368.0 \times 10^3 \text{ gal/yr}) \times (1\text{ton}/2{,}000\text{ lb})$$

= 169.2 tons/yr

B. Potential Annual VOC Emissions from the Loading of Fuel Ethanol

Potential annual emissions are being calculated with the vapors for the loading of tanker trucks being subject to control.

Where:
Potential Fuel Ethanol Throughput = 322,368,000 gal/yr
LL = loading loss, pounds of VOC per 1,000 gallons of liquids loaded
S = saturation factor = 1.0 (Table 5.2-1 of AP-42 Section 5.2)
P = true vapor pressure = 0.8152 psia (From Tanks Report for fuel ethanol at 55°F)
M = vapor mole weight = 53.3507 lb/lb-mole (From Tanks Report for fuel ethanol)
T = (°R = °F + 460) = 55 + 460 = 515 °R
eff = overall efficiency = capture efficiency x removal efficiency 98.7% x 95% = 94

PTE (tons/yr) = 12.46 (SPM/T) x Potential Throughput (10^3 gal/yr) x (1ton/2,000 lb) x (1-eff/100)

$$= \frac{12.46 \times 1.0 \times 0.8152 \times 53.3507}{515} \times (322{,}368.0 \times 10^3 \text{ gal/yr}) \times (1\text{ton}/2{,}000\text{ lb}) \times (1-94/100)$$

= 10.2 tons/yr

C. Potential Annual VOC Emissions from the Loading of Fuel Oil

Potential annual emissions are being calculated with the vapors for the loading of tanker trucks being subject to control.

Where:
Fuel oil emissions based on distillate fuel oil # 2.
Potential Fuel Oil Throughput = 644,736,000 gal/yr.
LL = loading loss, pounds of VOC per 1,000 gallons of liquids loaded
S = saturation factor = 1.0 (Table 5.2-1 of AP-42 Section 5.2)
P = true vapor pressure = 0.0074 psia (Table 7.1-2 of AP-42 Section 7.1)
M = vapor mole weight = 130 lb/lb-mole (Table 7.1-2 of AP-42 Section 7.1)
T = (°R = °F + 460) = 55 + 460 = 515 °R
eff = overall efficiency = capture efficiency x removal efficiency = 98.7% x 95% =94

PTE (tons/yr) =12.46 (SPM/T) x Potential Throughput (10^3 gal/yr) x (1ton/2,000 lb) x (1-eff/100)

$$= \frac{12.46 \times 130 \times 1.0 \times 0.0074}{515} \times (644{,}736.0 \times 10^3 \text{ gal/yr}) \times (1\text{ton}/2{,}000\text{ lb}) \times (1-94/100)$$

= 0.5 tons

Emission Worksheet - Truck Loading Rack
Petroleum Fuel & Terminal Company – Baltimore South
Page 4

Asphalt

Maximum Annual Potential Throughput

The terminal can load up to four (4) trucks per hour. Each tanker truck has a capacity of 5,800 gallons. The terminal operates four loading bays for asphalt.

Asphalt (gal/yr) = 4 trucks/hr x 5,800 gallons/truck x 4 loading bays x 8,760 hrs/yr
= 812,928,000 gal/yr

Using Equation 1 of AP-42 Section 5.2 (Transportation and Marketing of Petroleum Liquids) to calculate VOC emission potentials

Equation 1: $LL\ (lb/10^3\ gal) = 12.46\ (SPM/T)$

Where:
LL = loading loss, pounds of VOC per 1,000 gallons of liquids loaded.
S = 1.45(Splash loading from Table 5.2-1 of AP-42 Section 5.2.
P = 0.01 (From Asphalt Institute website)
M = 84 (From Environmental Progress, Winter 1999, Vol. 18, No. 4, Estimates of Air Emissions from Asphalt Storage Tanks and Truck Loading, Table 9)
T = (°R = °F + 460) = 325 + 460 = 785 °R

PTE (tons/yr) =12.46 (SPM/T) x Potential Throughput (10^3 gal/yr) x (1ton/2,000 lb)

$$= \frac{12.46 \times 1.45 \times 0.01 \times 84}{785} \times (812{,}928 \times 10^3\ gal/yr) \times (1ton/2{,}000\ lb)$$

