Terminal, Transport & Rail

Marathon Petroleum Company LP

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July 25, 2014

Mr. William F. Durham
WV Department of Environmental Protection
Division of Air Quality
601 - 57th Street
Charleston, WV 25304

RE: ***Marathon Petroleum Company LP– Kenova, West Virginia***
Facility IDs No. 099-00022 (Tri-State) and 099-00100 (Kenova)
Title V Operating Permit Renewal Application

Dear Mr. Durham:

Marathon Petroleum Company LP (MPC) owns and operates two adjacent bulk gasoline terminals in Kenova, West Virginia (WV): the Kenova Terminal and the Tri-State Terminal. The Kenova Terminal currently operates under West Virginia Permit to Operate R30-09900100-2010, effective October 8, 2010. The Tri-State Terminal operates under West Virginia Permit to Operate R30-09900022-2010, effective February 12, 2010.

In accordance with discussions with the West Virginia Department of Environmental Protection (WV DEP),[1] MPC is submitting this Title V application to combine the Kenova and Tri-State facilities under a single Title V Operating Permit. The operating permit for the Tri-State Terminal expires on January 29, 2015, and a renewal application is therefore due by July 29, 2014. MPC is requesting a renewal of the Title V Operating Permit in accordance with Title 45, Legislative Rule of the Division of Air Quality (DAQ) Series (CSR) 30-4.1.a.3.

***

Should you have any questions concerning this application or the information provided herein, please contact Mr. Greg Moore at 419- 421-3774.

Sincerely,
MARATHON PETROLEUM COMPANY LP

Brad Lambert / DMB
Brad Lambert
Environmental Professions

[1] As discussed during the week of May 26, 2014, and confirmed in 5/1/2014 email from Rex Compston (WV DEP) to Amanda Adams (Trinity Consultants).

TITLE V PERMIT RENEWAL APPLICATION

Marathon Petroleum Company>
Combined Kenova-TriState Terminal

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July 2014

Project 143601.0070

Trinity Consultants

Environmental solutions delivered uncommonly well

TABLE OF CONTENTS

1. INTRODUCTION

Marathon Petroleum Company LP (MPC) owns and operates two adjacent bulk gasoline terminals in Kenova, West Virginia (WV): the Kenova Terminal and the Tri-State Terminal. The Kenova Terminal currently operates under West Virginia Permit to Operate R30-09900100-2010, effective October 8, 2010. The Tri-State Terminal operates under West Virginia Permit to Operate R30-09900022-2010, effective February 12, 2010.

MPC is submitting this Title V application to combine both facilities under a single Title V Permit to Operate. These two facilities have historically been considered a single source when determining permitting applicability and major source status for New Source Review (NSR) and Hazardous Air Pollutant (HAPs). The operations at the two facilities are similar, and a combined permit would streamline the reporting, recording keeping and other compliance activities performed by MPC in accordance with the permit.

The operating permit for the Tri-State Terminal expires on January 29, 2015, and a renewal application is due by July 29, 2014. This document is being submitted as the timely renewal application for the Tri-State Terminal, as well as the application to combine both facilities under a single operating permit (thereby also serving as the renewal application for the Kenova Terminal).[1] Presuming WVDEP finds this application administratively complete, MPC may continue to operate each facility under their respective operating permits until the combined operating permit is issued.

1.1. FACILITY DESCRIPTION

The Kenova Terminal is located at 23rd Street and the Ohio River, Kenova, WV 25530, in Wayne County. The Finished Product Loading Dock is located at Ohio River Mile Marker 316.3 on the Left Descending Bank, and the Loaded Fleet Dock is located at Ohio River Mile Marker 315.9 on the Left Descending Bank. The Kenova Terminal transfers a full range of petroleum products and receives refined petroleum products, primarily gasoline and distillate (which may refer to kerosene, jet kerosene, or fuel oil #2) from MPC's Catlettsburg, Kentucky, refinery via pipeline.[2] Product can be loaded from the Kenova Terminal tank farm or from the Tri-State Terminal tank farm to the Finished Product Loading Dock. Towboats are also fueled at this facility at the Loaded Fleet Dock. However, neither trucks nor railcars are loaded or unloaded at this facility. Off-loading of barges also occurs occasionally. The Kenova Terminal is also the source for product to the Cardinal Pipeline, which is a 16" pipeline connecting the Kenova Terminal with MPC's terminal in Columbus, Ohio. The Kenova Terminal has fourteen (14) above ground storage tanks. The maximum shell capacity of the largest storage tank is 6,631,800 gallons.

The Tri-State Terminal is located adjacent to the Kenova Terminal. The Tri-State Terminal is a bulk storage facility that receives gasoline and distillate by pipeline, stores the products in nine (9) above ground storage tanks, and transfers the product out by pipeline. The terminal does not have truck, rail, or barge loading or unloading operations. The maximum shell capacity of the largest storage tank is 5,527,200 gallons.

In addition to the operations listed above, MPC utilizes additional emission units to support and facilitate facility operations (e.g., generators, hot oil heater, oily sewer system, etc.) Detailed information for these units is included in the emission unit forms provided under Attachment E to this application.

Area maps and plot plans of both the Kenova and Tri-State Terminals are provided in Attachments A and B respectively. A process flow diagram depicting facility operations is provided in Attachment C.

[1] The Kenova Marine Terminal permit expires September 24, 2015, with a renewal application due date of March 24, 2015.

[2] Neither the Kenova Terminal nor the Tri-State Terminal is adjacent to or contiguous with the Catlettsburg Refinery (i.e., the refinery is a different source).

1.2. TITLE V RENEWAL APPLICATION ORGANIZATION

This Title V permit application is organized as follows:

- Section 2 contains an overview of regulatory applicability for the combined Kenova and Tri-State Terminals (hereafter referred to as the Kenova-TriState Terminal);
- Section 3 contains sample emission source calculations;
- Section 4 contains the required WVDEP application forms;
- Attachment A contains an area map;
- Attachment B contains a plot plan;
- Attachment C contains a process flow diagram;
- Attachment D contains the WVDEP Title V equipment table;
- Attachment E contains a WVDEP emission unit form for the emission units at the Kenova-TriState Terminal;
- Attachment F contains a schedule of compliance form (if applicable);
- Attachment G contains a WVDEP control device form for each control device at the Kenova-TriState Terminal;
- Attachment H addresses compliance assurance monitoring requirements (if applicable); and
- Attachment I contains site-wide emission calculations.

A key objective of a Title V operating permit application is to compile all applicable Clean Air Act-derived requirements into one document. The requirements can be categorized as (1) emission limits and work practice standards, and (2) testing, monitoring, recordkeeping, and reporting requirements. To compile a list of the requirements applicable to a facility, it is first necessary to determine which Federal and State air regulations apply to the facility as a whole, or to individual emission units. This section documents the applicability determinations made for Federal and State air quality regulations. Regulations potentially applicable to MPC are detailed in the "*Applicable Requirements*" sections of the forms provided by the WVDEP contained in Section 4 of this report.

The remainder of this section summarizes the air permitting requirements and key air quality regulations that apply to the operation of the Kenova-TriState Terminal. Applicability or non-applicability of the following regulatory programs is addressed:

- Prevention of Significant Deterioration (PSD) permitting;
- Title V of the 1990 Clean Air Act Amendments;
- New Source Performance Standards (NSPS);
- National Emission Standards for Hazardous Air Pollutants (NESHAP);
- Compliance Assurance Monitoring (CAM);
- Risk Management Plan (RMP);
- Stratospheric Ozone Protection; and
- West Virginia State Implementation Plan (SIP) regulations.

This review is presented to supplement and/or add clarification to the information provided in the WVDEP Title V application forms, which fulfill the requirement to include citations and descriptions of applicable statutory and administrative code requirements.

In addition to providing a summary of applicable requirements, this section of the application also provides non-applicability determinations for certain regulations, allowing the WVDEP to confirm that identified regulations are not applicable to the Kenova-TriState Terminal. Note that explanations of non-applicability are limited to those regulations for which there may be some question of applicability specific to the operations at the Kenova-TriState Terminal. Regulations that are categorically non-applicable are not discussed.

2.1. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) SOURCE CLASSIFICATION

Federal construction permitting programs regulate new sources of attainment pollutants under PSD and new sources of non-attainment pollutants under Non-Attainment New Source Review (NNSR). Wayne County has been designated "in attainment" or "unclassifiable" with respect to National Ambient Air Quality Standards (NAAQS) for all criteria pollutants.[3] Petroleum storage and transfer units with a total storage capacity exceeding three hundred thousand barrels are classified as one of the 28 listed source categories in 40 CFR 52.21(b)(1)(i)(a), and are therefore subject to the PSD major source threshold of 100 tpy. The Kenova-TriState Terminal is an existing major source with regard to PSD with facility-wide emissions of VOC in excess of 100 tpy.

The applicability of NNSR is evaluated for proposed construction, reconstruction, and modification projects that result in an emissions increase of a regulated NSR pollutant for which the area is not attaining the NAAQS. As previously stated, Wayne County is "in attainment" or "unclassifiable" for all regulated NSR pollutants, and the Kenova-TriState Terminal is therefore not subject to NNSR review.

[3] Attainment designations for West Virginia counties are established in 40 CFR 81.349.

2.2. TITLE V OPERATING PERMIT PROGRAM

Title 40 of the Code of Federal Regulations Part 70 (40 CFR 70) establishes the federal Title V operating permit program. West Virginia has incorporated the provisions of this federal program in its Title V operating permit program in 45CSR30. The major source potential-to-emit thresholds with respect to the West Virginia Title V operating permit program regulations are 10 tons per year (tpy) of a single HAP, 25 tpy of any combination of HAP, and 100 tpy of all other regulated pollutants.

As shown in Attachment I, total potential emissions from the combined facility exceed the major source thresholds for VOC; therefore, a Title V operating permit is required. Both the Kenova and Tri-State Terminals currently operate under individual Title V permits. This timely and complete renewal application is being submitted by the earlier renewal deadline of July 29, 2014, (i.e., six months prior to the expiration of the Tri-State Terminal's Title V operating permit) in accordance with 45CSR30-4.1.a.3 in order to obtain a combined Title V operating permit (incorporating both the Kenova Terminal and Tri-State Terminal in the same permit).

2.3. NEW SOURCE PERFORMANCE STANDARDS (NSPS)

New Source Performance Standards (NSPS), located in 40 CFR 60, require new, modified, or reconstructed sources in specific source categories to control emissions to the level achievable by the best demonstrated technology as specified in the applicable provisions. Moreover, any source subject to an NSPS is also subject to the general provisions of NSPS Subpart A, except where expressly noted. The following is a summary of applicability and non-applicability determinations for NSPS regulations of relevance to the Kenova-TriState Terminal.

2.3.1. NSPS Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels)

NSPS Subpart Kb applies to storage vessels with a capacity greater than or equal to 75 m^3 (~19,800 gallons) that are used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984. The rule exempts certain storage vessels larger than 75 m^3 that store materials with maximum true vapor pressure below certain limits.[4] Several storage tanks at the combined Kenova-TriState Terminal are subject to this Subpart, based on their capacity and the types of materials being stored. The applicability of this Subpart to each storage tank is indicated on the Emission Unit form for each tank, included in Attachment E of this document. All tanks that are subject to this rule are, and will continue to be, operated in compliance with all applicable requirements.

2.3.2. NSPS Subpart XX – Standards of Performance for Bulk Gasoline Terminals

NSPS Subpart XX applies to gasoline loading to gasoline tank trucks. This rule is not applicable to the Kenova-TriState Terminal, because the combined facility does not have gasoline tank truck loading racks.

2.3.3. NSPS Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

The affected source under 40 CFR 60, Subpart Dc (NSPS Dc) is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989, and that has a maximum design heat input capacity of 100 MMBtu/hr or less, but greater than or equal to 10 MMBtu/hr. NSPS Dc contains emission standards for SO_2 and PM.

As provided in 40 CFR 60.41c, a steam-generating unit is defined as:

[4] Item 19 in the General Form immediately following this application narrative identifies tanks to which the provisions of NSPS Kb do not apply and includes the relevant citation.

...a device that combusts any fuel and produces steam or heats water or any other heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.

The hot oil heater has a heat input capacity of 2.499 MMBtu/hr. Because NSPS Dc does not apply to units with design heat input capacities of less than 10 MMBtu/hr, the provisions of NSPS Dc do not apply to the hot oil heater at the Kenova-TriState Terminal.

2.3.4. NSPS Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

Affected sources under NSPS JJJJ include spark ignition internal combustion engines. MPC operates two 14 hp propane-fired emergency backup generators that were manufactured and installed after July 1, 2008, and are therefore subject to the provisions of NSPS JJJJ per 40 CFR 60.4230(a)(4)(iii). MPC purchased engines certified to meet the emission standards of 40 CFR 60.4231(a) and operates these generators in accordance with the requirements of Subpart JJJJ.

2.4. NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP)

40 CFR Part 61 and 63 NESHAP allowable emission limits are established on the basis of a maximum achievable control technology (MACT) determination for a particular source. A HAP major source is defined as having potential emissions in excess of 25 tpy for total HAP and/or potential emissions in excess of 10 tpy for any individual HAP.

The Kenova-TriState Terminal has historically been considered a major source of HAP emissions; previously submitted calculations appeared to confirm this conclusion, showing highest individual HAP emissions and combined facility-wide HAP potential emissions exceeding their respective 10 and 25 tpy major source thresholds. However, these calculations employed a different HAP constituency in the gasoline vapor (e.g., assumed 7% xylene and 7% benzene in the vapor phase). Uncontrolled HAP emissions do exceed the major source thresholds, but the Kenova-TriState Terminal is subject to MACT Y (as detailed below), which requires MPC achieve a 97% control efficiency for HAP from marine loading operations.

When accounting for this control efficiency and utilizing the gasoline vapor HAP composition factors included in Table 3.1 of the Gasoline Distribution Industry (Stage I) - Background Information for Proposed Standards Draft Report, HAP emissions at the Kenova-TriState Terminal do not exceed the applicable 10 and 25 tpy thresholds. Therefore, the regulatory applicability analyses included in this section reflect the area source status of the Kenova-TriState Terminal.

NESHAP Subparts have been promulgated for both Area and Major sources of HAP. NESHAP apply to sources in specifically regulated industrial source categories (Clean Air Act Section 112(d)) or on a case-by-case basis (Section 112(g)) for facilities not regulated as a specific industrial source type.

2.4.1. Part 61 NESHAP Subpart M – National Emission Standard for Asbestos

NESHAP Subpart M includes standards and requirements for facilities related to the safe handling of asbestos containing materials. This rule is generally applicable to the Kenova-TriState Terminal. MPC will continue to meet all applicable requirements of this rule.

2.4.2. Part 61 NESHAP Subpart BB – National Emission Standard for Benzene Emissions from Benzene Transfer Operations

NESHAP Subpart BB includes standards and requirements for facilities related to the safe handling of benzene containing materials and specifically applies to loading racks at which benzene is loaded into tank trucks, railcars, or marine vessels at benzene production facilities and bulk terminals. However, as provided in 40 CFR 61.300(a), the

loading of gasoline, crude oil, natural gas liquids, and petroleum distillates (e.g., fuel oil, diesel, or kerosene) are specifically exempted from the regulation; 40 CFR 61 Subpart BB is therefore not applicable to the Kenova-TriState Terminal.

2.4.3. Part 63 NESHAP Subpart R – National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations)

NESHAP Subpart R applies to bulk gasoline terminals and pipeline breakout stations. Exemptions to this rule include facilities that are not major sources of HAP or facilities that are below the emissions screening factor thresholds as determined in 40 CFR 63.420(a)(1) for bulk gasoline terminals and 40 CFR 63.420(b)(1) for pipeline breakout stations. MACT R was promulgated on December 14, 1994.[5] Because MACT Y was promulgated on September 19, 1995,[6] the Kenova-TriState Terminal could not account for the control efficiency required under MACT Y when initially assessing MACT R applicability. The Kenova-TriState Terminal was therefore subject to MACT R at the time of its promulgation, and the terminal will remain subject to Subpart R based on US EPA's "Once In, Always In" MACT policy. MPC is operating, and will continue to operate, the Kenova-TriState Terminal in accordance with the requirements of this rule.

2.4.4. Part 63 NESHAP Subpart Y – National Emission Standards for Marine Tank Vessel Loading Operations

NESHAP Subpart Y applies to marine vessel loading operations at major sources of HAP. The Kenova-TriState Terminal operates existing marine vessel loading operations; therefore, this rule will be applicable to the facility. MPC is operating, and will continue to operate, all marine tank vessel loading facilities in accordance with the requirements of this rule.[7]

2.4.5. Part 63 NESHAP Subpart EEEE – Organic Liquids Distribution (Non-gasoline)

NESHAP Subpart EEEE was promulgated in 2004[8] and applies to major sources of HAP that operate organic liquid distribution (OLD) (non-gasoline) facilities. Pursuant to 40 CFR 63.2338(c), affected sources (e.g., storage tanks, transfer racks, equipment leak components) that are part of an affected source under another NESHAP are not subject to Subpart EEEE. In addition, gasoline, distillate oils No. 1 and No. 2, and wastewater are excluded from the definition of organic liquids in this rule. Furthermore, this rule was also promulgated after MACT Y, and the Kenova-TriState Terminal is therefore not a major source with respect to this rule. For these reasons, Subpart EEEE does not apply to the Kenova-TriState Terminal.

2.4.6. Part 63 NESHAP Subpart ZZZZ – Stationary Reciprocating Internal Combustion Engines

NESHAP Subpart ZZZZ was promulgated in 2004[9] and applies to facilities that operate internal combustion engines. MPC owns and operates one (1) diesel-fired emergency fire water pump internal combustion engine that is subject to the provisions of 40 CFR 63 Subpart ZZZZ as an existing emergency RICE. MPC has implemented appropriate compliance standards for this engine; specifically, MPC complies with the work practice standards stipulated in 40 CFR 63.6603 (Table 2d, Item 4) and 40 CFR 63.6625, as appropriate. MPC additionally operates two propane-fired emergency backup generators which comply with Subpart ZZZZ by meeting the requirements of NSPS JJJJ in accordance with 40 CFR 63.6590(c)(1).