= 7.9 tons

Emission Worksheet - Marine Docks
Petroleum Fuel & Terminal Company – Baltimore South
Page 1

The marine dock is utilized to load-out gasoline, ethanol, and distillates. Gasoline and ethanol loading is conducted at the North Dock. The North Dock is equipped with a vapor recovery unit (VRU). Testing of the VRU was completed on 7/23/13. The test results lists a VOC emission rate of 0.36 mg/l of gasoline loaded, and a removal efficiency of 99.81%. Distillates are loaded at the South Dock. No vapor control equipment is operated at the South Dock.

North Dock

The North Dock is equipped with a vapor recovery unit (VRU). Testing of the VRU was completed on 7/23/13. The test results list a VOC emission rate of 0.36 mg/l of gasoline loaded.

Throughput

The VRU is rated at 5,000 barrels/hour (210,000 gal/hr).

Throughput Potential = 210,000 gal/hr x 8,760 hr/yr
= 1,839,600,000 gal/yr

VOC Emissions

VOC emissions are calculated from the VRU and fugitive emissions from the vapor collection and control equipment.

VOC Emissions from VRU:
Emission Rate: 0.36 mg/l (0.000003004 lb/gal)

VOC Emissions = 1,839,600,000 gal/yr x 0.000003004 lb/gal
= 5,526 lb/yr (2.8 ton/yr)

Fugitive Emissions from Collection System

VOC Emissions = Uncontrolled VOC Emissions x (1-Capture Efficiency)

Uncontrolled VOC Emissions = 1.8 lb/10^3 gal transferred (From AP-42, Table 5.2-2, for ships/ocean barges typical overall situations of tank condition.
Capture efficiency of collection system = 98.7% from AP-42, Chapter 5.2

VOC Emissions = (1.8 lb/10^3 gal x 1,839,600 x10^3 gal/yr) x (1-0.987)
= 43,047 lb/yr (21.5 tons/yr)

Emission Worksheet - Marine Docks
Petroleum Fuel & Terminal Company – Baltimore South
Page 2

South Dock

Distillates and asphalt are loaded at the South Dock. No vapor control equipment is operated at the South Dock.

Throughput

Maximum load-out rate = 3,000 barrels/hour (126,000 gal/hr).

Throughput Potential = 126,000 gal/hr x 8,760 hr/yr
= 1,103,760,000 gal/yr

VOC Emissions

Emissions from both distillate and asphalt load-out at the maximum load-out rate are estimated.

Distillates

Distillate fuels and similar products are managed. Using emission factors for # 2 distillate fuel to estimate maximum emission potential.

Equation 1: LL (lb/10^3 gal) = 12.46 (SPM/T)
Where:
Potential Throughput = 1,103,760,000 gal/yr
LL = loading loss, pounds of VOC per 1,000 gallons of liquids loaded
S = saturation factor = 0.5 (Table 5.2-1 of AP-42 Section 5.2)
P = true vapor pressure = 0.006 psia (From Tanks Report for #2 distillate fuel at 55°F)
M = vapor mole weight = 130 lb/lb-mole (From Tanks Report for #2 distillate fuel)
T = (°R = °F + 460) = 55 + 460 = 515 °R

VOC Emissions = 12.46 (SPM/T) x Potential Throughput (10^3 gal/yr) x (1ton/2,000 lb)

$$= \frac{12.46 \times 0.5 \times 0.006 \times 130}{515} \times (1{,}103{,}760 \times 10^3 \text{ gal/yr}) \times (1\text{ton}/2{,}000 \text{ lb})$$

= 5.2 tons/yr

Emission Worksheet - Marine Docks
Petroleum Fuel & Terminal Company – Baltimore South
Page 3

Liquid Asphalt

Equation 1: LL (lb/10^3 gal) = 12.46 (SPM/T)
Where:
Potential Throughput = 1,103,760,000 gal/yr
LL = loading loss, pounds of VOC per 1,000 gallons of liquids loaded
S = saturation factor = 0.5 (Table 5.2-1 of AP-42 Section 5.2)
P = 0.01 (From Asphalt Institute website)
M = 84 (From Environmental Progress, Winter 1999, Vol. 18, No. 4, Estimates of Air Emissions from Asphalt Storage Tanks and Truck Loading, Table 9)
T = (°R = °F + 460) = 325 + 460 = 785 °R

VOC Emissions = 12.46 (SPM/T) x Potential Throughput (10^3 gal/yr) x (1ton/2,000 lb)

$$= \frac{12.46 \times 0.5 \times 0.01 \times 84}{785} \times (1{,}103{,}760 \times 10^3 \text{ gal/yr}) \times (1\text{ton}/2{,}000 \text{ lb})$$

= 3.7 tons/yr

Emission Worksheet – Fuel Combustion Units
Petroleum Fuel & Terminal Company – Baltimore South

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1. Natural Gas Fired Heating Units

A) Heat Inputs: EU-12 (two heaters) = 12.0 MM Btu/hr, EU-13 (one heater) = 8.4 MM Btu/hr, EU-14 (one heater) = 8.5 MM Btu/hr, EU-15 (one heater) = 8.4 MM Btu/hr, EU-16 (boiler) = 14.65 MM Btu/hr

Total Heat Input = **51.95 MM Btu/hr**

B) Potential Throughput:

Emission Factors: From AP-42 (based on normal firing): MMBtu = 1,000,000 Btu
MMCF = 1,000,000 cubic feet of gas

Potential Throughput (MMCF/yr) = 51.95 MM Btu/hr x 8,760 hrs/yr x 1 MMCF/ 1,000 MMBtu
= 455.1 MMCF/yr

C) Emission Calculations:

Emission Factors: From AP-42, Chapter 1.4. Tables 1.4-1, 1.4-2 1.4-3, SCC# 1-02-00602, 1-03-006-02, and 1-03-006-03

Potential to Emit (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF) / ton/2,000 lb

Potential to Emit of PM (filterable) (tons/yr) = 455.1 MMCF/yr x 1.9 lb/MMCF / ton/2,000 lb
= 0.43 tons/yr

Potential to Emit of PM (condensable) (tons/yr) = 455.1 MMCF/yr x 5.5 lb/MMCF / ton/2,000 lb
= 1.25 tons/yr

Potential to Emit of Total PM (tons/yr) = 455.1 MMCF/yr x 7.6 lb/MMCF / ton/2,000 lb
= 1.73 tons/yr

Potential to Emit of SO2 (tons/yr) = 455.1 MMCF/yr x 0.6 lb/MMCF / ton/2,000 lb
= 0.14 tons/yr

Potential to Emit of NOx (tons/yr) = 455.1 MMCF/yr x 100 lb/MMCF / ton/2,000 lb
= 22.76 tons/yr

Potential to Emit of VOC (tons/yr) = 455.1 MMCF/yr x 5.5 lb/MMCF / ton/2,000 lb
= 1.25 tons/yr

Potential to Emit of CO (tons/yr) = 455.1 MMCF/yr x 84 lb/MMCF / ton/2,000 lb/
= 19.1 tons/yr

Emission Worksheet
Fugitive VOC Emissions
Petroleum Fuel & Terminal Company – Baltimore South

Fugitive VOC emissions from potential equipment leaks are being estimated following API Publication # 4588 (Development of Fugitive Emission Factors and Emission Profiles for Petroleum Marketing). Fugitive emissions for the following equipment components are being provided: loading arms, meters, pump seals, and valves.

Fugitive VOC Emissions

Fugitive VOC Emissions = Number of Components x Emission Factor x Operating Hours

Fugitive VOC Emissions (Loading Arms)	= 20 x 0.00087 lb/hr x 8,760 hr/yr x ton/2,000 lb = 0.076 ton/yr
Fugitive VOC Emissions (Meters)	= 15 x 0.00025 lb/hr x 8,760 hr/yr x ton/2,000 lb = 0.017 ton/yr
Fugitive VOC Emissions (Pump Seals)	= 15 x 0.00093 lb/hr x 8,760 hr/yr x ton/2,000 lb = 0.061 ton/yr
Fugitive VOC Emissions (Valves)	= 86 x 0.00015 lb/hr x 8,760 hr/yr x ton/2,000 = 0.057 ton/yr
Total Fugitive VOC Emissions	**= 0.21 tons/yr**