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[5] 59 FR 64318.

[6] 61 FR 48399.

[7] The unit-specific forms for loading operations included in Attachment E to this application address applicable requirements of 40 CFR 63 Subpart Y.

[8] 69 FR 5038

[9] 69 FR 33473

2.4.7. Part 63 NESHAP Subpart DDDDD – Industrial, Commercial, and Institutional Boilers and Process Heaters (at Major Sources)

NESHAP Subpart DDDDD applies to boilers and process heaters. The Kenova-TriState Terminal utilizes a hot oil heater to regulate the temperature of the biodiesel stored in Tank 273 (Tank 1S); however, the terminal was not a major source of HAP at the time the heater was installed in 2012 (refer to Attachment I). Therefore, the Boiler MACT does not apply to the Kenova-TriState Terminal.

2.4.8. Part 63 NESHAP Subpart JJJJJJ – Industrial, Commercial, and Institutional Boilers and Process Heaters (at Area Sources)

NESHAP Subpart JJJJJJ applies to boilers located at area sources of HAP. 40 CFR 63.11237 defines a boiler as follows:

> *…enclosed device using controlled flame combustion in which water is heated to recover thermal energy in the form of steam and/or hot water. Controlled flame combustion refers to a steady-state, or near steady-state, process wherein fuel and/or oxidizer feed rates are controlled. A device combusting solid waste, as defined in § 241.3 of this chapter, is not a boiler unless the device is exempt from the definition of a solid waste incineration unit as provided in section 129(g)(1) of the Clean Air Act. Waste heat boilers, process heaters, and autoclaves are excluded from the definition of Boiler.*

Because the hot oil heater is a process heater, it does not meet the definition of a boiler as provided under the rule. Therefore, the provisions of NESHAP JJJJJJ are not applicable to the hot oil heater at the Kenova-TriState Terminal.

2.4.9. Part 63 NESHAP Subpart BBBBBB

Per 40 CFR 63.11081(a), NESHAP BBBBBB applies to area source bulk gasoline terminals that are not subject to MACT R, pipeline breakout stations that are not subject to MACT R, pipeline pumping stations, and bulk gasoline plants. Because the Kenova-TriState Terminal is subject to MACT R and is not a pipeline pumping station or bulk gasoline plant (as defined in 40 CFR 63.11100), NESHAP BBBBBB does not apply to the Kenova-TriState Terminal.

2.4.10. Part 63 NESHAP Subpart CCCCCC

40 CFR 63, Subpart CCCCCC (GACT 6C) regulates the loading of gasoline storage tanks at gasoline dispensing facilities (GDFs). Affected sources under GACT 6C include GDFs that are located at an area source of HAP. A GDF is defined as

> *any stationary facility which dispenses gasoline into the fuel tank of a motor vehicle, motor vehicle engine, nonroad vehicle, or nonroad engine.*

There are no stationary facilities at the Kenova-TriState Terminal that dispense a material meeting the definition of gasoline[10] into the fuel tank of a vehicle. Thus, the provisions of GACT 6C are not applicable to the Kenova-TriState Terminal.

2.5. COMPLIANCE ASSURANCE MONITORING

Under 40 CFR 64, the Compliance Assurance Monitoring (CAM) regulations, facilities are required to prepare and submit monitoring plans for certain emissions units with the initial or renewal Title V operating permit application. CAM Plans are intended to provide an on-going and reasonable assurance of compliance with emission limits for sources that utilize active control devices where existing Title V permit requirements may not be considered sufficient.

[10] Per 40 CFR 63.11132, "*Gasoline* means any petroleum distillate or petroleum distillate/ alcohol blend having a Reid vapor pressure of 27.6 kilopascals or greater, which is used as a fuel for internal combustion engines."

Under the general applicability criteria, this regulation applies only to emission units that use a control device to comply with a federally-enforceable requirement (e.g. emission limit) and whose pre-controlled emission levels exceed the major source thresholds under the Title V operating permit program. It should be noted that based on the definitions in the rule, a "control device" does not include passive control measures that act to prevent pollutants from forming, such as the use of seals, lids, or roofs to prevent the release of pollutants, use of low-polluting fuel or feedstocks, or the use of combustion or other process design features or characteristics. Accordingly, none of the storage tanks with floating roofs at the Kenova-TriState Terminal are equipped with a control device with respect to CAM applicability. The only emission unit with a control device (and therefore the only emission unit potentially subject to CAM provisions) is the barge loading rack.

VOC emissions from barge loading operations are controlled by a vapor recovery unit (VRU) when loading gasoline. 40 CFR 63.562(b)(2) requires that MPC reduce captured HAP emissions from marine tank vessel loading operations by 97 weight-percent. 40 CFR 63.564(a) establishes monitoring requirements under MACT Y, and MPC complies with these standards through the utilization of a Continuous Emissions Monitoring System (CEMS). As provided in 40 CFR 64.2(b)(1)(i), CAM requirements do not apply to MACT emission limits promulgated after November 15, 1990. Because the only applicable emission limit is established in MACT Y, which was promulgated September 19, 1995, the 97 weight-percent limit is not subject to the requirements of CAM.

Loading operations are additionally subject to the reasonably available control technology (RACT) standards established in 40 CFR 63.562(c). Specifically, MPC must reduce captured VOC emissions by 95 weight-percent per 40 CFR 63.562(c)(3). However, 40 CFR 64.2(b)(1)(vi) provides that any emission limitations or standards for which a permit issued in accordance with 40 CFR 70 or 40 CFR 71 establishes a continuous compliance determination method is exempt from CAM requirements. MPC assesses compliance with this limit via utilization of the CEMS in accordance with the Title V permit. 40 CFR 64.1 defines 'continuous compliance determination method' as:

> *… a method, specified by the applicable standard or an applicable permit condition, which:*
>
> *(1) Is used to determine compliance with an emission limitation or standard on a continuous basis, consistent with the averaging period established for the emission limitation or standard; and*
>
> *(2) Provides data either in units of the standard or correlated directly with the compliance limit.*

Because the CEMS operates on a continuous basis and provides data which directly correlate with the compliance limit,[11] the CEMS meets the two (2) criteria required to constitute a continuous compliance determination method as defined in 40 CFR 64.1. Therefore, the RACT limit is also exempt from the requirements of CAM in accordance with 40 CFR 64.2(b)(1)(vi).

45CSR34 incorporates by reference applicable MACT requirements; no other SIP rules limit VOC emissions from the loading operations. Therefore, the loading operations are not subject to CAM requirements.

Because no source meets all three applicability criteria (i.e., uses a control device, uses that control device to comply with a federally enforceable emission limit, and has pre-controlled emissions exceeding major source thresholds), CAM is not applicable at the Kenova-TriState Terminal.

2.6. RISK MANAGEMENT PLAN REGULATIONS

Subpart B of 40 CFR 68 outlines requirements for risk management prevention plans pursuant to Section 112(r) of the Clean Air Act. Applicability of the subpart is determined based on the type and quantity of chemicals stored at a facility. MPC has evaluated the amount of Section 112(r) substances stored at the Kenova-TriState Terminal and determined that the facility is not subject to the RMP. Regulated substances in gasoline, when in distribution or

[11] Per 40 CFR 63.563(b)(6)(iii), the facility shall operate with a block average outlet VOC concentration as determined in 40 CFR 63.564(g)(1) of no more than 1,200 ppmv VOC.

related storage for use as fuel for internal combustion engines, are exempt from the threshold determination per 40 CFR 68.115(b)(2)(ii), and MPC does not have more than a threshold quantity of a regulated substance in a process. The general duty clause requires MPC to minimize consequences of accidental releases.

2.7. STRATOSPHERIC OZONE PROTECTION REGULATIONS

The requirements originating from Title VI of the Clean Air Act, entitled *Protection of Stratospheric Ozone,* are contained in 40 CFR 82. Subparts A through E and Subparts G and H of 40 CFR Part 82 are not applicable to the Kenova-TriState Terminal (as the Kenova-TriState Terminal does not engage in the activities regulated therein). 40 CFR 82 Subpart F, *Recycling and Emissions Reduction,* potentially applies if the facility operates, maintains, repairs, services, or disposes of appliances that utilize Class I or Class II ozone depleting substances. Subpart F generally applies to the facility, and MPC will continue to operate in compliance with the applicable requirements.

2.8. WEST VIRGINIA SIP REGULATIONS

This section of the application highlights applicability of specific West Virginia State Implementation Plan (SIP) regulations that may apply to the Kenova-TriState Terminal.

2.8.1. 45CSR2: To Prevent and Control Particulate Matter Air Pollution from Combustion of Fuel in Indirect Heat Exchangers

45CSR2 contains requirements for particulate matter emissions from the combustion of fuel in indirect heat exchangers. The provisions of 45CSR2-2.14 define indirect heat exchangers as the following:

> *… a device that combusts any fuel and produces steam or heats water or any other heat transfer medium.*

The engines installed at the Kenova-TriState Terminal do not meet the definition of an indirect heat exchanger; therefore, they are not subject to the requirements of 45CSR2. However, the hot oil heater does meet the definition of an indirect heat exchanger. Pursuant to 45CSR2-3.1, emissions of smoke and/or particulate matter from the hot oil heater must not exceed ten (10) percent opacity based on a six-minute average.

Per 45CSR2-11.1, any fuel burning unit with a heat input of less than ten (10) MMBtu/hr is exempt from sections 4,5,6,8, and 9 of this rule; as the hot oil heater has a heat input capacity of 2.499 MMBtu/hr, the heater will not be subject to any requirements from Sections 4, 5, 6, 8, and 9 of this rule.

2.8.2. 45CSR4: To Prevent and Control the Discharge of Air Pollutants into the Air Which Causes or Contributes to an Objectionable Odor – State Only

According to 45CSR4-3:

> *No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.*

The Kenova-TriState Terminal are subject to this state only requirement. MPC will continue to operate in compliance with this rule.

2.8.3. 45CSR6: To Prevent and Control Air Pollution from Combustion of Refuse

According to 45CSR6-3:

> *The open burning of refuse by any person is prohibited…*

The Kenova-TriState Terminal is subject to this state only requirement. MPC will continue to operate in compliance with this rule by prohibiting open burning.

2.8.4. 45CSR7: To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Other Associated Operations

45CSR7 includes provisions intended to prevent and control emissions of particulate matter from manufacturing processes and associated operations. Because the fire water pump engine serves the sole purpose of fire suppression and does not support any manufacturing activities, this engine does not meet the definition of a manufacturing process pursuant to 45CSR7-2.38. Similarly, the backup generators serve as power sources only during emergency situations. Therefore, the requirements of 45CSR7 do not apply to the engines at the Kenova-TriState Terminal. Furthermore, in accordance with 45CSR7-10.1, the provisions of this rule do not apply to particulate matter emissions regulated by 45CSR2, 3, and 5. Because 45CSR2 establishes an opacity limit for MPC's hot oil heater, the hot oil heater is exempt from the provisions of 45CSR7.

The requirements of 45CSR7-5 apply to sources of fugitive particulate matter, including the roadways/parking areas and the cooling tower. MPC complies with the requirements of 45CSR7-5.2 by applying appropriate control measures (i.e., paving) to plant roadways to minimize particulate emissions. MPC will also comply with the requirements of 45CSR7 for the cooling tower; 45CSR7-5.1 stipulates that the cooling tower be equipped with a system (which may include process equipment design, control equipment design, or operation and maintenance procedures) to minimize emissions of fugitive particulate emissions. MPC complies by conducting daily blowdowns (i.e., emptying and refilling system water) to minimize total dissolved solids (TDS) content in cooling water, thereby minimizing fugitive emissions.

2.8.5. 45CSR10: To Prevent and Control Air Pollution from the Emission of Sulfur Oxides

This rule prevents and controls emissions of sulfur oxides (SO_X) from fuel burning sources, manufacturing process sources, and the combustion of refinery and/or process gas streams. The engines meet neither the definition of fuel burning source pursuant to 45CSR10-2.8 nor the definition of manufacturing process pursuant to 45CSR10-2.11. Furthermore, because the engines will not fire process or refinery fuel gas, the requirements of 45CSR10 do not apply to the engines.

According to 45CSR10-10.1, any fuel burning unit having a design heat capacity under ten (10) MMBtu/hr is exempt from Section 3 and Sections 6-8 of 45CSR10. The hot oil heater has a heat input capacity of 2.499 MMBtu/hr. Furthermore, the heater does not meet the definition of manufacturing process pursuant to 45CSR10-2.11 and will not fire process or refinery fuel gas. Accordingly, the hot oil heater at MPC's Kenova-TriState Terminal will not be subject to any substantive requirements under 45CSR10.

2.8.6. 45CSR11: Prevention of Air Pollution Emergency Episodes

According to 45CSR11-5.1:

> *Any person responsible for the operation of a source of air pollutants emitting 100 tons per year or more in a region classified Priority I or II for any pollutant, shall prepare standby plans for reducing the emission of air pollutants during periods of an Air Pollution Alert, Air Pollution Warning, and Air Pollution Emergency.*

The Kenova-TriState Terminal are subject to this rule. The facility is located in West Virginia Air Quality Control Region 3 (USEPA AQCR 103). This region is classified as Priority I for particulate matter and Priority III for sulfur oxides, carbon monoxide, nitrogen dioxide, hydrocarbons and ozone according to the Pollutant Table of 45CSR11.

Facility-wide emissions of particulate matter are below 100 tons per year. When requested by the secretary, MPC is responsible for providing a written emergency standby plan in accordance with this rule.

2.8.7. 45CSR13: Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, Permission to Commence Construction, and Procedures for Evaluation

According to 45CSR13-5:

> *No person shall cause, suffer, allow or permit the construction, modification, relocation and operation of any stationary source to be commenced without notifying the Secretary of such intent and obtaining a permit to construct, modify, relocate and operate the stationary source as required in this rule or any other applicable rule promulgated by the Secretary.*

The provisions for construction permits under 45CSR13 apply to the Kenova-TriState Terminal. Currently, the Kenova-TriState Terminal has two (2) active construction permits: R13-1352A and R13-2277C. In the event that MPC would propose the construction of an additional unit at the Kenova-TriState Terminal, or modifications to existing units, the proper Rule 13 (R13) permit application procedures would be followed.[12]

2.8.8. 45CSR16: Standards of Performance for New Stationary Sources

The provisions of 45CSR16 incorporate by reference the NSPS standards contained in 40 CFR 60. MPC will continue to comply with NSPS Kb as described in subsection 2.3.1 of this report.

2.8.9. 45CSR21, Section 22: Bulk Gasoline Terminals

According to 45CSR21-22:

> *22.1. Applicability. -- This section 22 applies to all loading racks at any bulk gasoline terminal which deliver liquid product into gasoline tank trucks.*

This rule is not applicable to the Kenova-TriState Terminal, as the terminal does not operate loading racks that deliver liquid product into gasoline tank trucks.

2.8.10. 45CSR21 Sections 27 and 28: Petroleum Liquid Storage in External Floating Roof Tanks and Petroleum Liquid Storage in Fixed Roof Tanks

45CSR21-27 applies to petroleum liquid storage in tanks with external floating roofs with capacities greater than 40,000 gallons. 45CSR21-28 applies to petroleum liquid storage in tanks with fixed roofs (including those equipped with internal floating roofs) with capacities greater than 40,000 gallons. These sections of this rule will apply to several storage tanks at the Kenova-TriState Terminal. The applicability of this rule to each storage tank is indicated on the Emission Unit form for each tank, included in Attachment E of this document.

2.8.11. 45CSR21 Section 40: Other Facilities that Emit Volatile Organic Compounds (VOC)

45CSR21-40 applies to any facility that has aggregate maximum theoretical VOC emissions in excess of 100 tpy. However, sources regulated under Sections 11 through 39 of 45CSR21, as well as barge loading and the hot oil heater (per 45CSR21-40.1.d), can be excluded when comparing facility VOC emissions to the 100 tpy applicability threshold. VOC emissions from the remaining sources (e.g., tanks subject but exempt from 45CSR21-27 or 28, oily water sewer system, fugitive leaks, etc.) do not exceed 100 tpy, and the Kenova-TriState Terminal is therefore not subject to 45CSR21-40.

[12] MPC does not have any permits issued under 45CSR14 or 45CSR19.

2.8.12. 45CSR22 Air Quality Management Fee Program

This rule is generally applicable to the Kenova-TriState Terminal; as applicable, MPC will pay the appropriate fees (including those associated with a permit to construct) in accordance with the rule.

2.8.13. 45CSR29 Rule Requiring the Submission of Emission Statements for VOC Emissions and Oxides of Nitrogen Emissions

45CSR29 requires the submission of emission statements for stationary sources of NO_X or VOC located in Putnam, Kanawha, Cabell, Wayne, Wood, and Greenbrier Counties. Operations at the Kenova-TriState Terminal exceed the emissions thresholds provided in 45CSR29-3.2. MPC submits the Certified Emission Statement as well as an emission inventory on an annual basis. Therefore, MPC submits and annual emissions statement in accordance with the provisions of 45CSR29-4 and 5.

2.8.14. 45CSR30: Requirements for Operating Permits

According to 45CSR30-3:

> *On and after the effective date of the operating program, no person shall violate any requirement of a permit issued under this rule nor shall any person operate any of the following sources, except in compliance with a permit issued under this rule.*

The Kenova-TriState Terminal is subject to the requirement for a Title V operating permit as discussed in Section 2.2 of this report. The Kenova and Tri-State Terminals currently operate in compliance with individual Title V operating permits in accordance with this rule. This application is being submitted to combine the facilities under a single Title V operating permit. Additionally, MPC submits (and will continue to submit) a certified emissions statement and pay the corresponding fees in accordance with 45CSR30-8.

2.8.15. 45CSR34: Emission Standards for Hazardous Air Pollutants

The provisions of 45CSR34 incorporate by reference the MACT standards contained in 40 CFR 63. MPC will continue to comply with MACT R, MACT Y, and MACT ZZZZ, as described in subsections 2.3.1 of this application.