Attachment C
Table of Contents

Section 1. Chemical product and company identification

Chinese name	: EVOTHERM® M1
English name	: EVOTHERM® M1
Other means of identification	: Not available.
Product type	: Liquid.
Code	: EVOTHERM_M1

Relevant identified uses of the substance or mixture and uses advised against

Material uses	: Asphalt additive

Supplier's details	: WestRock MWV, LLC Ingevity Division 5255 Virginia Avenue North Charleston South Carolina USA 29406-3615 www.ingevity.com email: sds@ingevity.com Telephone no.: +1 843 740 2236, +1 800 458 4034 Hours of operation: 0800 - 1700 EST
Emergency telephone number	: 0532-83889090 (in China) Hangzhou CIRS Co. Ltd +1 703 527 3887 (USA) CHEMTREC International

Section 2. Hazards identification

Emergency overview

Liquid. Amber. [Dark] Causes severe skin burns and eye damage. May cause an allergic skin reaction. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If swallowed, do not induce vomiting unless directed to do so by medical personnel. If in eyes or on skin, rinse well with water. Very toxic to aquatic life with long lasting effects.

Classification of the substance or mixture according to GB 13690-2009 (General rule for classification and hazard communication of chemicals)

Classification of the substance or mixture	: SKIN CORROSION/IRRITATION - Category 1C SKIN SENSITIZATION - Category 1 LONG-TERM AQUATIC HAZARD - Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention : Wear protective gloves. Wear eye or face protection: Recommended: Safety glasses with side shields. splash goggles, or face shield. Wear protective clothing: Recommended: Lab coat, apron or coveralls. Avoid release to the environment. Avoid breathing vapour. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response : Collect spillage. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Physical hazards : In a fire or if heated, a pressure increase will occur and the container may burst.

Health hazards

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes severe burns. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/ symptoms

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

Environmental hazards : This material is very toxic to aquatic life with long lasting effects.

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Substance/mixture	: Substance
Chemical name	: Fatty amine derivatives
Other means of identification	: Not available.

CAS number/other identifiers

CAS number	: Not available.
EC number	: Not available.

Ingredient name	%	CAS number
Fatty amine derivatives	100	-

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician.

Inhalation : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Section 4. First-aid measures

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: No known significant effects or critical hazards.
Inhalation	: No known significant effects or critical hazards.
Skin contact	: Causes severe burns. May cause an allergic skin reaction.
Ingestion	: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: Adverse symptoms may include the following: pain watering redness
Inhalation	: No specific data.
Skin contact	: Adverse symptoms may include the following: pain or irritation redness blistering may occur
Ingestion	: Adverse symptoms may include the following: stomach pains

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Specific treatments	: No specific treatment.
Protection of first-aiders	: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	: Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: None known.
Specific hazards arising from the chemical	: In a fire or if heated, a pressure increase will occur and the container may burst. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous thermal decomposition products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides
Special protective actions for fire-fighters	: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Section 5. Fire-fighting measures

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead. Recommended: Safety glasses with side shields. splash goggles, or face shield

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Lab coat, apron or coveralls

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 8. Exposure controls/personal protection

Odour	:	Amine-like.
Odour threshold	:	Not available.
pH	:	10 to 12 [Conc. (% w/w): 15%]
Melting point	:	Not available.
Boiling point	:	>200°C (>392°F)
Flash point	:	Closed cup: >266°C (>510.8°F) [Pensky-Martens.]
Evaporation rate	:	Not available.
Flammability (solid, gas)	:	Not applicable.
Lower and upper explosive (flammable) limits	:	Not available.
Vapour pressure	:	<1.0 x 10^{-10} mmHg @25 °C
Vapour density	:	Not available.
Relative density	:	0.97 [Water = 1]
Solubility	:	Partially soluble in the following materials: cold water and hot water.
Solubility in water	:	0.02 g/l
Partition coefficient: n-octanol/water	:	2.2
Auto-ignition temperature	:	365 to 375°C (689 to 707°F)
Decomposition temperature	:	Not available.
Viscosity	:	Dynamic (room temperature): 127 mPa·s (127 cP)

Section 10. Stability and reactivity

Reactivity	:	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	:	The product is stable.
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	No specific data.
Incompatible materials	:	Reactive or incompatible with the following materials: oxidizing materials, metals and acids. DO NOT MIX WITH NITRITES. MAY FORM SUSPECTED CANCER CAUSING NITROSAMINES.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Fatty amine derivatives	LD50 Oral	Rat - Female	2500 mg/kg	-

Irritation/Corrosion

Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Fatty amine derivatives	Skin - Visible necrosis	Rabbit	-	4 hours	14 days

Sensitisation

Product/ingredient name	Route of exposure	Species	Result
Fatty amine derivatives	skin	Guinea pig	Sensitising

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Fatty amine derivatives	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
	OECD 476 In vitro Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal	Negative

Carcinogenicity

Not available.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
Fatty amine derivatives	-	Negative	Negative	Rat - Male, Female	Oral	-

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes severe burns. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : No specific data.

Section 11. Toxicological information

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
Fatty amine derivatives	Sub-acute NOAEL Oral	Rat - Male, Female	300 mg/kg	-

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Fatty amine derivatives	Acute EC10 0.395 mg/l Fresh water	Algae - Pseudokirchnerella subcapitata	72 hours
	Acute EC50 0.638 mg/l Fresh water	Algae - Pseudokirchnerella subcapitata	72 hours
	Acute EC50 0.18 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 0.19 mg/l Fresh water	Fish - Danio rerio	96 hours
	Chronic NOEC 0.32 mg/l Fresh water	Daphnia - Daphnia magna	21 days

Persistence/degradability

Not available.

Section 12. Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
Fatty amine derivatives	OECD 301D Ready Biodegradability - Closed Bottle Test	17 % - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Fatty amine derivatives	Fresh water 28 days, 20°C (Hydrolysis)	-	Inherent

Bioaccumulative potential

Product/Ingredient name	$LogP_{ow}$	BCF	Potential
Fatty amine derivatives	2.2	17.4	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : 944980

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	China	UN	IMDG	IATA
UN number	UN3267	UN3267	UN3267	UN3267
UN proper shipping name	CORROSIVE LIQUID, BASIC, ORGANIC, N. O.S. (Fatty amine derivatives)	CORROSIVE LIQUID, BASIC, ORGANIC, N. O.S. (Fatty amine derivatives)	CORROSIVE LIQUID, BASIC, ORGANIC, N. O.S. (Fatty amine derivatives)	Corrosive liquid, basic, organic, n.o.s. (Fatty amine derivatives)
Transport hazard class(es)	8 	8 	8 	8 
Packing group	III	III	III	III

Section 14. Transport information

Environmental hazards	No.	No.	Yes.	No.
Additional information	**Special provisions** 223, 274	**Special provisions** 223, 274	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Emergency schedules (EmS)** F-A, S-B **Special provisions** 223, 274	The environmentally hazardous substance mark may appear if required by other transportation regulations. **Passenger and Cargo Aircraft** Quantity limitation: 5 L Packaging instructions: 852 **Cargo Aircraft Only** Quantity limitation: 60 L Packaging instructions: 856 **Limited Quantities - Passenger Aircraft** Quantity limitation: 1 L Packaging instructions: Y841 **Special provisions** A3, A803

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

Safety, health and environmental regulations specific for the product : No known specific national and/or regional regulations applicable to this product (including its ingredients).

China inventory (IECSC) : All components are listed or exempted.

List of Goods banned for Importing

None of the components are listed.

List of Goods banned for Exporting

None of the components are listed.

List of Toxic Chemicals Severely Restricted for Importing & Exporting by China

None of the components are listed.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Section 15. Regulatory information

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Australia	: All components are listed or exempted.
Canada	: All components are listed or exempted.
Japan	: All components are listed or exempted.
New Zealand	: All components are listed or exempted.
Philippines	: All components are listed or exempted.
Republic of Korea	: All components are listed or exempted.
Taiwan	: All components are listed or exempted.
United States	: All components are listed or exempted.