2.8.16. 45CSR42: Greenhouse Gas Emissions Inventory

The Title V permits under which the Kenova and Tri-State Terminals currently operate each contain requirements stipulating compliance with greenhouse gas reporting requirements of 45CSR42; however, this rule was repealed effective June 1, 2012. Accordingly, MPC is requesting that these requirements be removed from the Title V permit requested with this application.

2.8.17. Non-Applicability of Other SIP Rules

A thorough examination of the West Virginia SIP rule applicability to the Kenova-TriState Terminal reveals many SIP regulations that do not apply or impose additional requirements on operations. Such SIP rules include those specific to a particular type of industrial operation that is categorically not applicable to the facility.

This section of the application provides a discussion of emission calculation methodology used for the emission sources at the Kenova-TriState Terminal. Detailed emissions calculations are provided in Appendix I to this report.

3.1. EMISSIONS FROM STORAGE TANKS

The Kenova-TriState Terminal includes multiple storage tanks that store a variety of petroleum products. Emissions from these tanks were estimated using the EPA's TANKS program. TANKS is a software program that uses emission factors and formulas from AP-42 Section 7.1 (Organic Liquid Storage Tanks) and calculates emissions based on tank size, type, throughput, and contents. Emissions are calculated as working losses, which occur due to vapor replacement during the filling and emptying of the tank, and breathing losses, which are caused by vapor expansion and contraction due to temperature variations. Due to the nature of the tank contents, it was assumed that all emissions are VOC emissions.

Information was gathered for each tank concerning its working volume, type, throughput, and contents. If a tank is able to store more than one type of material throughout the year, emissions for each material were compared and the worst-case emissions were selected. In the case of tanks that can store gasoline or distillate fuels, gasoline was used to calculate emissions. MPC also considered seasonal variability in the gasoline stored in the tanks; specifically, MPC applied the following product storage schedule to obtain emissions estimates from the tanks:

- Gasoline RVP 15: January-March, October-December;
- Gasoline RVP 13.5: April, September;
- Gasoline RVP 9: May-August.

The VOC emissions from the tanks were calculated using historical throughputs for the tanks multiplied by a safety factor to give a maximum possible throughput. For tanks that store only distillate fuels, kerosene was used to estimate emissions. For the petroleum wastewater tanks, a worst-case scenario of a gasoline layer was used.

Details of the sizes, types, contents and throughputs of each tank are provided in Attachment E of this application, as well as in the detailed emissions calculations in Attachment I.

3.2. EMISSIONS FROM TANK LANDING LOSSES

In addition to standard working and breathing emissions from storage tanks, emissions in floating roof tanks due to landing losses were estimated. These emissions occur when a floating roof tank has been emptied to the point that the roof is resting on the roof leg supports and is no longer floating on the liquid. In developing these estimates, MPC determined the combination of material stored and seasonal meteorological data resulting in the highest potential emissions (e.g., Gasoline RVP 13.5 in September for floating roof tanks storing gasoline) and assumed the tank was landed during that month. Landing loss emissions were estimated using the methodology in AP-42 Section 7.1.3.1. Note that given the unique nature of these emissions and the established historical precedent, landing loss emissions were not included in potential emissions for each individual tank. Landing loss emissions are reflected in the facility-wide potential to emit in Attachment I.

3.3. FUGITIVE EMISSIONS FROM EQUIPMENT LEAKS

Fugitive emissions occur through leakage from a variety of fittings that are present on the equipment at the Kenova-TriState Terminal that store and transmit petroleum liquids. These fittings include valves, connectors, flanges, pump seals, and pressure release valves.

Fugitive emissions from equipment leaks are calculated based on the number of components at the Kenova-TriState Terminal and EPA's averaging emission factor method that is described in EPA's Protocol for Equipment Leak Emission Estimates (EPA-453/R-95-017) dated November 1995. Emission factors for marketing terminals (Table 2-3) were used to quantify these emissions. Since the EPA document does not provide emission factors for components in heavy liquid service (i.e., jet kerosene), MPC conservatively applied the light liquid factors to these components as well.

3.4. EMISSIONS FROM MARINE BARGE LOADING

Emissions from marine barge loading are quantified based on the hydraulic limitations imposed by the piping and pumps associated with the VRU; specifically, only 13,600 bbls/hr of gasoline can be loaded at any given time as a result of these limitations. Distillate loading is limited to one loading arm (i.e., 6,000 bbl/hr) when gasoline is being loaded at capacity (representing the worst-case scenario from an emissions perspective). Calculations utilize emission factors provided in AP-42, Section 5.2, and account for 100% capture efficiency[13] and 97% control efficiency[14] at the VRU when loading gasoline. MPC does not recover vapors from distillate barge loading, and MPC therefore does not apply any capture or control efficiencies to distillate loading operations.

3.5. EMISSIONS FROM TANK 273 HOT OIL HEATER

The hot oil heater provides heat to regulate the temperature of the contents of Tank 273 in order to maintain the biodiesel stored therein at the appropriate temperature necessary to maintain product quality. Combustion emissions from the natural gas-fired heater are quantified using the factor for natural gas-fired external combustion sources from AP-42 and the maximum heat input capacity.

3.6. EMISSIONS FROM ENGINES

Emissions from the emergency diesel-fired fire water pump engine were determined utilizing the manufacturer's engine specifications (e.g., horsepower), emission factors for diesel-fired engines from AP-42 or from the manufacturer's test data, and a 500 hour-per-year operating limit necessary to for the engine to be classified as an emergency engine.

Emissions from the emergency propane-fired backup generators were determined by applying AP-42 factors for the internal combustion of natural gas in 4-stroke lean burn engines. In accordance with footnote 'a' to AP-42 Section 1.5, Table 1.5-1, natural gas combustion emission factors for VOC, PM, and CO are reasonably representative of propane combustion emission. This assumption was also applied to SO_2 emissions. Emissions of NO_X were developed using AP-42 factors from Section 3.2 and incorporate a correction factor of 1.5 (as shown in Attachment I).

3.7. EMISSIONS FROM DIESEL FUELING OPERATIONS

MPC is capable of fueling boats; potential emissions from this process were estimated using assumptions regarding the maximum amount of distillate throughput that would ever be realized at these operations and the emission factor for splash loading operations from Table 5.2.5 in AP-42.

3.8. EMISSIONS FROM ROADWAY TRAFFIC

Traffic via the paved roadways and parking lots at MPC's Kenova-TriState Terminal will generate a small amount of particulate emissions. MPC quantified these emissions by making assumptions regarding maximum possible amount

[13] 100% capture efficiency is assumed in accordance with the preamble to MACT Y (Federal Register: May 13, 1994), which indicates that a 100% capture efficiency can be applied to vapor tight vessel loading operations.

[14] 97% control efficiency required per 40 CFR 63.562(b)(2).

of vehicular traffic via specific vehicle pathways. MPC used the calculations and methodologies established in AP-42, Section 13.2.1.

3.9. COOLING TOWER EMISSIONS

MPC operates a cooling tower to regulate the temperature of incoming product from the Catlettsburg Refinery. Operation of the cooling tower generates a small amount of particulate emissions. These emissions were quantified using a recirculation rate of 400 gallon/minute and engineering assumptions regarding the drift loss and relevant characteristics of the water (i.e., conductivity). Emissions were estimated using the methodology provided in AP-42, Section 13.4.2.

3.10. OILY SEWER SYSTEM EMISSIONS

A network of drains, sumps, pipes, and lift stations serves to divert stormwater and process wastewater to Tank 256. MPC estimated emissions due to the operation of this sewer system by determining the amount of various components in the system, estimating a maximum possible system throughput, and applying an appropriate emission factor for each component within MPC's Refinery Wastewater Emissions Tool (RWET). Pollutant-specific emissions were estimated using available sample data for benzene in the wastewater exiting Tank 256 and applying the ratios provided in Table 7-9 of "Emission Estimation Protocol for Petroleum Refineries: Version 2.1.1."

3.11. EMISSIONS FROM GASOLINE FILTER CHANGEOUTS

MPC has quantified the expected fugitive emissions that occur during the change-out of gasoline filters. These emissions were estimated using the volume of gasoline involved during the filter change-out, a conservative engineering estimate of the amount gasoline vapor emitted during the change-out, and the number of expected change-outs each year. Emissions were calculated using the equation below:

$$E = \frac{V_G x\ N\ x\ P_G x\ \rho_G}{2000}$$

Where:

E = VOC emissions (tons VOC per year)
V_G = estimated volume of gasoline per filter change-out (gallons)
N = estimate number of change-outs per year
P_G = estimated percentage of gasoline vapor emitted per change-out (%)
ρ_G = density of gasoline (lb/gallon)
2000 = conversion from lbs to tons

3.12. FACILITY-WIDE HAP EMISSIONS

MPC has also included potential HAP emissions calculated using the maximum VOC emissions presented in Attachment I and the HAP content constants for gasoline and distillate given in Table 3.1 of the Gasoline Distribution Industry (Stage I) – Background Information for Proposed Standards Draft Report. When appropriate, MPC applied factors from AP-42 and other sources as discussed in Sections 3.1-3.11 and documented in Attachment I.

3.13. FACILITY-WIDE EMISSIONS

Additional detailed documentation for each of these sources, including relevant assumptions and calculation methodology, is included in Attachment I to this section. Attachment I also provides a summary of the unit-specific emissions and facility-wide emissions on a pollutant-by-pollutant basis.

4. TITLE V APPLICATION FORMS

The WVDEP permit application forms contained in this application include facility-wide and emission source specific forms for the Kenova-TriState Terminal facility Title V permit. The completed Title V permit forms are included in this section.

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY
601 57th Street SE
Charleston, WV 25304
Phone: (304) 926-0475
www.dep.wv.gov/daq

INITIAL/RENEWAL TITLE V PERMIT APPLICATION - GENERAL FORMS

Section 1: General Information

1. **Name of Applicant (As registered with the WV Secretary of State's Office):** Marathon Petroleum Company LP	**2. Facility Name or Location:** Kenova-TriState Terminal Kenova, Wayne County, West Virginia
3. DAQ Plant ID No.: 099 – 00022 (Tri-State) 099 – 00100 (Kenova)	**4. Federal Employer ID No. (FEIN):** 311537655

5. **Permit Application Type:**

☐ Initial Permit — When did operations commence? 01/01/1951

☒ Permit Renewal — What is the expiration date of the existing permit? 01/29 /2015 (Tri-State) 3/24/15 (Kenova)

☐ Update to Initial/Renewal Permit Application

6. Type of Business Entity: ☐ Corporation ☐ Governmental Agency ☐ LLC ☐ Partnership ☒ Limited Partnership	**7. Is the Applicant the:** ☐ Owner ☐ Operator ☒ Both If the Applicant is not both the owner and operator, please provide the name and address of the other party. _____
8. Number of onsite employees: 72	

9. Governmental Code:

☒ Privately owned and operated; 0
☐ Federally owned and operated; 1
☐ State government owned and operated; 2
☐ County government owned and operated; 3
☐ Municipality government owned and operated; 4
☐ District government owned and operated; 5

10. Business Confidentiality Claims

Does this application include confidential information (per 45CSR31)? ☐ Yes ☒ No

If yes, identify each segment of information on each page that is submitted as confidential, and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's *"PRECAUTIONARY NOTICE-CLAIMS OF CONFIDENTIALITY"* guidance.

11. Mailing Address		
Street or P.O. Box: 539 South Main Street		
City: Findlay	**State:** OH	**Zip:** 45840-3295
Telephone Number: (419) 422-2121 EXT. 3774	**Fax Number:** (419) 421-2905	

12. Facility Location		
Street: 23rd and River Streets	**City:** Kenova	**County:** Wayne County
UTM Easting: 361.323 km	**UTM Northing:** 4,251.68 km	**Zone:** ☒ 17 or ☐ 18
Directions: From Charleston, travel I-64 to the Ceredo/Kenova exit. Take Highway 75 North to Route 60 West. Turn right onto 21st Street, then left on Beech Street. Storage tank farm on left, second black top road to the right and through flood wall is the office and barge loading.		
Portable Source? ☐ Yes ☒ No		
Is facility located within a nonattainment area? ☐ Yes ☒ No		**If yes, for what air pollutants?**
Is facility located within 50 miles of another state? ☒ Yes ☐ No		**If yes, name the affected state(s).** KY, OH
Is facility located within 100 km of a Class I Area[1]? ☐ Yes ☒ No **If no, do emissions impact a Class I Area[1]?** ☐ Yes ☒ No		**If yes, name the area(s).**

[1] *Class I areas include Dolly Sods and Otter Creek Wilderness Areas in West Virginia, and Shenandoah National Park and James River Face Wilderness Area in Virginia.*

13. Contact Information		
Responsible Official: Tim Aydt		**Title:** Deputy Assistant Secretary
Street or P.O. Box: 539 South Main Street		
City: Findlay	**State:** OH	**Zip:** 45840
Telephone Number: (419)-422-2121	**Fax Number:** (419) 421-2905	
E-mail address: tjaydt@marathonpetroleum.com		
Environmental Contact: Greg Moore		**Title:** Health, Safety and Environmental Manager
Street or P.O. Box: 539 South Main Street		
City: Findlay	**State:** OH	**Zip:** 45840-3295
Telephone Number: (419) 422-2121 EXT. 3774	**Fax Number:** (419) 421-2905	
E-mail address: wgmoore@marathonpetroleum.com		
Application Preparer: Greg Moore		**Title:** Health, Safety and Environmental Manager
Company: Marathon Petroleum Company LP		
Street or P.O. Box: 539 South Main Street		
City: Findlay	**State:** OH	**Zip:** 45840-3295
Telephone Number: (419) 422-2121 EXT. 3774	**Fax Number:** (419) 421-2905	
E-mail address: wgmoore@marathonpetroleum.com		

14. Facility Description

List all processes, products, NAICS and SIC codes for normal operation, in order of priority. Also list any process, products, NAICS and SIC codes associated with any alternative operating scenarios if different from those listed for normal operation.

Process	Products	NAICS	SIC
Petroleum Bulk Stations and Terminals	Gasoline, Distillate, K-1 / Jet Fuel	424710	5171
Barge Loading	Petroleum Products		4491
Barge Loading	Petroleum Products		4491

Provide a general description of operations.

The petroleum liquid operations at this terminal involve transportation by pipeline, storage in bulk tanks, and loading of marine barges. The operations have potential sources of evaporation loss through fugitive emissions in transportation, standing/working losses in storage, and emissions from the loading of marine barges.

15. Provide an **Area Map** showing plant location as **ATTACHMENT A**.

16. Provide a **Plot Plan(s)**, e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is located as **ATTACHMENT B**. For instructions, refer to "Plot Plan - Guidelines."

17. Provide a detailed **Process Flow Diagram(s)** showing each process or emissions unit as **ATTACHMENT C**. Process Flow Diagrams should show all emission units, control equipment, emission points, and their relationships.

Section 2: Applicable Requirements

18. Applicable Requirements Summary	
Instructions: Mark all applicable requirements.	
☒ SIP	☐ FIP
☒ Minor source NSR (45CSR13)	☐ PSD (45CSR14)
☒ NESHAP (45CSR34)	☐ Nonattainment NSR (45CSR19)
☒ Section 111 NSPS	☒ Section 112(d) MACT standards
☐ Section 112(g) Case-by-case MACT	☐ 112(r) RMP
☐ Section 112(i) Early reduction of HAP	☐ Consumer/commercial prod. reqts., section 183(e)
☐ Section 129 Standards/Reqts.	☒ Stratospheric ozone (Title VI)
☒ Tank vessel reqt., section 183(f)	☐ Emissions cap 45CSR§30-2.6.1
☐ NAAQS, increments or visibility (temp. sources)	☐ 45CSR27 State enforceable only rule
☒ 45CSR4 State enforceable only rule	☐ Acid Rain (Title IV, 45CSR33)
☐ Emissions Trading and Banking (45CSR28)	☐ **C**ompliance **A**ssurance **M**onitoring (40CFR64)
☐ CAIR NO_x Annual Trading Program (45CSR39)	☐ CAIR NO_x Ozone Season Trading Program (45CSR40)
☐ CAIR SO_2 Trading Program (45CSR41)	

19. Non Applicability Determinations

List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.

45CSR21, Section 22 – Not applicable because Kenova-TriState Terminal does not have gasoline truck loading facilities.

40 CFR 60, Subpart XX – Not subject because this facility does not have gasoline tank truck loading facilities.

40 CFR 61, Subpart BB – Not subject because the loading of gasoline and petroleum distillates are specifically exempted per 40 CFR 61.300(a).

40 CFR 63, Subpart EEEE – No affected sources subject to the OLD MACT. Specifically, storage tanks that are subject to the Gasoline Distribution MACT are excluded from the OLD MACT. Other tanks are exempt due to true vapor pressure.

112(r) RMP – Regulated substances in gasoline, when in distribution or related storage for use as fuel for internal combustion engines are exempt from the threshold determination per 40 CFR 68.115(b)(2)(ii), and/or MPC does not have more than a threshold quantity of a regulated substance in a process.

40 CFR 60, Subpart Kb – Not applicable to Tanks 202, 255, 261, 262, and 273 per 40 CFR 60.110b(b).

45SCR21-27 & 28 - Not applicable to Tanks 202, 255, 261, 262, and 273 per 45CSR21-27.1.b.3-4 and 45CSR21-28.1.b.3.

40 CFR 63, Subpart R - Not applicable to Tanks 202, 255, 261, 262, and 273, since these tanks do not store gasoline.

40 CFR 63, Subpart BBBBBB - The Kenova-TriState Terminal is subject to MACT R and is not a pipeline pumping station or bulk gasoline plant. NESHAP BBBBBB does not apply to the Kenova-TriState Terminal.

40 CFR 63, Subpart DDDDD – Not applicable to hot oil heater for Tank 273, since the Kenova-TriState Terminal was not a major source of HAP when the heater was installed.

40 CFR 63, Subpart JJJJJJ – Not applicable to hot oil heater for Tank 273, since process heater is exempt from the definition of boiler in 40 CFR 63.11237.

☒ Permit Shield

20. Facility-Wide Applicable Requirements

List all facility-wide applicable requirements. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*).

Open burning. The open burning of refuse by any person is prohibited except as noted in 45CSR§6-3.1. **[45CSR§6-3.1.]**

Open burning exemptions. The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause or allow any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible. **[45CSR§6-3.2.]**

Asbestos. The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them. **[40 C.F.R. §61.145(b) and 45CSR34]**

Odor. No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public. **[45CSR§4-3.1 State-Enforceable only.]**

Standby plan for reducing emissions. When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11. **[45CSR§11-5.2]**

Ozone-depleting substances. For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:

a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.
b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.
c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.

[40 C.F.R. 82, Subpart F]

Risk Management Plan. Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. §68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71. **[40 C.F.R. 68]**

Emission inventory. The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality. **[W.Va. Code § 22-5-4(a)(14)]**

MACT Subpart R. Owners and operators shall not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following:

a. Minimize gasoline spills;
b. Clean up spills as expeditiously as practicable;
c. Cover all open gasoline containers with a gasketed seal when not in use; and
d. Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.

[40 CFR § 63.424(g) and 45CSR34]

☒ Permit Shield

For all facility-wide applicable requirements listed above, provide monitoring/testing / recordkeeping / reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring:

MACT Subpart R. The permittee shall perform a monthly leak inspection of all equipment in gasoline service. For this inspection, detection methods incorporating sight, sound, and smell are acceptable. Each piece of equipment shall be inspected during the loading of a gasoline cargo tank. **[40 CFR § 63.424(a) and 45CSR34]**

Testing:

Stack testing. As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable.
b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section a of this requirement.
c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.

[WV Code § 22-5-4(a)(15), 45CSR13, and R13-2277C]

MACT Subpart R. In addition to the reporting requirements specified in 40 C.F.R. 63, Subpart R, Table 1 "General Provisions Applicability to Subpart R," each owner or operator shall report to the Administrator a description of the types, identification numbers, and locations of all equipment in gasoline service within the time frames specified in 40 C.F.R. 63.428(f). For facilities electing to implement an instrument program under 40 C.F.R. 63.424(f), the report shall contain a full description of the program.
[40 C.F.R. § 63.428(f); 45CSR34]

Recordkeeping:

Monitoring information. The permittee shall keep records of monitoring information that include the following:

a. The date, place as defined in this permit and time of sampling or measurements;
b. The date(s) analyses were performed;
c. The company or entity that performed the analyses;
d. The analytical techniques or methods used;
e. The results of the analyses; and
f. The operating conditions existing at the time of sampling or measurement.

[45CSR§30-5.1.c.2.A.; 45CSR13 – Permit No. R13-1352, Condition 4.4.1.]

Retention of Records. The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.
[45CSR§30-5.1.c.2.B.]

Odors. For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.
[45CSR§4. State-Enforceable only.]

MACT Subpart R. A log book shall be used and shall be signed by the owner or operator at the completion of each inspection. A section of the log shall contain a list, summary description, or diagram(s) showing the location of all equipment in gasoline service at the facility. **[40 CFR § 63.424(b) and 45CSR34]**

MACT Subpart R. The permittee shall record the following information in the log book for each leak that is detected:

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 and the date of each attempt to repair the leak.
d. Repair methods applied in each attempt to repair the leak.
e. "Repair delayed" and the reason for the delay if the leak is not repaired within 15 calendar days after discovery of the leak.
f. The expected date of successful repair of the leak if the leak is not repaired within 15 days.
g. The date of successful repair of the leak.

[40 CFR § 63.428(e) and 45CSR34]

Each detection of a liquid or vapor leak shall be recorded 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 5 calendar days after the leak is detected. Repair or replacement of the leaking equipment shall be completed within 15 calendar days after detection of each leak, unless a demonstration is made to the Director and USEPA that repair within 15 days is not feasible. In this case, the owner or operator shall provide the reason(s) a delay is needed and the date by which each repair is expected to be completed. **[40 CFR §§ 63.424(c) and (d) and 45CSR34]**

Reporting:

Responsible Official. Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
[**45CSR§30-4.4 and 5.1.c.3.D.]**
Confidential Information. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30-5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31. **[45CSR§30-5.1.c.3.E.]**

Communications. Except for the electronic submittal of the annual certification to the USEPA, all notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of

DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, mailed first class or by private carrier with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

If to the DAQ:
Director
WVDEP
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0475
FAX: 304/926-0478

If to the US EPA:
Associate Director
Office of Enforcement and Permits Review
(3AP12)
U. S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

Certified emissions statement. The permittee shall submit a certified emissions statement and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality. **[45CSR§30-8.]**

Compliance certification. The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year, and shall certify compliance for the period ending December 31. The annual certification to the USEPA shall be submitted in electronic format only. It shall be submitted by e-mail to the following address: R3_APD_Permits@epa.gov. The permittee shall maintain a copy of the certification on site for five (5) years from submittal of the certification. **[45CSR§30-5.3.e.]**

New applicable requirements. If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement.
[45CSR§30-4.3.h.1.B.]

MACT Subpart R. The permittee shall report to the Director and USEPA a description of the types, identification numbers and locations of all equipment in gasoline service. **[40 CFR § 63.428(f) and 45CSR34]**

MACT Subpart R. The permittee shall submit in a semi-annual report to the Director and USEPA, the number of equipment leaks not repaired within 5 days of detection.**[40 CFR § 63.428(g)(3) and 45CSR34]**

MACT Subpart R. For each occurrence of an equipment leak for which no repair attempt was made within 5 days or for which repair was not completed within 15 days after detection, each owner or operator shall include the following information in the excess emissions report required by 40 CFR § 63.10(e)(3).
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.
[40 CFR § 63.428(h)(4) and 45CSR34]

Are you in compliance with all facility-wide applicable requirements? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

21. Active Permits/Consent Orders		
Permit or Consent Order Number	Date of Issuance MM/DD/YYYY	List any Permit Determinations that Affect the Permit *(if any)*
R13-2277C	06/07/2011	
R13-1352A	04/26/2007	
	/ /	
	/ /	
	/ /	
	/ /	
	/ /	

22. Inactive Permits/Obsolete Permit Conditions		
Permit Number	Date of Issuance	Permit Condition Number
Consent Order CO-BGT-R21-94-11	07/ 15/1994	
Consent Order CO-BGT-R21-94-12	07/ 15/1994	
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Section 3: Facility-Wide Emissions

23. Facility-Wide Emissions Summary [Tons per Year]	
Criteria Pollutants	Potential Emissions
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations.**
Nitrogen Oxides (NO_X)	
Lead (Pb)	
Particulate Matter ($PM_{2.5}$)[1]	
Particulate Matter (PM_{10})[1]	
Total Particulate Matter (TSP)	
Sulfur Dioxide (SO_2)	
Volatile Organic Compounds (VOC)	
Hazardous Air Pollutants[2]	Potential Emissions
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**
Ethylene	
Hexane	
Isopropyl Benzene (Cumene)	
Toluene	
Trimethylpentane (2,2,4)	
Xylene	
Regulated Pollutants other than Criteria and HAP	Potential Emissions
Greenhouse Gases (GHGs)	Potential Emissions
Carbon Dioxide (CO_2)	
Nitrous Oxide (N_2O)	
Methane (CH_4)	
Hydrofluorocarbons (HFCs)	
Perfluorocarbons (PFCs)	
Sulfur hexafluoride (SF_6)	
CO_2 equivalent (CO_2e)	

$PM_{2.5}$ and PM_{10} are components of TSP.
[2]For HAPs that are also considered PM or VOCs, emissions should be included in both the HAPs section and the Criteria Pollutants section.

Section 4: Insignificant Activities

	24. Insignificant Activities (Check all that apply)	
☒	1.	Air compressors and pneumatically operated equipment, including hand tools.
☐	2.	Air contaminant detectors or recorders, combustion controllers or shutoffs.
☒	3.	Any consumer product used in the same manner as in normal consumer use, provided the use results in a duration and frequency of exposure which are not greater than those experienced by consumer, and which may include, but not be limited to, personal use items; janitorial cleaning supplies, office supplies and supplies to maintain copying equipment.
☒	4.	Bathroom/toilet vent emissions.
☒	5.	Batteries and battery charging stations, except at battery manufacturing plants.
☐	6.	Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents. Many lab fume hoods or vents might qualify for treatment as insignificant (depending on the applicable SIP) or be grouped together for purposes of description.
☐	7.	Blacksmith forges.
☐	8.	Boiler water treatment operations, not including cooling towers.
☒	9.	Brazing, soldering or welding equipment used as an auxiliary to the principal equipment at the source.
☐	10.	CO_2 lasers, used only on metals and other materials which do not emit HAP in the process.
☒	11.	Combustion emissions from propulsion of mobile sources, except for vessel emissions from Outer Continental Shelf sources.
☒	12.	Combustion units designed and used exclusively for comfort heating that use liquid petroleum gas or natural gas as fuel.
☒	13.	Comfort air conditioning or ventilation systems not used to remove air contaminants generated by or released from specific units of equipment.
☐	14.	Demineralized water tanks and demineralizer vents.
☐	15.	Drop hammers or hydraulic presses for forging or metalworking.
☐	16.	Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.
☐	17.	Emergency (backup) electrical generators at residential locations.
☐	18.	Emergency road flares.
☒	19.	Emission units which do not have any applicable requirements and which emit criteria pollutants (CO, NO_x, SO_2, VOC and PM) into the atmosphere at a rate of less than 1 pound per hour and less than 10,000 pounds per year aggregate total for each criteria pollutant from all emission units. Please specify all emission units for which this exemption applies along with the quantity of criteria pollutants emitted on an hourly and annual basis: Please refer to Attachment I for emission rates for each of the following sources: Tank K2 Tank K3 Gasoline Filter Change-outs Tank 202 (Distillate Fuel Storage) Tank 300 (Distillate Fuel Storage) Tank 301 (Distillate Fuel Storage) Diesel Fueling Station

24. Insignificant Activities (Check all that apply)		
☒	20.	Emission units which do not have any applicable requirements and which emit hazardous air pollutants into the atmosphere at a rate of less than 0.1 pounds per hour and less than 1,000 pounds per year aggregate total for all HAPs from all emission sources. This limitation cannot be used for any source which emits dioxin/furans nor for toxic air pollutants as per 45CSR27. Please specify all emission units for which this exemption applies along with the quantity of hazardous air pollutants emitted on an hourly and annual basis: Please refer to Attachment I for emission rates for each of the following sources: Tank K2 Tank K3 Gasoline Filter Change-outs Tank 202 (Distillate Fuel Storage) Tank 300 (Distillate Fuel Storage) Tank 301 (Distillate Fuel Storage) Diesel Fueling Station
☐	21.	Environmental chambers not using hazardous air pollutant (HAP) gases.
☒	22.	Equipment on the premises of industrial and manufacturing operations used solely for the purpose of preparing food for human consumption.
☐	23.	Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.
☒	24.	Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
☐	25.	Equipment used for surface coating, painting, dipping or spray operations, except those that will emit VOC or HAP.
☒	26.	Fire suppression systems.
☒	27.	Firefighting equipment and the equipment used to train firefighters.
☐	28.	Flares used solely to indicate danger to the public.
☒	29.	Fugitive emission related to movement of passenger vehicle provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.
☒	30.	Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation.
☒	31.	Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning or machining wood, metal or plastic.
☐	32.	Humidity chambers.
☒	33.	Hydraulic and hydrostatic testing equipment.
☒	34.	Indoor or outdoor kerosene heaters.
☒	35.	Internal combustion engines used for landscaping purposes.
☐	36.	Laser trimmers using dust collection to prevent fugitive emissions.
☐	37.	Laundry activities, except for dry-cleaning and steam boilers.
☐	38.	Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
☐	39.	Oxygen scavenging (de-aeration) of water.
☐	40.	Ozone generators.
☒	41.	Plant maintenance and upkeep activities (e.g., grounds-keeping, general repairs, cleaning, painting, welding, plumbing, re-tarring roofs, installing insulation, and paving parking lots) provided these

24. Insignificant Activities (Check all that apply)		
		activities are not conducted as part of a manufacturing process, are not related to the source's primary business activity, and not otherwise triggering a permit modification. (Cleaning and painting activities qualify if they are not subject to VOC or HAP control requirements. Asphalt batch plant owners/operators must still get a permit if otherwise requested.)
☒	42.	Portable electrical generators that can be moved by hand from one location to another. "Moved by Hand" means that it can be moved without the assistance of any motorized or non-motorized vehicle, conveyance, or device.
☐	43.	Process water filtration systems and demineralizers.
☒	44.	Repair or maintenance shop activities not related to the source's primary business activity, not including emissions from surface coating or de-greasing (solvent metal cleaning) activities, and not otherwise triggering a permit modification.
☒	45.	Repairs or maintenance where no structural repairs are made and where no new air pollutant emitting facilities are installed or modified.
☐	46.	Routing calibration and maintenance of laboratory equipment or other analytical instruments.
☐	47.	Salt baths using nonvolatile salts that do not result in emissions of any regulated air pollutants. Shock chambers.
☐	48.	Shock chambers.
☐	49.	Solar simulators.
☒	50.	Space heaters operating by direct heat transfer.
☐	51.	Steam cleaning operations.
☐	52.	Steam leaks.
☐	53.	Steam sterilizers.
☒	54.	Steam vents and safety relief valves.
☐	55.	Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, provided appropriate lids and covers are utilized.
☒	56.	Storage tanks, vessels, and containers holding or storing liquid substances that will not emit any VOC or HAP. Exemptions for storage tanks containing petroleum liquids or other volatile organic liquids should be based on size limits such as storage tank capacity and vapor pressure of liquids stored and are not appropriate for this list.
☒	57.	Such other sources or activities as the Director may determine.
☒	58.	Tobacco smoking rooms and areas.
☒	59.	Vents from continuous emissions monitors and other analyzers.

Section 5: Emission Units, Control Devices, and Emission Points

25. Equipment Table
Fill out the **Title V Equipment Table** and provide it as **ATTACHMENT D**.
26. Emission Units
For each emission unit listed in the **Title V Equipment Table**, fill out and provide an **Emission Unit Form** as **ATTACHMENT E**.
For each emission unit not in compliance with an applicable requirement, fill out a **Schedule of Compliance Form** as **ATTACHMENT F**.
27. Control Devices
For each control device listed in the **Title V Equipment Table**, fill out and provide an **Air Pollution Control Device Form** as **ATTACHMENT G**.
For any control device that is required on an emission unit in order to meet a standard or limitation for which the potential pre-control device emissions of an applicable regulated air pollutant is greater than or equal to the Title V Major Source Threshold Level, refer to the **Compliance Assurance Monitoring (CAM) Form(s)** for CAM applicability. Fill out and provide these forms, if applicable, for each Pollutant Specific Emission Unit (PSEU) as **ATTACHMENT H**.

Section 6: Certification of Information

28. Certification of Truth, Accuracy and Completeness and Certification of Compliance

*Note: This Certification must be signed by a responsible official. The **original**, signed in **blue ink**, must be submitted with the application. Applications without an **original** signed certification will be considered as incomplete.*

a. Certification of Truth, Accuracy and Completeness

I certify that I am a responsible official (as defined at 45CSR§30-2.38) and am accordingly authorized to make this submission on behalf of the owners or operators of the source described in this document and its attachments. I certify under penalty of law that I have personally examined and am familiar with the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine and/or imprisonment.

b. Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

Responsible official (type or print)

Name: Timothy J. Aydt	Title: Marathon Petroleum Company LP By: MPC Investment LLC, its General Partner By: T. J. Aydt, Deputy Assistant Secretary

Responsible official's signature:

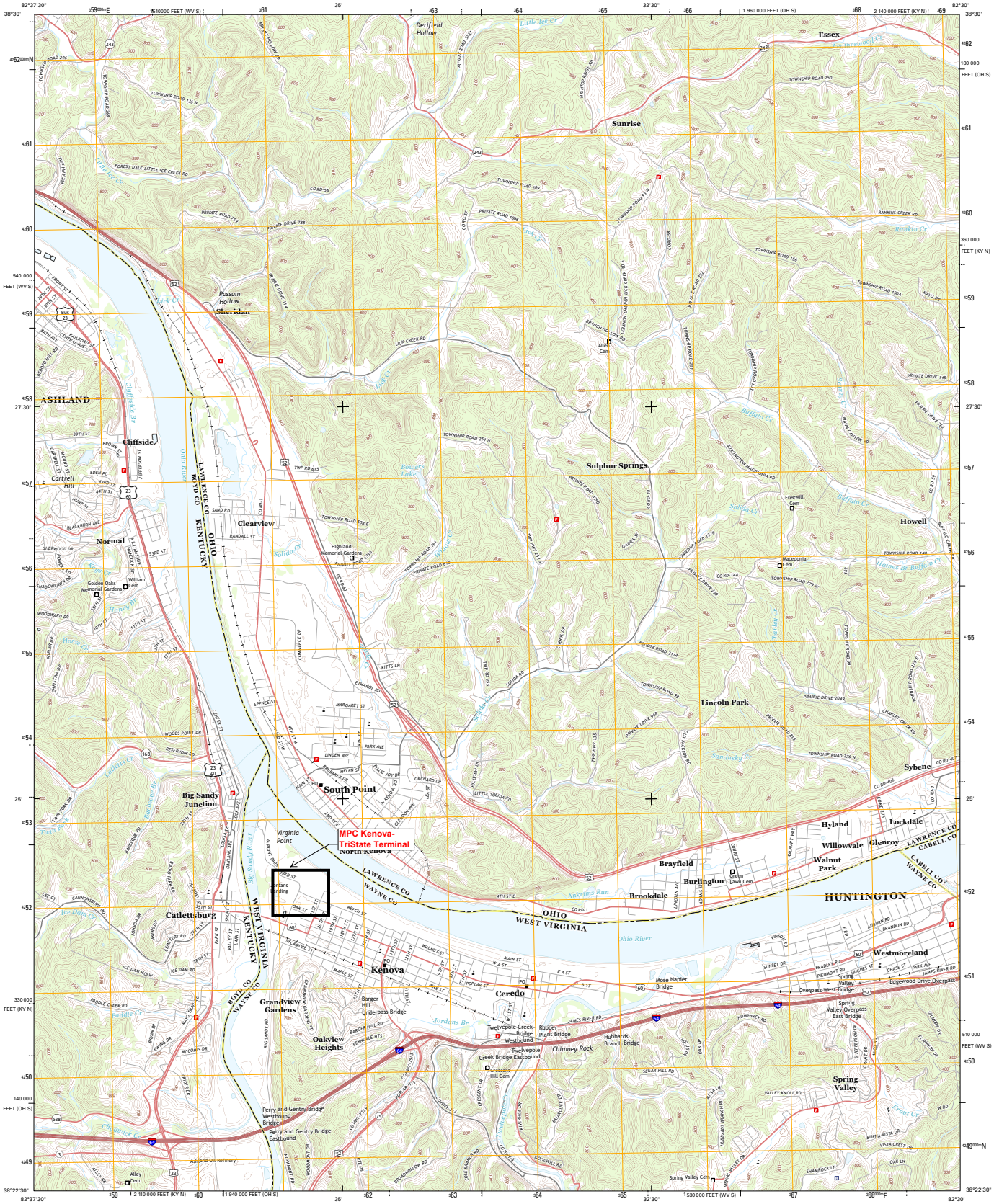
Signature: _____ Signature Date: 07-25-2014

(Must be signed and dated in blue ink)

Note: Please check all applicable attachments included with this permit application:	
☒	ATTACHMENT A: Area Map
☒	ATTACHMENT B: Plot Plan(s)
☒	ATTACHMENT C: Process Flow Diagram(s)
☒	ATTACHMENT D: Equipment Table
☒	ATTACHMENT E: Emission Unit Form(s)
☐	ATTACHMENT F: Schedule of Compliance Form(s)
☒	ATTACHMENT G: Air Pollution Control Device Form(s)
☒	ATTACHMENT H: Compliance Assurance Monitoring (CAM) Form(s)

All of the required forms and additional information can be found and downloaded from, the DEP website at www.dep.wv.gov/daq, requested by phone (304) 926-0475, and/or obtained through the mail.