Section 16. Other information

History

Date of printing	: 9/1/2015
Date of issue/Date of revision	: 9/1/2015
Date of previous issue	: 8/24/2015
Version	: 5
Key to abbreviations	: ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations
References	: Not available.

Indicates information that has changed from previously issued version.

Notice to reader

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Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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Ingevity

SAFETY DATA SHEET
MORLIFE® 5000

Section 1. Identification

RESPONSIBLE CARE®
OUR COMMITMENT TO SUSTAINABILITY

GHS product identifier : MORLIFE® 5000

Other means of identification : Not available.

Code : MORLIFE_5000

Material uses : Asphalt additive

Supplier's details : WestRock MWV, LLC
Ingevity Division
5255 Virginia Avenue
North Charleston
South Carolina USA
29406-3615

www.ingevity.com
email: sds@ingevity.com

Tel: +1 843 740 2236, +1 800 458 4034
(0800 - 1700 EST)

In case of emergency : +1 800 424 9300 (USA) CHEMTREC

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : ACUTE TOXICITY (inhalation) - Category 3
SKIN CORROSION/IRRITATION - Category 1B
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
SKIN SENSITIZATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS)) - Category 2

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Toxic if inhaled.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure. (central nervous system (CNS))

Precautionary statements

Section 2. Hazards identification

Prevention : Wear protective gloves: > 8 hours (breakthrough time): PVC. Wear eye or face protection: Recommended: Safety glasses with side shields, goggles and/or face shield. Wear protective clothing: Recommended: Lab coat, apron or coveralls. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Response : Get medical attention if you feel unwell. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : UVCB

Ingredient name	%	CAS number
Polyethylene polyamines	100	-

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician.

Inhalation : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Section 4. First aid measures

Skin contact : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : Toxic if inhaled. May cause respiratory irritation.

Skin contact : Causes severe burns. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	: Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: None known.
Specific hazards arising from the chemical	: In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides
Special protective actions for fire-fighters	: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Remark	: Work upwind of fire.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions	: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill	: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large spill	: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	:	Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from acids. Empty containers retain product residue and can be hazardous. Do not reuse container.
Advice on general occupational hygiene	:	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	:	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Separate from acids. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Appropriate engineering controls	:	Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Environmental exposure controls	:	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures	:	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	:	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/ or face shield. If inhalation hazards exist, a full-face respirator may be required instead. Recommended: Safety glasses with side shields, goggles and/or face shield

Skin protection

Section 8. Exposure controls/personal protection

Hand protection	: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): PVC
Body protection	: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Lab coat, apron or coveralls
Other skin protection	: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state	: Liquid.
Color	: Brown. [Dark]
Odor	: Fishy
Odor threshold	: Not available.
pH	: 11.9 [Conc. (% w/w): 15%]
Melting point	: -24°C (-11.2°F)
Boiling point	: 255°C (491°F)
Flash point	: Closed cup: 146°C (294.8°F) [Pensky-Martens.]
Burning time	: Not applicable.
Burning rate	: Not applicable.
Evaporation rate	: <0.01 (ether (anhydrous) = 1)
Flammability (solid, gas)	: Not applicable.
Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	: 0.0013 kPa (0.01 mm Hg) [room temperature] 2.8 kPa (20.78 mm Hg) [50°C]
Vapor density	: 4.6 [Air = 1]
Relative density	: 1.09 [Water = 1]
Solubility	: Easily soluble in the following materials: cold water and hot water.
Solubility in water	: Not available.
Partition coefficient: n-octanol/water	: -3.16 to -1.46
Auto-ignition temperature	: 357°C (674.6°F)
Decomposition temperature	: Not available.
SADT	: Not available.
Viscosity	: Kinematic (40°C (104°F)): 0.4 cm^2/s (40 cSt)

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials and acids. Incompatibility: Aldehyde., Ketone., halides, Acrylates, Alkali metal, epoxides.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Polyethylene polyamines	LC50 Inhalation Dusts and mists	Rat - Male, Female	2.48 to 4.56 mg/l	1 hours
	LC50 Inhalation Dusts and mists	Rat - Male, Female	0.62 to 1.14 mg/l	4 hours
	LD50 Dermal	Rat	16000 mg/kg	-
	LD50 Oral	Rat	2810 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Polyethylene polyamines	Eyes - Cornea opacity	Rabbit	2.55	72 hours 0. 1ml / 100%	72 hours

Sensitization

Not available.