APPENDIX A – AREA MAP



U.S. DEPARTMENT OF THE INTERIOR
U. S. GEOLOGICAL SURVEY

The National Map US Topo

CATLETTSBURG QUADRANGLE
KENTUCKY-OHIO-WEST VIRGINIA
7.5-MINUTE SERIES

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid: Universal Transverse Mercator, Zone 17S
10 000-foot ticks: Ohio Coordinate System of 1983 (south zone),
West Virginia Coordinate System of 1983 (south zone), Kentucky
Coordinate System of 1983 (north zone)

Imagery.....NAIP, June 2010 - August 2012
Roads.....©2006-2012 TomTom
Names.....GNIS, 2012
Hydrography.....National Hydrography Dataset, 2010
Contours.....National Elevation Dataset, 2004
Boundaries.....Census, IBWC, IBC, USGS, 1972 - 2012

UTM GRID AND 2013 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
LC
Grid Zone Designation
17S

SCALE 1:24 000

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the
National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.8

KENTUCKY

QUADRANGLE LOCATION

Ironton	Kitty Hill	Aid
Ashland	Catlettsburg	Huntington
Bolts Fork	Burnaugh	Lavalette

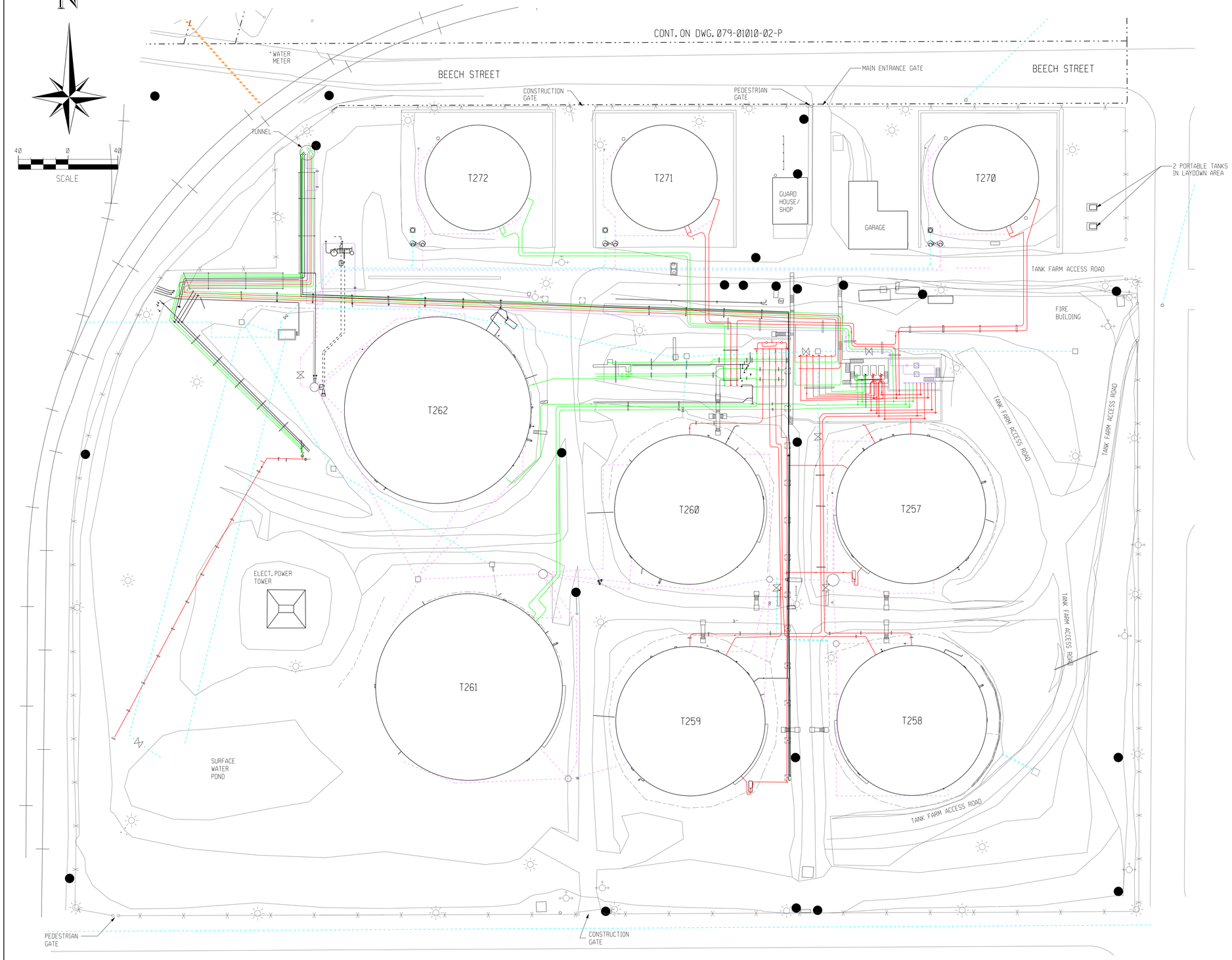
ADJOINING 7.5' QUADRANGLES

ROAD CLASSIFICATION

Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

CATLETTSBURG, KY-OH-WV
2013

APPENDIX B – PLOT PLAN



TANK INFORMATION

TANK NO.	DIMENSIONS	SHELL CAPACITY (GALLONS)	COMMODITY	ROOF TYPE
T257	120'-0" DIA. x 55'-0" HT.	4,001,004	GASOLINE	C.F.
T258	120'-0" DIA. x 52'-0" HT.	3,800,790	GASOLINE	C.F.
T259	120'-0" DIA. x 55'-0" HT.	3,879,078	GASOLINE	C.F.
T260	120'-0" DIA. x 58'-11" HT.	4,344,900	GASOLINE	C.F.
T261	150'-0" DIA. x 50'-2" HT.	6,355,944	NO. 2 DIESEL OIL	CONE
T262	150'-0" DIA. x 50'-2" HT.	6,421,170	NO. 2 DIESEL OIL	CONE
T270	85'-0" DIA. x 56'-0" HT.	2,187,436	GASOLINE	C.F.
T271	85'-0" DIA. x 56'-0" HT.	2,179,212	GASOLINE	C.F.
T272	85'-0" DIA. x 56'-0" HT.	2,189,544	NO. 2 DIESEL OIL	C.F.

LEGEND

- ABOVE GRADE
- BELOW GRADE
- POWER POLE
- FIRE HYDRANT

COLOR LEGEND (LIGHT OIL TERMINALS)

RED	3	GASOLINES
GREEN	2	FUEL OILS
VIOLET	78	ETHANOL
GRAY	236	TRANSMIX
MAGENTA	5	ADDITIVES
ORANGE	6	VAPORS
DK BLUE	123	WATER
YELLOW	217	NATURAL GAS
LT BLUE	7	STORM WATER
PURPLE	44	MISC. PRODUCT
PINK	64	MISC. NON-PRODUCT

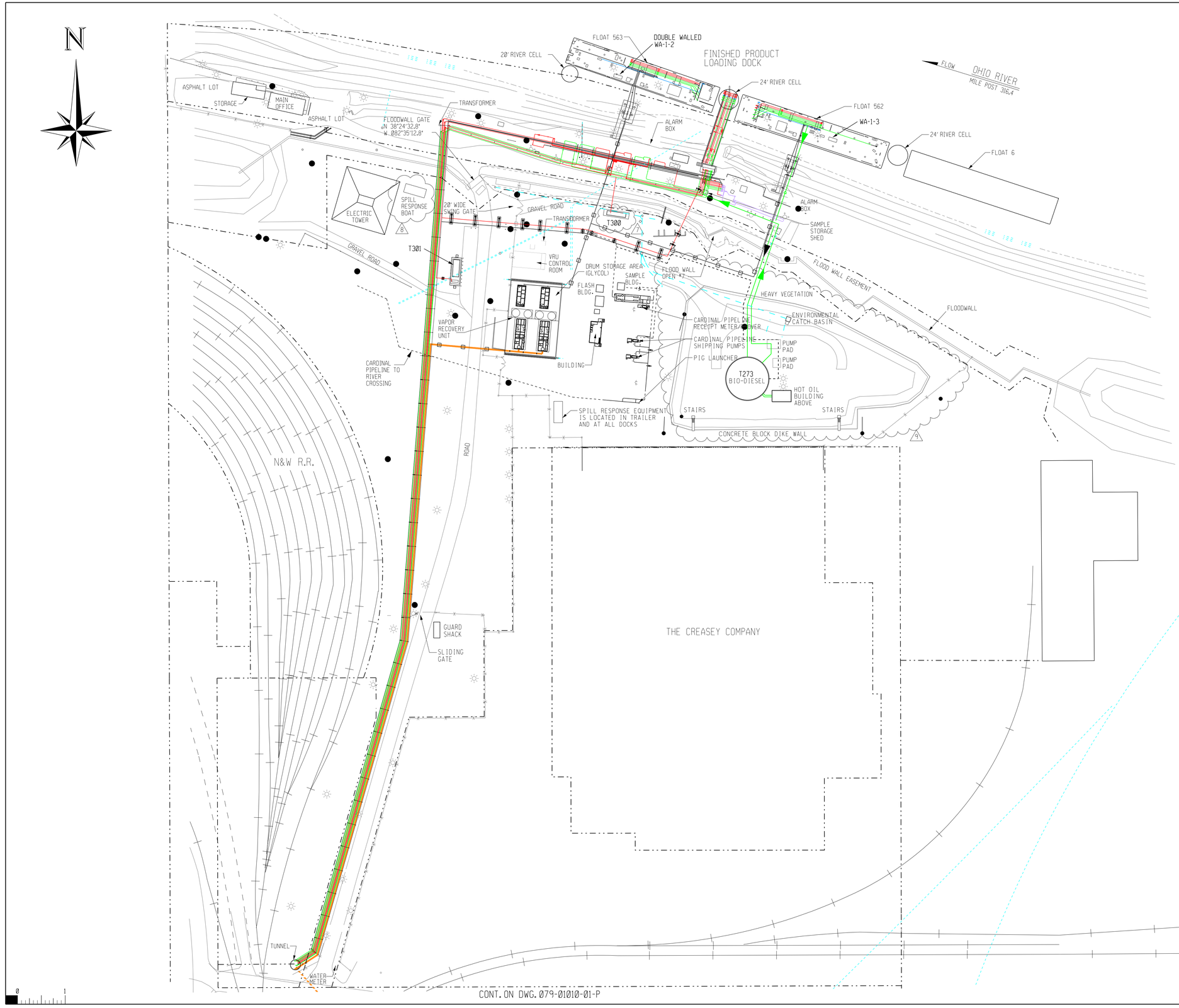
NO	DATE	DFTR.	REVISIONS	DSNR.
2	2-20-04	TLP	REV. TANK INFORMATION CHART	FH
3	8-1-05	TLP/DDD	REV. TANK INFORMATION CHART; AS BUILT "LIGHT POLES PER SECURITY LIGHTING PROJECT	FH/RE
4	02-15-06	DDD	AS-BUILT PER FALL HAZARD AFE 2005-5647	JB
5	12-19-06	TLP	REV. TANK INFORMATION CHART	FH
6	10-28-09	RTB	REV. TANK INFORMATION CHART	FH
7	02-23-10	ETM	REV. TANK NUMBERS AND TANK INFORMATION CHART	KM
8	10-27-11	ETM	REV. TANK INFORMATION CHART; REVISED NOTES	KM
9	4-12-13	RLR	MECH DRAWING PROGRAM-REVISIONS BY ARCADIS	BJH

MARATHON

CORE PIPING PLOT PLAN (SHEET 1 OF 2)

KENOVA, WV TERMINAL

SCALE	1"=40'-0"
DATE	10-22-2002
DRAFTER	W.S. WALLENFELSZ
DESIGNER	LARRY FOSTER
AFE	
CORE NO	079-01010-01-P
DWG NO	UNIT-DWG-SHT-TYPE 079-01010-01-P



TANK INFORMATION

TANK NO.	DIMENSIONS	SHELL CAPACITY (GALLONS)	COMMODITY	ROOF TYPE
T273	54'-0" DIA. x 56'-0" HT.	954,749	BIO-DIESEL	CONE
WA-1-2	4'-0" DIA. x 10'-8" LG.	1,000	WATER	HORIZ.
WA-1-3	4'-0" DIA. x 10'-8" LG.	1,000	WATER	HORIZ.
T300	5'-3" DIA. x 24'-0" LG.	3,990	DIESEL DYE	HORIZ.
T301	8'-0" DIA. x 21'-4" LG.	7,995	ADDITIVE	HORIZ.

LEGEND

- ABOVE GRADE
- BELOW GRADE
- POWER POLE
- FIRE HYDRANT

COLOR LEGEND (LIGHT OIL TERMINALS)

RED	3	GASOLINES
GREEN	2	FUEL OILS
VIOLET	78	ETHANOL
GRAY	236	TRANSMIX
MAGENTA	5	ADDITIVES
ORANGE	6	VAPORS
DK BLUE	123	WATER
YELLOW	217	NATURAL GAS
LT BLUE	7	STORM WATER
PURPLE	44	MISC. PRODUCT
PINK	64	MISC. NON-PRODUCT

60 0 60
SCALE

NO	DATE	DFTR.	REVISIONS	DSNR.
4	12-01-06	DDD	REPLACE SLOP TANK W/ 1000 GAL. DOUBLEWALL TANK	TDK
5	12-19-06	TLP	REVISED TANK INFO. CHART	FH
6	10-28-09	RTB	REVISED TANK INFO. CHART	FH
7	02-23-10	ETM	REV. TANK NUMBERS AND TANK INFORMATION CHART	KM
8	10-27-11	ETM	REV. TANK INFORMATION CHART AND SPILL RESPONSE NOTES	KM
9	12-14-11	ETM	AS BUILT BIO-DIESEL TANK; REV. TANK INFO. CHART	KM
10	12-7-12	ASM	REMOVER AIR ELIMINATORS	TJ
11	4-12-13	RLR	MECH DRAWING PROGRAM - REVISIONS BY ARCADIS	BDH

MARATHON

CORE PIPING PLOT PLAN (SHEET 2 OF 2)

KENOVA, WV TERMINAL

SCALE	1"=60'-0"
DATE	10-22-2002
DRAFTER	W.S. WALLENFELSZ
DESIGNER	LARRY FOSTER
AFE	
CORE NO	079-01010-02-P
DWG NO	UNIT-DWG-SHT-TYPE 079-01010-02-P

N

50 0 50
SCALE

OLD MOUNTAINEER GAS COMPANY PROPERTY

OVERFLOW NOTCH

MH

DITCH

DITCH

TUNNEL

TO DOCK

25-265

33-266

33-268

33-267

SUBSTATION

STORAGE BUILDING

OFFICE

PUMP PIT

FUTURE TANK LOCATION

51-253

72-264

FILTERS

2-201

2-200

10-204

25-202

CB

ASPHALT ROAD

ASPHALT ROAD

FIELD

SURFACE WATER POND

PUMP PIT

BUILDING

WA-49-256

WA-37-251

123-255

ENTRANCE

6" HOSE

RIVER OUTFALL

POLISHING POND

THERE IS ALSO A CITY OF KENOVA PUMPING STATION AT THE RIVER OUTFALL THAT PUMPS OVER THE DIKE.

0 1

TANK INFORMATION

TANK NO.	DIMENSIONS	SHELL CAPACITY (GALLONS)	COMMODITY	ROOF TYPE
2-200	26'-3" DIA. x 24'-11" HT.	101,514	PERM. OUT OF SERVICE	CONE
2-201	26'-3" DIA. x 24'-11" HT.	101,514	PERM. OUT OF SERVICE	CONE
25-202	65'-10" DIA. x 41'-5" HT.	929,880	DIESEL OIL	CONE
10-204	49'-9" DIA. x 30'-3" HT.	0	PERM. OUT OF SERVICE	CONE
WA-37-251	74'-0" DIA. x 48'-0" HT.	0	PERM. OUT OF SERVICE	O.F.
51-253	90'-0" DIA. x 51'-4" HT.	1,883,784	GASOLINE	C.F.
123-255	140'-0" DIA. x 48'-0" HT.	5,220,978	DIESEL OIL	CONE
WA-49-256	90'-0" DIA. x 47'-11" HT.	2,037,994	WATER	O.F.
72-264	110'-0" DIA. x 54'-0" HT.	3,032,946	GASOLINE	C.F.
25-265	70'-0" DIA. x 47'-10" HT.	1,067,556	GASOLINE	C.F.
33-266	80'-0" DIA. x 48'-2" HT.	1,393,014	GASOLINE	C.F.
33-267	80'-0" DIA. x 47'-10" HT.	1,393,014	GASOLINE	C.F.
33-268	80'-0" DIA. x 47'-8" HT.	1,393,014	GASOLINE	C.F.

COLOR LEGEND (LIGHT OIL TERMINALS)

RED	3	GASOLINES
GREEN	2	FUEL OILS
VIOLET	78	ETHANOL
GRAY	236	TRANSMIX
MAGENTA	5	ADDITIVES
ORANGE	6	VAPORS
DK BLUE	123	WATER
YELLOW	217	NATURAL GAS
LT BLUE	7	STORM WATER
PURPLE	44	MISC. PRODUCT
PINK	64	MISC. NON-PRODUCT

NO	DATE	DFTR.	REVISIONS	DSNR.
1	05-16-12	ETM	REVISED ENTIRE SHEET	KM
2	4-5-2013	RLR	MECH DRAWING PROGRAM - REVISIONS BY ARCADIS	BDH
3	11-5-13	RLR	CORE DWG PROGRAM UPDATE - ARCADIS	BDH

MARATHON

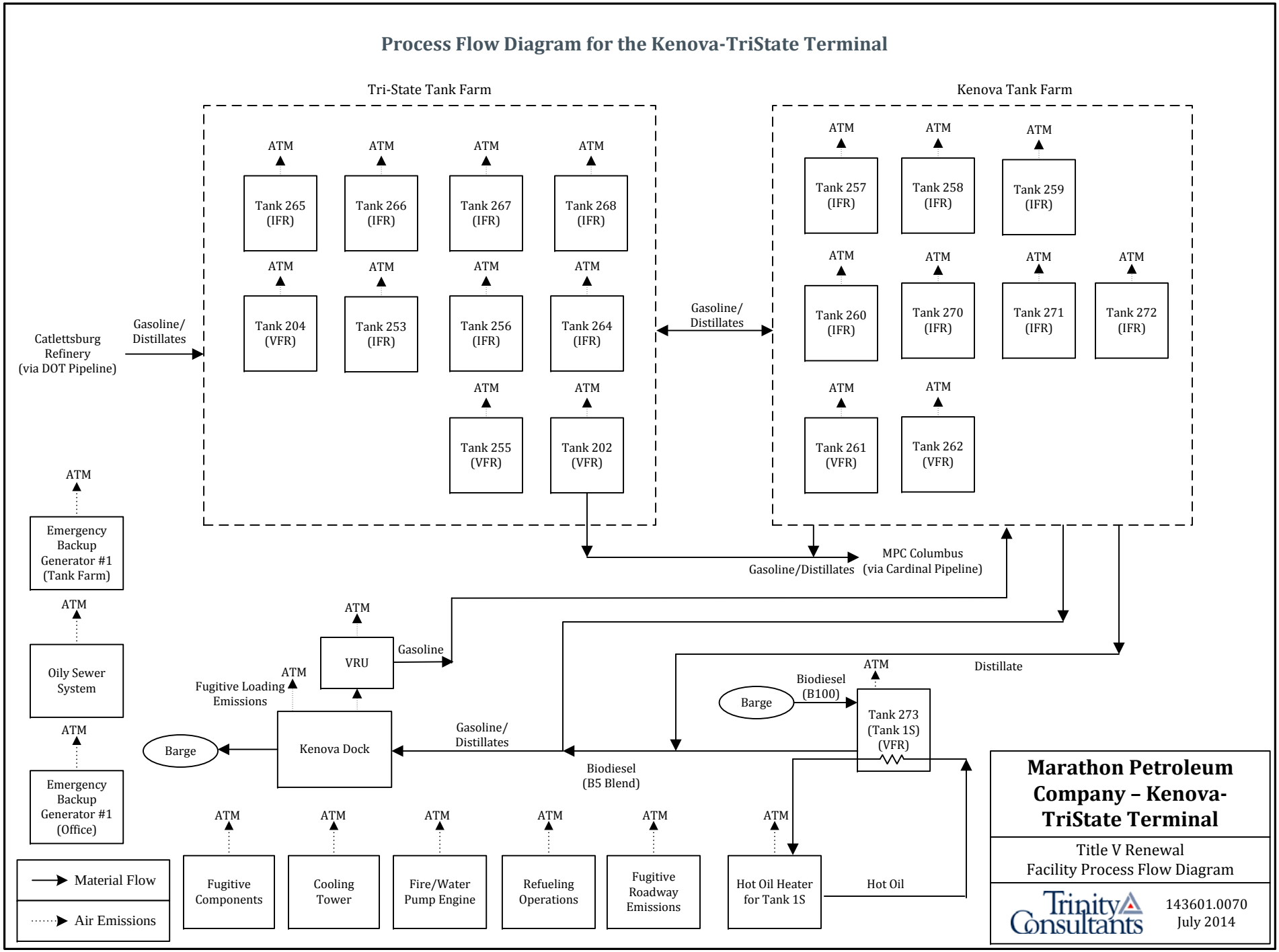
CORE PIPING PLOT PLAN

TRI-STATE TERMINAL
(KENOVA, WV)

SCALE	1"=50'-0"
DATE	01-11-10
DRAFTER	R.T. BISHOP
DESIGNER	
AFE	
CORE NO	109-01010-01-P
DWG NO	UNIT-DWG-SHT-TYPE 109-01010-01-P

APPENDIX C – PROCESS FLOW DIAGRAM

Process Flow Diagram for the Kenova-TriState Terminal



Marathon Petroleum Company – Kenova-TriState Terminal

Title V Renewal
Facility Process Flow Diagram

Trinity Consultants

143601.0070
July 2014

APPENDIX D – WVDEP TITLE V EQUIPMENT TABLE

ATTACHMENT D - Title V Equipment Table

(includes all emission units at the facility except those designated as insignificant activities in Section 4, Item 24 of the General Forms)

Emission Point ID[1]	Control Device[1]	Emission Unit ID[1]	Emission Unit Description	Design Capacity[2]	Year Installed/ Modified
Tank 253	N/A	Tank 253	Internal Fixed Roof Gasoline/Distillate Fuel Storage Tank	2,444,400 gallons	1948/1992
Tank 255	N/A	Tank 255	Vertical Fixed Roof Distillate Fuel Storage Tank	5,527,200 gallons	1948
Tank 256	N/A	Tank 256	External Floating Roof Petroleum Wastewater Storage Tank	2,280,600 gallons	1949
Tank 257	N/A	Tank 257	Internal Floating Roof Gasoline Storage Tank	4,653,600 gallons	1951/1995
Tank 258	N/A	Tank 258	Internal Floating Roof Gasoline Storage Tank	4,397,400 gallons	1951/1997
Tank 259	N/A	Tank 259	Internal Floating Roof Gasoline Storage Tank	4,653,600 gallons	1951/2001
Tank 260	N/A	Tank 260	Internal Floating Roof Gasoline Storage Tank	4,985,400 gallons	1968/2002
Tank 261	N/A	Tank 261	Fixed Cone Roof Distillate Storage Tank	6,631,800 gallons	1968/1992
Tank 262	N/A	Tank 262	Fixed Cone Roof Distillate Storage Tank	6,631,800 gallons	1971
Tank 264	N/A	Tank 264	Internal Fixed Roof Gasoline/Distillate Fuel Storage Tank	3,838,800 gallons	1990
Tank 265	N/A	Tank 265	Internal Fixed Roof Gasoline/Distillate Fuel Storage Tank	1,377,600 gallons	1991
Tank 266	N/A	Tank 266	Internal Fixed Roof Gasoline/Distillate Fuel Storage Tank	1,810,200 gallons	1993
Tank 267	N/A	Tank 267	Internal Fixed Roof Gasoline/Distillate Fuel Storage Tank	1,797,600 gallons	1993
Tank 268	N/A	Tank 268	Internal Fixed Roof Gasoline/Distillate Fuel Storage Tank	1,793,400 gallons	1993
Tank 270	N/A	Tank 270	Internal Floating Roof Gasoline/Distillate Storage Tank	2,377,200 gallons	2001
Tank 271	N/A	Tank 271	Internal Floating Roof Gasoline/Distillate Storage Tank	2,377,200 gallons	2001
Tank 272	N/A	Tank 272	Internal Floating Roof Gasoline/Distillate Storage Tank	2,377,200 gallons	2001

Emission Point ID[1]	Control Device[1]	Emission Unit ID[1]	Emission Unit Description	Design Capacity[2]	Year Installed/ Modified
Tank 273	N/A	Tank 273	Cone Roof Storage Tank (Fixed Roof) - Biodiesel / #2 Distillate	957,600 gallons	2012
Barge Loading Stations 1-8	VRU (when loading gasoline)	Barge Loading Stations 1-8	Marine Vessel loading Operations (Gasoline/Distillate/Biodiesel)	**Maximum Simultaneous Loading:** 19,600 bbl/hr	N/A
LDAR	N/A	LDAR	Fugitive Equipment Leaks	N/A	N/A
Hot Oil Heater #1	N/A	Hot Oil Heater #1	Hot Oil Heater for Tank 273	2.499 MMBtu/hr	2012
Engine #1	N/A	Engine #1	Emergency Fire Water Pump Engine	400 hp	1986
Engine #2	N/A	Engine #2	Office Emergency Backup Generator	14 hp	2012
Engine #3	N/A	Engine #3	Tank Farm Emergency Backup Generator	14 hp	2012
Oily Sewer System	N/A	Oily Sewer System	Oily Water Sewer System	N/A	N/A
Cooling Tower #1	N/A	Cooling Tower	Cooling Tower	400 gpm	N/A
Roadways	N/A	Roadways	Paved Facility Roadways	N/A	N/A

[1]For 45CSR13 permitted sources, the numbering system used for the emission points, control devices, and emission units should be consistent with the numbering system used in the 45CSR13 permit. For grandfathered sources, the numbering system should be consistent with registrations or emissions inventory previously submitted to DAQ. For emission points, control devices, and emissions units which have not been previously labeled, use the following 45CSR13 numbering system: 1S, 2S, 3S,... or other appropriate description for emission units; 1C, 2C, 3C,... or other appropriate designation for control devices; 1E, 2E, 3E, ... or other appropriate designation for emission points.

[2]For tanks, the design capacity provided is the shell capacity from OIS (2014).

APPENDIX E – WVDEP TITLE V EMISSION UNIT FORM

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** N/A
Distillate Barge Loading	Distillate Barge Loading	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Distillate Barge Loading

Manufacturer:	**Model number:**	**Serial number:**
Marathon field constructed	Marathon field constructed	N/A
Construction date:	**Installation date:**	**Modification date(s):**
N/A	N/A	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 4,415,040,000 gpy

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
504,000 gallons	2,207,520,000 gallons	8760 hours

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☐ Yes ☒ No	**If yes, is it?** ☐ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		

Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

AP-42 Section 5.2 Transportation and Marketing of Petroleum Liquids (6/2008) – Table 5.2.6.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Please refer to Emission Unit Form for Gasoline Barge Loading.

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Please refer to Emission Unit Form for Gasoline Barge Loading.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No
If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** VRU
Gasoline Barge Loading	Gasoline Barge Loading	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Gasoline Barge Loading

Manufacturer:	**Model number:**	**Serial number:**
Marathon field constructed	Marathon field constructed	N/A
Construction date:	**Installation date:**	**Modification date(s):**
N/A	N/A	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 4,000,000,000 gallons

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
504,000 gallons	5,003,712,000 gallons	8760 hours

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☐ Yes ☒ No	**If yes, is it?** ☐ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		

Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Calculations based on AP-42 Chapter 5.2 Transportation and Marketing of Petroleum Liquids, Table 5.2-2 "Volatile Organic Compound (VOC) Emission Factors for Gasoline Loading Operations at Marine Terminals", July, 2008. Assumes a capture efficiency of 100% in accordance with the preamble to MACT Y (Federal Register: May 13, 1994) and a control efficiency of 97% as required by 40 CFR 63.562(b)(2) of MACT Subpart Y.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Citation	**Citation Text**
40 CFR 63.562(a) and (b)(1), (2), (5), and (6)	63.562(a) The emissions limitations in paragraphs (b), (c), and (d) of this section apply during marine tank vessel loading operations.
	63.562(b)(1) 63.562(b)(1)(i) Vapor collection system of the terminal. The owner or operator of a new source with emissions less than 10 and 25 tons and an existing or new source with emissions of 10 or 25 tons shall equip each terminal with a vapor collection system that is designed to collect HAP vapors displaced from marine tank vessels during marine tank vessel loading operations and to prevent HAP vapors collected at one loading berth from passing through another loading berth to the atmosphere, except for those commodities exempted under §63.560(d). 63.562(b)(1)(ii) Ship-to-shore compatibility. The owner or operator of a new source with emissions less than 10 and 25 tons and an existing or new source with emissions of 10 or 25 tons shall limit marine tank vessel loading

	operations to those vessels that are equipped with vapor collection equipment that is compatible with the terminal's vapor collection system, except for those commodities exempted under §63.560(d). 63.562(b)(1)(iii) Vapor tightness of marine vessels. The owner or operator of a new source with emissions less than 10 and 25 tons and an existing or new source with emissions of 10 or 25 tons shall limit marine tank vessel loading operations to those vessels that are vapor tight and to those vessels that are connected to the vapor collection system, except for those commodities exempted under §63.560(d).
	63.562(b)(2) MACT standards for existing sources with emissions of 10 or 25 tons. The owner or operator of an existing source with emissions of 10 or 25 tons, except offshore loading terminals and the VMT source, shall reduce captured HAP emissions from marine tank vessel loading operations by 97 weight-percent, as determined using methods in §63.565(d) and (l).
	63.562(b)(5) Prevention of carbon adsorber emissions during regeneration. The owner or operator of a source subject to paragraph (b)(2), (3), or (4) shall prevent HAP emissions from escaping to the atmosphere from the regeneration of the carbon bed when using a carbon adsorber to control HAP emissions from marine tank vessel loading operations.
	63.562(b)(6) Maintenance allowance for loading berths. The owner or operator of a source subject to paragraph (b)(2), (3) or (4), may apply for approval to the Administrator for a maintenance allowance for loading berths based on a percent of annual throughput or annual marine tank vessel loading operation time for commodities not exempted in §63.560(d). The owner or operator shall maintain records for all maintenance performed on the air pollution control equipment. The Administrator will consider the following in approving the maintenance allowance: 63.562(b)(6)(i) The owner or operator expects to be in violation of the emissions standards due to maintenance; 63.562(b)(6)(ii) Due to conditions beyond the reasonable control of the owner or operator, compliance with the emissions standards during maintenance would result in unreasonable economic hardship; 63.562(b)(6)(iii) The economic hardship cannot be justified by the resulting air quality benefit; 63.562(b)(6)(iv) The owner or operator has given due consideration to curtailing marine vessel loading operations during maintenance; 63.562(b)(6)(v) During the maintenance allowance, the owner or operator will endeavor to reduce emissions from other loading berths that are controlled as well as from the loading berth the owner or operator is seeking the maintenance allowance; and 63.562(b)(6)(vi) During the maintenance allowance, the owner or operator will monitor and report emissions from the loading berth to which the maintenance allowance applies.
40 CFR 63.562(c)(2) through (6)	63.562(c)(2) 63.562(c)(2)(i) Vapor collection system of the terminal. The owner or operator of a source with throughput of 10 M barrels or 200 M barrels shall equip each terminal with a vapor collection system that is designed to collect VOC vapors displaced from marine tank vessels during loading and to prevent VOC vapors collected at one loading berth from passing through another loading berth to the atmosphere, except for those commodities exempted under §63.560(d). 63.562(c)(2)(ii) Ship-to-shore compatibility. The owner or operator of a source with throughput of 10 M barrels or 200 M barrels shall limit marine tank vessel loading operations to those vessels that are equipped with vapor

	collection equipment that is compatible with the terminal's vapor collection system, except for those commodities exempted under §63.560(d). 63.562(c)(2)(iii) Vapor tightness of marine vessels. The owner or operator of a source with throughput of 10 M barrels or 200 M barrels shall limit marine tank vessel loading operations to those vessels that are vapor-tight and to those vessels that are connected to the vapor collection system, except for those commodities exempted under §63.560(d).
	63.562(c)(3) RACT standard for sources with throughput of 10 M or 200 M barrels, except the VMT source. The owner or operator of a source with throughput of 10 M barrels or 200 M barrels, except the VMT source, shall reduce captured VOC emissions from marine tank vessel loading operations by 98 weight-percent when using a combustion device or reduce captured VOC emissions by 95 weight-percent when using a recovery device, as determined using methods in §63.565(d) and (l).
	63.562(c)(4) The owner or operator of a source with throughput of 10 M barrels or 200 M barrels, except the VMT source, may meet the requirements of paragraph (c)(3) by reducing gasoline loading emissions to, at most, 1,000 ppmv outlet VOC concentration.
	63.562(c)(5) Prevention of carbon adsorber emissions during regeneration. The owner or operator of a source with throughput of 10 M barrels or 200 M barrels shall prevent HAP emissions from escaping to the atmosphere from the regeneration of the carbon bed when using a carbon adsorber to control HAP emissions from marine tank vessel loading operations.
	63.562(c)(6) Maintenance allowance for loading berths. The owner or operator of a source with throughput of 10 M barrels or 200 M barrels may apply for approval to the Administrator for a maintenance allowance for loading berths based on a percent of annual throughput or annual marine tank vessel loading operation time for commodities not exempted in §63.560(d). The owner or operator shall maintain records for all maintenance performed on the air pollution control equipment. The Administrator will consider the following in approving the maintenance allowance: 63.562(c)(6)(i) The owner or operator expects to be in violation of the emissions standards due to maintenance; 63.562(c)(6)(ii) Due to conditions beyond the reasonable control of the owner or operator, compliance with the emissions standards during maintenance would result in unreasonable economic hardship; 63.562(c)(6)(iii) The economic hardship cannot be justified by the resulting air quality benefit; 63.562(c)(6)(iv) The owner or operator has given due consideration to curtailing marine vessel loading operations during maintenance; 63.562(c)(6)(v) During the maintenance allowance, the owner or operator will endeavor to reduce emissions from other loading berths that are controlled as well as from the loading berth the owner or operator is seeking the maintenance allowance; and 63.562(c)(6)(vi) During the maintenance allowance, the owner or operator will monitor and report emissions from the loading berth to which the maintenance allowance applies.
40 CFR 63.562(e)	63.562(e) Operation and maintenance requirements for air pollution control equipment and monitoring equipment for affected sources. At all times, owners or operators of affected sources shall operate and maintain a source, including associated air pollution control

	equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether acceptable operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.
	63.562(e)(1) The Administrator will determine compliance with design, equipment, work practice, or operational emission standards by evaluating an owner or operator's conformance with operation and maintenance requirements. 63.562(e)(2) The owner or operator of an affected source shall develop a written operation and maintenance plan that describes in detail a program of corrective action for varying (i.e., exceeding baseline parameters) air pollution control equipment and monitoring equipment, based on monitoring requirements in §63.564, used to comply with these emissions standards. The plan shall also identify all routine or otherwise predictable continuous monitoring system (thermocouples, pressure transducers, continuous emissions monitors (CEMS), etc.) variances. 63.562(e)(2)(i) The plan shall specify procedures (preventive maintenance) to be followed to ensure that pollution control equipment and monitoring equipment functions properly and variances of the control equipment and monitoring equipment are minimal. 63.562(e)(2)(ii) The plan shall identify all operating parameters to be monitored and recorded for the air pollution control device as indicators of proper operation and shall establish the frequency at which the parameters will be monitored (see §63.564). 63.562(e)(2)(iii) Owners or operators of affected sources shall incorporate a standardized inspection schedule for each component of the control device used to comply with the emissions standards in §63.562(b), (c), and (d). To satisfy the requirements of this paragraph, the owner or operator may use the inspection schedule recommended by the vendor of the control system or any other technical publication regarding the operation of the control system. 63.562(e)(2)(iv) Owners or operators shall develop and implement a continuous monitoring system (CMS) quality control program. The owner or operator shall develop and submit to the Administrator for approval upon request a site-specific performance evaluation test plan for the CMS performance evaluation required in §63.8(e) of subpart A of this part. Each quality control program shall include, at a minimum, a written protocol that describes procedures for initial and any subsequent calibration of the CMS; determination and adjustment of the calibration drift of the CMS; preventive maintenance of the CMS, including spare parts inventory; data recording, calculations, and reporting; and accuracy audit procedures, including sampling and analysis methods. The owner or operation shall maintain records of the procedures that are part of the quality control program developed and implemented for CMS. 63.562(e)(3) Based on the results of the determination made under paragraph (e)(2), the Administrator may require that an owner or operator of an affected source make changes to the operation and maintenance plan for that source. Revisions may be required if the plan: 63.562(e)(3)(i) Does not address a variance of the air pollution control equipment or monitoring equipment that has occurred that increases emissions; 63.562(e)(3)(ii) Fails to provide for operation during a variance of the air pollution control equipment or the monitoring equipment in a manner consistent with safety and good air pollution control practices; or 63.562(e)(3)(iii)

	Does not provide adequate procedures for correcting a variance of the air pollution control equipment or monitoring equipment as soon as reasonable. 63.562(e)(4) If the operation and maintenance plan fails to address or inadequately addresses a variance event at the time the plan was initially developed, the owner or operator shall revise the operation and maintenance plan within 45 working days after such an event occurs. The revised plan shall include procedures for operating and maintaining the air pollution control equipment or monitoring equipment during similar variance events and a program for corrective action for such events. 63.562(e)(5) The operation and maintenance plan shall be developed by the source's compliance date. The owner or operator shall keep the written operation and maintenance plan on record to be made available for inspection, upon request, by the Administrator for the life of the source. In addition, if the operation and maintenance plan is revised, the owner or operator shall keep previous (i.e., superseded) versions of the plan on record to be made available for inspection upon request by the Administrator for a period of 5 years after each revision to the plan. 63.562(e)(6) To satisfy the requirements of the operation and maintenance plan, the owner or operator may use the source's standard operating procedures (SOP) manual, an Occupational Safety and Health Administration (OSHA) plan, or other existing plans provided the alternative plans meet the requirements of this section and are made available for inspection when requested by the Administrator. 63.562(e)(7) In response to an action to enforce the standards set forth in this subpart, you may assert an affirmative defense to a claim for civil penalties for exceedances of such standards that are caused by a malfunction, as defined in § 63.2. Appropriate penalties may be assessed, however, if the respondent fails to meet its burden of proving all the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief. 63.562(e)(7)(i) To establish the affirmative defense in any action to enforce such a limit, the owners or operators of a facility must timely meet the notification requirements of paragraph (e)(7)(ii) of this section, and must prove by a preponderance of evidence that: 63.562(e)(7)(i)(A) The excess emissions were caused by a sudden, infrequent, and unavoidable failure of air pollution control and monitoring equipment, or a process to operate in a normal and usual manner; and could not have been prevented through careful planning, proper design or better operation and maintenance practices; and did not stem from any activity or event that could have been foreseen and avoided, or planned for; and were not part of a recurring pattern indicative of inadequate design, operation, or maintenance; 63.562(e)(7)(i)(B) Repairs were made as expeditiously as possible when the applicable emission limitations were being exceeded. Off-shift and overtime labor were used, to the extent practicable to make these repairs; 63.562(e)(7)(i)(C) The frequency, amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions; 63.562(e)(7)(i)(D) If the excess emissions resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; 63.562(e)(7)(i)(E) All possible steps were taken to minimize the impact of the excess emissions on ambient air quality, the environment, and human health; 63.562(e)(7)(i)(F) All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; 63.562(e)(7)(i)(G)

	All of the actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs; 63.562(e)(7)(i)(H) At all times, the affected facility was operated in a manner consistent with good practices for minimizing emissions; and 63.562(e)(7)(i)(I) The owner or operator has prepared a written root cause analysis, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the excess emissions resulting from the malfunction event at issue. The analysis shall also specify, using the best monitoring methods and engineering judgment, the amount of excess emissions that were the result of the malfunction. 63.562(e)(7)(ii) Notification. The owner or operator of the facility experiencing an exceedance of its emission limit(s) during a malfunction shall notify the Administrator by telephone or facsimile (FAX) transmission as soon as possible, but no later than 2 business days after the initial occurrence of the malfunction, if it wishes to avail itself of an affirmative defense to civil penalties for that malfunction. The owner or operator seeking to assert an affirmative defense shall also submit a written report to the Administrator within 45 days of the initial occurrence of the exceedance of the standard in this subpart to demonstrate, with all necessary supporting documentation, that it has met the requirements set forth in paragraph (e)(7)(i) of this section. The owner or operator may seek an extension of this deadline for up to 30 additional days by submitting a written request to the Administrator before the expiration of the 45 day period. Until a request for an extension has been approved by the Administrator, the owner or operator is subject to the requirement to submit such report within 45 days of the initial occurrence of the exceedance.
40 CFR 63.563(a)	63.563(a) The following procedures shall be used to determine compliance with the emissions limits under §63.562(b)(1), (c)(2), and (d)(1): **63.563(a)(1) Vent stream by-pass requirements for the terminal's vapor collection system.** 63.563(a)(1)(i) In accordance with §63.562(b)(1)(i), (c)(2)(i), and (d)(1)(i), each valve in the terminal's vapor collection system that would route displaced vapors to the atmosphere, either directly or indirectly, shall be secured closed during marine tank vessel loading operations either by using a car-seal or a lock-and-key type configuration, or the by-pass line from the valve shall be equipped with a flow indicator, except for those valves used for pressure/vacuum relief, analyzers, instrumentation devices, sampling, and venting for maintenance. Marine tank vessel loading operations shall not be performed with open by-pass lines. 63.563(a)(1)(ii) Repairs shall be made to valves, car-seals, or closure mechanisms no later than 15 days after a change in the position of the valve or a break in the car-seal or closure mechanism is detected or no later than prior to the next marine tank vessel loading operation, whichever is later. **63.563(a)(2) Ship-to-shore compatibility of vapor collection systems.** Marine tank vessel loading operations must be performed only if the marine tank vessel's vapor collection equipment is compatible to the terminal's vapor collection system; marine tank vessel loading operations must be performed only when the marine tank vessel's vapor collection equipment is connected to the terminal's vapor collection system, as required in

	§63.562(b)(1)(ii), (c)(2)(ii), and (d)(1)(ii). 63.563(a)(3) Pressure/vacuum settings for the marine tank vessel's vapor collection equipment. During the initial performance test required in paragraph (b)(1) of this section, the owner or operator of an affected source shall demonstrate compliance with operating pressure requirements of 33 CFR 154.814 using the procedures in §63.565(b).
	63.563(a)(4) Vapor-tightness requirements of the marine vessel. The owner or operator of an affected source shall use the procedures in paragraph (a)(4)(i), (ii), (iii), or (iv) of this section to ensure that marine tank vessels are vapor tight, as required in §63.562(b)(1)(iii), (c)(2)(iii), and (d)(1)(iii). 63.563(a)(4)(i) Pressure test documentation for determining vapor tightness of the marine vessel. The owner or operator of a marine tank vessel, who loads commodities containing HAP not determined to be exempt under §63.560(d) at an affected source, shall provide a copy of the vapor-tightness pressure test documentation described in §63.567(i) for each marine tank vessel prior to loading. The date of the test listed in the documentation must be within the preceding 12 months, and the test must be conducted in accordance with the procedures in §63.565(c)(1). Following the date on which the initial performance test is completed, the affected source must check vapor-tightness pressure test documentation for marine tank vessels loaded at positive pressure. **63.563(a)(4)(ii) Leak test documentation for determining vapor tightness of the marine vessel.** If no documentation of the vapor tightness pressure test as described in paragraph (a)(4)(i) of this section is available, the owner or operator of a marine tank vessel, who loads commodities containing HAP not determined to be exempt under §63.560(d) at an affected source, shall provide the leak test documentation described in §63.567(i) for each marine tank vessel prior to loading. The date of the test listed in the documentation must be within the preceding 12 months, and the test must be conducted in accordance with the procedures in §63.565(c)(2). If the marine tank vessel has failed its most recent vapor-tightness leak test at that terminal, the owner or operator of the non-vapor-tight marine tank vessel shall provide documentation that the leaks detected during the previous vapor-tightness test have been repaired and documented with a successful vapor-tightness leak test described in §63.565(c)(2) conducted during loading. If the owner or operator of the marine tank vessel can document that repair is technically infeasible without cleaning and gas freeing or dry-docking the vessel, the owner or operator of the affected source may load the marine tank vessel. Following the date on which the initial performance test is completed, an affected source must check the vapor-tightness leak test documentation for marine tank vessels loaded at positive pressure. **63.563(a)(4)(iii) Leak test performed during loading using Method 21 for determining vapor tightness of the marine vessel.** If no documentation of vapor tightness as described in paragraphs (a)(4)(i) or (ii) of this section is available, the owner or operator of a marine tank vessel, who loads commodities containing HAP not determined to be exempt under §63.560(d) at an affected source, shall perform a leak test of the marine tank vessel during marine tank vessel loading operation using the procedures described in §63.565(c)(2). 63.563(a)(4)(iii)(A) If no leak is detected, the owner or operator of a marine tank vessel shall complete the documentation described in §63.567(i) prior to departure of the vessel. 63.563(a)(4)(iii)(B) If a leak is detected, the owner or operator of the marine tank vessel shall document the

	vapor-tightness failure for the marine tank vessel prior to departure of the vessel. The leaking component shall be repaired prior to the next marine tank vessel loading operation at a controlled terminal unless the repair is technically infeasible without cleaning and gas freeing or dry-docking the vessel. If the owner or operator of the vessel provides documentation that repair of such equipment is technically infeasible without cleaning and gas freeing or dry-docking the vessel, the equipment responsible for the leak will be excluded from future Method 21 tests until repairs are effected. A copy of this documentation shall be maintained by the owner or operator of the affected source. Repair of the equipment responsible for the leak shall occur the next time the vessel is cleaned and gas freed or dry-docked. For repairs that are technically feasible without dry-docking the vessel, the owner or operator of the affected source shall not load the vessel again unless the marine tank vessel owner or operator can document that the equipment responsible for the leak has been repaired. 63.563(a)(4)(iv) Negative pressure loading. The owner or operator of an affected source shall ensure that a marine tank vessel is loaded with the product tank below atmospheric pressure (i.e., at negative gauge pressure). The pressure shall be measured between the facility's vapor connection and its manual isolation valve, and the measured pressure must be below atmospheric pressure. Following the date on which the initial performance test is completed, marine tank vessel loading operations for nonvapor-tight vessels must be performed below atmospheric pressure (i.e., at negative gauge pressure) in the product tank.
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For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Citation	Citation Text
40 CFR 63.563(b)(3)	63.563(b)(3) Operation and maintenance inspections. If the 3-hour or 3-cycle block average operating parameters in paragraphs (b)(4) through (9) of this section, outside the acceptable operating ranges, are measured and recorded, i.e., variances of the pollution control device or monitoring equipment, the owner or operator of the affected source shall perform an unscheduled inspection of the control device and monitoring equipment and review of the parameter monitoring data. The owner or operator of the affected source shall perform an inspection and review when total parameter variance time for the control device is greater than 10 percent of the operating time for marine tank vessel loading operations on a 30-day, rolling-average basis. The inspection and review shall be conducted within 24 hours after passing the allowable variance time of 10 percent. The inspection checklist from the requirements of §63.562(e)(2)(iii) and the monitoring data from requirements in §§63.562(e)(2)(ii) and 63.564 should be used to identify any maintenance problems that may be associated with the variance. The unscheduled inspection should encompass all components of the control device and monitoring equipment that can be inspected while in operation. If any maintenance problem is identified during the inspection, the owner or operator of the affected source must take corrective action (e.g., adjustments to operating controls, etc.) as soon as practicable. If no immediate maintenance problems are identified from the inspection performed while the equipment is operating, a complete inspection in accordance with §63.562(e)(2) must be conducted prior to the next marine tank vessel loading operation and corrective action (e.g., replacement of defective parts) must be taken as soon as practicable for any maintenance problem identified during the complete inspection.
40 CFR 63.563(b)(6)	63.563(b)(6) Carbon adsorber. The owner or operator of affected sources complying with paragraph (b)(6)(ii)(B) or (C) of this section shall conduct a performance test once each year.
	63.563(b)(6)(i) Compliance determination for carbon bed regeneration. Desorbed hydrocarbons from regeneration of the off-line carbon bed shall be vented to the on-line carbon bed.
	63.563(b)(6)(ii) Baseline parameters for required percent recovery efficiency. The owner or operator shall comply with paragraph (b)(6)(ii)(A), (B), or (C) of this section. 63.563(b)(6)(ii)(A) Outlet VOC concentration limit for required percent recovery efficiency. The owner or operator shall establish as an operating parameter the baseline VOC concentration using the procedures described in §63.565(g). The facility shall be operated with a block average outlet VOC concentration as determined in §63.564(g)(1) no more than 20 percent above the baseline VOC concentration. 63.563(b)(6)(ii)(B) Carbon adsorbers with vacuum regeneration. The owner or operator shall establish as operating parameters the baseline regeneration time for the vacuum stage of carbon bed regeneration using the procedures described in §63.565(h) and shall establish the baseline vacuum pressure (negative gauge pressure) using the procedures described in §63.565(i). The facility shall be operated with block average regeneration time of the vacuum stage of carbon bed regeneration as determined in §63.564(g)(2) no more than 20 percent below the baseline regeneration time, and the facility shall be operated with the block average

	vacuum pressure (negative gauge pressure) as determined in §63.564(g)(2) no more than 20 percent above the baseline vacuum pressure.
	63.563(b)(6)(iii) Outlet VOC concentration of 1,000 ppmv for gasoline loading. Following the date on which the initial performance test is completed, the facility shall operate with a block average outlet VOC concentration as determined in §63.564(g)(1) of no more than 1,200 ppmv VOC.
40 CFR 63.563(b)(9)	63.563(b)(9) Alternative control devices. For sources complying with §63.562(b)(2), (3), and (4), (c)(3) and (4), and (d)(2) with the use of a control technology other than the devices discussed in paragraphs (b)(4) through (8) of this section, the owner or operator of an affected source shall provide to the Administrator information describing the design and operation of the air pollution control system, including recommendations for the operating parameter(s) to be monitored to indicate proper operation and maintenance of the air pollution control system. Based on this information, the Administrator shall determine the operating parameter(s) to be established during the performance test. During the initial performance test required in paragraph (b)(1) of this section, the owner or operator shall determine the efficiency of the air pollution control system using the test methods in §63.565(d). The device shall achieve at least the percent destruction efficiency or recovery efficiency required under §63.562(b)(2), (3), and (4), (c)(3) and (4), and (d)(2). The owner or operator shall establish the operating parameter(s) approved by the Administrator. Following the date on which the initial performance test is complete, the facility shall operate either above or below a maximum or minimum operating parameter, as appropriate.
40 CFR 63.563(b)(10)	63.563(b)(10) Emission estimation. The owner or operator of a source subject to §63.562(b)(2), (3), and (4) shall use the emission estimation procedures in §63.565(l) to calculate HAP emissions.
40 CFR 63.563(c)	63.563(c) Leak detection and repair for vapor collection systems and control devices. The following procedures are required for all sources subject to §63.562(b), (c), or (d). 63.563(c)(1) Annual leak detection and repair for vapor collection systems and control devices. The owner or operator of an affected source shall inspect and monitor all ductwork and piping and connections to vapor collection systems and control devices once each calendar year using Method 21. 63.563(c)(2) Ongoing leak detection and repair for vapor collection systems and control devices. If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method, all ductwork and piping and connections to vapor collection systems and control devices shall be inspected to the extent necessary to positively identify the potential leak and any potential leaks shall be monitored within 5 days by Method 21. Each detection of a leak shall be recorded, and the leak shall be tagged until repaired. 63.563(c)(3) When a leak is detected, a first effort to repair the vapor collection system and control device shall be made within 15 days or prior to the next marine tank vessel loading operation, whichever is later.