Conclusion/Summary

Skin : The sensitization expected is based on similar products. Product specific data not available.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Polyethylene polyamines	OECD 471 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Metabolic activation: with and without	Positive

Carcinogenicity

Not available.

Reproductive toxicity

Section 11. Toxicological information

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Polyethylene polyamines	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Polyethylene polyamines	Category 2	Not determined	central nervous system (CNS)

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : Toxic if inhaled. May cause respiratory irritation.

Skin contact : Causes severe burns. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Section 11. Toxicological information

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Polyethylene polyamines	Acute EC50 <100 mg/l Acute EC50 64 mg/l Acute LC50 >100 mg/l Chronic NOEC 2 mg/l	Algae Daphnia Fish Fish	72 hours 48 hours 96 hours 96 hours

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Polyethylene polyamines	-	50 to 70 % - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Polyethylene polyamines	-	-	Inherent

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Polyethylene polyamines	-3.16 to -1.46	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 12. Ecological information

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	UN2735	UN2735	UN2735
UN proper shipping name	Amines, liquid, corrosive, n.o.s. (Polyethylene polyamines). Marine pollutant (Polyethylene polyamines)	AMINES, LIQUID, CORROSIVE, N.O.S. (Polyethylene polyamines). Marine pollutant (Polyethylene polyamines)	Amines, liquid, corrosive, n.o.s. (Polyethylene polyamines)
Transport hazard class(es)	8 	8 	8 
Packing group	III	III	III
Environmental hazards	No.	Yes.	No.
Additional information	This product is not regulated as a marine pollutant when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes, provided the packagings meet the general provisions of §§ 173.24 and 173. 24a. **Limited quantity** Yes. **Packaging instruction** **Passenger aircraft** Quantity limitation: 5 L **Cargo aircraft**	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Emergency schedules (EmS)** F-A, S-B **Special provisions** 223, 274	The environmentally hazardous substance mark may appear if required by other transportation regulations. **Passenger and Cargo Aircraft** Quantity limitation: 5 L Packaging instructions: 852 **Cargo Aircraft Only**Quantity limitation: 60 L Packaging instructions: 856 **Limited Quantities - Passenger Aircraft**Quantity limitation: 1 L Packaging instructions: Y841 **Special provisions** A3, A803

Section 14. Transport information

	Quantity limitation: 60 L **Special provisions** IB3, T7, TP1, TP28		

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

United States inventory (TSCA 8b): This material is listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Polyethylene polyamines	100	No.	No.	No.	Yes.	Yes.

State regulations

Massachusetts : This material is not listed.

New York : This material is not listed.

Section 15. Regulatory information

New Jersey : This material is not listed.

Pennsylvania : This material is not listed.

California Prop. 65

The required chemical analyses and risk assessments were performed on this product. Results indicate that there are no significant risks (or observable effects), as defined by this statute, associated with this product under conditions of normal use.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

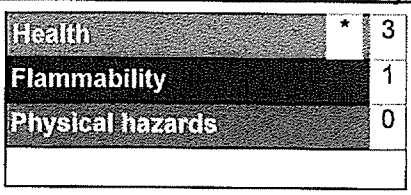
International lists

National inventory

Australia	: This material is listed or exempted.
Canada	: This material is not listed in DSL but is listed in NDSL.
China	: This material is listed or exempted.
Japan	: Not determined.
New Zealand	: This material is listed or exempted.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: This material is listed or exempted.
United States	: This material is listed or exempted.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

Section 16. Other information

National Fire Protection Association (U.S.A.)

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History

Date of printing	: 2015-08-31 .
Date of issue/Date of revision	: 2015-08-31
Date of previous issue	: 2015-08-21 .
Version	: 3.01
Key to abbreviations	: ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations
References	: Not available.

▽ Indicates information that has changed from previously issued version.

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