40 CFR 63.564(a)	63.564(a) 63.564(a)(1) The owner or operator of an affected source shall comply with the monitoring requirements in §63.8 of subpart A of this part in accordance with the provisions for applicability of subpart A to this subpart in Table 1 of §63.560 and the monitoring requirements in this section. 63.564(a)(2) Each owner or operator of an affected source shall monitor the parameters specified in this section. All monitoring equipment shall be installed such that representative measurements of emissions or process parameters from the source are obtained. For monitoring equipment purchased from a vendor, verification of the operational status of the monitoring equipment shall include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system. 63.564(a)(3) Except for system breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level calibration drift adjustments, all continuous parametric monitoring systems (CPMS) and CEMS shall be in continuous operation while marine tank vessel loading operations are occuring and shall meet minimum frequency of operation requirements. Sources monitoring by use of CEMS and CPMS shall complete a minimum of one cycle of operation (sampling, analyzing, and/or data recording) for each successive 15-minute period. 63.564(a)(4) The owner or operator of a CMS installed in accordance with these emissions standards shall comply with the performance specifications either in performance specification (PS) 8 in 40 CFR part 60, appendix B for CEMS or in §63.7(c)(6) of subpart A of this part for CPMS. 63.564(a)(5) A CEMS is out of control when the measured values (i.e., daily calibrations, multipoint calibrations, and performance audits) exceed the limits specified in either PS 8 or in §63.8(c)(7) of subpart A of this part. The owner or operator of a CEMS that is out of control shall submit all information concerning out of control periods, including start and end dates and hours and descriptions of corrective actions taken, in the excess emissions and continuous monitoring system performance report required in §63.567(e).
40 CFR 63.564(b)	63.564(b) Vapor collection system of terminal. Owners or operators of a source complying with §63.563(a)(1) that uses a vapor collection system that contains valves that could divert a vent stream from a control device used to comply with the provisions of this subpart shall comply with paragraph (b)(1), (2), or (3) of this section. 63.564(b)(1) Measure and record the vent stream flowrate of each by-pass line once every 15 minutes. The owner or operator shall install, calibrate, maintain, and operate a flow indicator and data recorder. The flow indicator shall be installed immediately downstream of any valve (i.e., entrance to by-pass line) that could divert the vent stream from the control device to the atmosphere. 63.564(b)(2) Measure the vent stream flowrate of each by-pass line once every 15 minutes. The owner or operator shall install, calibrate, maintain, and operate a flow indicator with either an audio or visual alarm. The flow indicator and alarm shall be installed immediately downstream of any valve (i.e., entrance to by-pass line) that could divert the vent stream from the control device to the atmosphere. The alarm shall be checked every 6 months to demonstrate that it is functioning properly. 63.564(b)(3) Visually inspect the seal or closure mechanism once during each marine tank vessel loading operation and at least once every month to ensure that the valve is maintained in the closed position and that the vent stream is not diverted through the by-pass line;

	record all times when the car seals have been broken and the valve position has been changed. Each by-pass line valve shall be secured in the closed position with a car-seal or a lock-and-key type configuration.
40 CFR 63.564(c)	63.564(c) Pressure/vacuum settings for the marine tank vessel's vapor collection equipment. Owners or operators of a source complying with §63.563(a)(3) shall measure continuously the operating pressure of the marine tank vessel during loading.
40CFR 63.564(d) and 45CSR34	63.564(d) Loading at negative pressure. Owners or operators of a source complying with §63.563(a)(4)(iv) that load vessels at less than atmospheric pressure (i.e., negative gauge pressure) shall measure and record the loading pressure. The owner or operator shall install, calibrate, maintain, and operate a recording pressure measurement device (magnehelic gauge or equivalent device) and an audible and visible alarm system that is activated when the pressure vacuum specified in §63.563(a)(4)(iv) is not attained. The owner or operator shall place the alarm system so that it can be seen and heard where cargo transfer is controlled. The owner or operator shall verify the accuracy of the pressure device once each calendar year with a reference pressure monitor (traceable to National Institute of Standards and Technology (NIST) standards or an independent pressure measurement device dedicated for this purpose).
40 CFR 63.564(g)	63.564(g) Carbon adsorber. For sources complying with §63.563(b)(6), use of a carbon adsorber, the owner or operator shall comply with paragraph (g)(1), (2), or (3) of this section. 63.564(g)(1) Outlet VOC concentration. Monitor the VOC concentrations at the exhaust point of each carbon adsorber unit and record the output from the system. For sources monitoring the outlet VOC concentration established during the performance test, a data acquisition system shall record a concentration every 15 minutes and shall compute and record an average concentration each cycle (same time period or cycle as the performance test) and a 3-cycle block average concentration every third cycle. For sources monitoring the 1,000 ppmv VOC concentration for gasoline loading, a data acquisition system shall record a concentration every 15 minutes and shall compute and record an average concentration each hour and a 3-hour block average concentration every third hour. The owner or operator will install, calibrate, operate, and maintain a CEMS consistent with the requirements of PS 8 to measure the VOC concentration. The daily calibration requirements are required only on days when marine tank vessel loading operations occur. 63.564(g)(2) Carbon adsorbers with vacuum regeneration. Monitor and record the regeneration time for carbon bed regeneration and monitor and record continuously the vacuum pressure of the carbon bed regeneration cycle. The owner or operator will record the time when the carbon bed regeneration cycle begins and when the cycle ends for a single carbon bed and will calculate a 3-cycle block average every third cycle. The owner or operator shall install, calibrate, maintain, and operate a recording pressure measurement device (magnehelic gauge or equivalent device). A data acquisition system shall record and compute a 3-cycle (carbon bed regeneration cycle) block average vacuum pressure every third cycle. The owner or operator shall verify the accuracy of the pressure device once each calendar year with a reference pressure monitor (traceable to National Institute of Standards and Technology (NIST) standards or an independent pressure measurement device dedicated for this purpose). During accuracy checking, the probe of the reference device shall be at the same location as that of the pressure monitor being tested.
40 CFR 63.564(j)	63.564(j) Alternate monitoring procedures. Alternate procedures to those described in this section may be used upon application to, and approval by, the Administrator. The owner or operator shall comply with the procedures for use of an alternative monitoring method in §63.8(f).

40 CFR 63.565(a)	63.565(a) Performance testing. The owner or operator of an affected source in §63.562 shall comply with the performance testing requirements in §63.7 of subpart A of this part in accordance with the provisions for applicability of subpart A to this subpart in Table 1 of §63.560 and the performance testing requirements in this section.
40 CFR 63.565(b)	63.565(b) Pressure/vacuum settings of marine tank vessel's vapor collection equipment. For the purpose of determining compliance with §63.563(a)(3), the following procedures shall be used: 63.565(b)(1) Calibrate and install a pressure measurement device (liquid manometer, magnehelic gauge, or equivalent instrument) capable of measuring up to the maximum relief set pressure of the pressure-vacuum vents; 63.565(b)(2) Connect the pressure measurement device to a pressure tap in the terminal's vapor collection system, located as close as possible to the connection with the marine tank vessel; and 63.565(b)(3) During the performance test required in §63.563(b)(1), record the pressure every 5 minutes while a marine tank vessel is being loaded and record the highest instantaneous pressure and vacuum that occurs during each loading cycle.
40 CFR 63.565(c)	3.565(c) Vapor-tightness test procedures for the marine tank vessel. When testing a vessel for vapor tightness to comply with the marine vessel vapor-tightness requirements of §63.563(a)(4)(i), the owner or operator of a source shall use the methods in either paragraph (c)(1) or (2) in this section. 63.565(c)(1) Pressure test for the marine tank vessel. 63.565(c)(1)(i) Each product tank shall be pressurized with dry air or inert gas to no more than the pressure of the lowest pressure relief valve setting. 63.565(c)(1)(ii) Once the pressure is obtained, the dry air or inert gas source shall be shut off. 63.565(c)(1)(iii) At the end of one-half hour, the pressure in the product tank and piping shall be measured. The change in pressure shall be calculated using the following formula: P=Pi−Pf Where: P=change in pressure, inches of water. Pi=pressure in tank when air/gas source is shut off, inches of water. Pf=pressure in tank at the end of one-half hour after air/gas source is shut off, inches of water. 63.565(c)(1)(iv) The change in pressure, P, shall be compared to the pressure drop calculated using the following formula: PM=0.861 PiaL/V Where: PM=maximum allowable pressure change, inches of water. Pia=pressure in tank when air/gas source is shut off, psia. L=maximum permitted loading rate of vessel, barrels per hour. V=total volume of product tank, barrels. 63.565(c)(1)(v) If P≤PM, the vessel is vapor tight. 63.565(c)(1)(vi) If P<PM, the vessel is not vapor tight and the source of the leak must be identified and repaired prior to retesting. 63.565(c)(2) Leak test for the marine tank vessel. Each owner or operator of a source complying with §§63.563(a)(4)(ii) or (iii) shall use

	Method 21 as the vapor-tightness leak test for marine tank vessels. The test shall be conducted during the final 20 percent of loading of each product tank of the marine vessel, and it shall be applied to any potential sources of vapor leaks on the vessel.
40 CFR 63.565(d)(1)-(3) and (5)-(10)	63.565(d)(1) All testing equipment shall be prepared and installed as specified in the appropriate test methods. 63.565(d)(2) All testing shall be performed during the last 20 percent of loading of a tank or compartment. 63.565(d)(3) All emission testing intervals shall consist of each 5 minute period during the performance test. For each interval, the following shall be performed: 63.565(d)(3)(i) Readings. The reading from each measurement instrument shall be recorded. 63.565(d)(3)(ii) Sampling Sites. Method 1 or 1A of appendix A of part 60 of this chapter, as appropriate, shall be used for selection of sampling sites. Sampling sites shall be located at the inlet and outlet of the combustion device or recovery device except for owners or operators complying with the 1,000 ppmv VOC emissions limit for gasoline vapors under §63.563(b)(6) or (7), where the sampling site shall be located at the outlet of the recovery device. 63.565(d)(3)(iii) Volume exhausted. The volume exhausted shall be determined using Method 2, 2A, 2C, or 2D of appendix A of part 60 of this chapter, as appropriate.
	63.565(d)(5) Recovery devices. The average VOC concentration in the vent upstream and downstream of the control device shall be determined using Method 25A or 25B of appendix A-7 to part 60 of this chapter for recovery devices. The average VOC concentration shall correspond to the volume measurement by taking into account the sampling system response time. 63.565(d)(6) The VOC mass at the inlet and outlet of the combustion or recovery device during each testing interval shall be calculated as follows: Mj=FKVsCVOC Where: Mj=mass of VOC at the inlet and outlet of the combustion or recovery device during testing interval j, kilograms (kg). F=10−6=conversion factor, (cubic meters VOC/cubic meters air)(1/ppmv) (m3 VOC/m3 air)(1/ppmv). K=density, kilograms per cubic meter (kg/m3 VOC), standard conditions, 20 °C and 760 mm Hg. Vs=volume of air-vapor mixture at the inlet and outlet of the combustion or recovery device, cubic meters (m3) at standard conditions, 20 °C and 760 mm Hg. CVOC=VOC concentration (as measured) at the inlet and outlet of the combustion or recovery device, ppmv, dry basis. s=standard conditions, 20 °C and 760 mm Hg.
	3.565(d)(7) The VOC mass emission rates at the inlet and outlet of the recovery or combustion device shall be calculated as follows: Where: $E_i = \frac{\sum_{j=1}^{n} M_{ij}}{T}$ $E_o = \frac{\sum_{j=1}^{n} M_{oj}}{T}$

	E_i, E_o=mass flow rate of VOC at the inlet (i) and outlet (o) of the recovery or combustion device, kilogram per hour (kg/hr).
	M_{ij}, M_{oj}=mass of VOC at the inlet (i) or outlet (o) during testing interval j, kg.
	T=Total time of all testing intervals, hour.
	n=number of testing intervals.
	63.565(d)(8) Where Method 25, 25A, or 25B is used to measure the percent reduction in VOC, the percent reduction across the combustion or recovery device shall be calculated as follows: $R = \frac{E_i - E_o}{E_i}(100\%)$ Where:
	R = control efficiency of control device, percent.
	E_i = mass flow rate of VOC at the inlet to the combustion or recovery device as calculated under paragraph (c)(7) of this section, kg/hr.
	E_o = mass flow rate of VOC at the outlet of the combustion or recovery device, as calculated under paragraph (c)(7) of this section, kg/hr.
	63.565(d)(9) Repeat the procedures in paragraph (d)(1) through (d)(8) of this section 3 times. The arithmetic average percent efficiency of the three runs shall determine the overall efficiency of the control device. 63.565(d)(10) Use of methods other than Method 25, 25A, or 25B shall be validated pursuant to Method 301 of appendix A to part 63 of this chapter.
40 CFR 63.565(g)	63.565(g) Baseline outlet VOC concentration. The procedures in this paragraph shall be used to determine the outlet VOC concentration required in § 63.563(b)(4), (6), (7), and (8) for combustion devices except flare, carbon adsorbers, condenser/refrigeration units, and absorbers, respectively, and to monitor the VOC concentration as required in § 63.564(e), (g), (h), and (i). The owner or operator shall use the procedures outlined in Method 25A or 25B. For the baseline VOC concentration, the arithmetic average of the outlet VOC concentration from three test runs from paragraph (d) of this section shall be calculated for the control device. The VOC concentration shall be measured at least every 15 minutes. Compliance testing of VOC CEMS shall be performed using PS 8.
40 CFR 63.565(h)	63.565(h) Baseline regeneration time for carbon bed regeneration. The procedures in this paragraph shall be used to demonstrate the baseline regeneration time for the vacuum stage of carbon bed regeneration required in §63.563(b)(6) for a carbon adsorber and to monitor the regeneration time for the vacuum regeneration as required in §63.564(g). The owner or operator shall comply with paragraph (h)(1) or (2). 63.565(h)(1) Baseline regeneration time from performance testing. The owner or operator shall establish the baseline regeneration time as the length of time for the vacuum stage of carbon bed regeneration averaged over three test runs from paragraph (d) of this section. 63.565(h)(2) Baseline regeneration time from manufacturer recommendation. The owner or operator shall establish the baseline regeneration time as the manufacturer recommended minimum regeneration time for the vacuum stage of carbon bed regeneration.

40 CFR 63.565(i)	63.565(i) Baseline vacuum pressure for carbon bed regeneration. The procedures in this paragraph shall be used to demonstrate the baseline vacuum pressure for the vacuum stage of carbon bed regeneration required in §63.563(b)(6) for a carbon adsorber and to monitor the vacuum pressure as required in §63.564(g). The owner or operator shall establish the baseline vacuum pressure as the manufacturer recommended minimum vacuum for carbon bed regeneration.
40 CFR 63.565(j)	63.565(j) Baseline total stream flow. The procedures in this paragraph shall be used to demonstrate the baseline total stream flow for steam regeneration required in §63.563(b)(6) for a carbon adsorber and to monitor the total stream flow as required in §63.564(g). The owner or operator shall establish the baseline stream flow as the manufacturer recommended minimum total stream flow for carbon bed regeneration.
40 CFR 63.565(l)	63.565(l) Emission estimation procedures. For sources with emissions less than 10 or 25 tons and sources with emissions of 10 or 25 tons, the owner or operator shall calculate an 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.
40CFR 63.565(m)(1)	63.565(m) Alternate test procedures. 63.565(m)(1) Alternate test procedures to those described in this section may be used upon application to, and approval by, the Administrator.
	63.565(m)(2) If the owner or operator intends to demonstrate compliance by using an alternative to any test method specified, the owner or operator shall refrain from conducting the performance test until the Administrator approves the use of the alternative method when the Administrator approves the site-specific test plan (if review of the site-specific test plan is requested) or until after the alternative method is approved (see §63.7(f) of subpart A of this part). If the Administrator does not approve the site-specific test plan (if review is requested) or the use of the alternative method within 30 days before the test is scheduled to begin, the performance test dates specified in §63.563(b)(1) shall be extended such that the owner or operator shall conduct the performance test within 60 calendar days after the Administrator approves the site-specific test plan or after use of the alternative method is approved. Notwithstanding the requirements in the preceding two sentences, the owner or operator may proceed to conduct the performance test as required in this section (without the Administrator's prior approval of the site-specific test plan) if he/she subsequently chooses to use the specified testing and monitoring methods instead of an alternative.
40 CFR 63.567(a)	63.567(a) The owner or operator of an affected source shall fulfill all reporting and recordkeeping requirements in §§63.9 and 63.10 of subpart A of this part in accordance with the provisions for applicability of subpart A to this subpart in Table 1 of §63.560 and fulfill all reporting and recordkeeping requirements in this section. These reports will be made to the Administrator at the appropriate address identified in §63.13 of subpart A of this part. 63.567(a)(1) Reports required by subpart A and this section may be sent by U.S. mail, facsimile (fax), or by another courier. 63.567(a)(1)(i) Submittals sent by U.S. mail shall be postmarked on or before the specified date. 63.567(a)(1)(ii) Submittals sent by other methods shall be received by the Administrator on or before

	the specified date. 63.567(a)(2) If acceptable to both the Administrator and the owner or operator of a source, reports may be submitted on electronic media.
40 CFR 63.567(e)	63.567(e)(1) Schedule for summary report and excess emissions and monitoring system performance reports. Excess emissions and parameter monitoring exceedances are defined in §63.563(b). The owner or operator of a source subject to these emissions standards that is required to install a CMS shall submit an excess emissions and continuous monitoring system performance report and/or a summary report to the Administrator once each year, except, when the source experiences excess emissions, the source shall comply with a semi-annual reporting format until a request to reduce reporting frequency under paragraph (e)(2) of this section is approved. 63.567(e)(2) Request to reduce frequency of excess emissions and continuous monitoring system performance reports. An owner or operator who is required to submit excess emissions and continuous monitoring system performance and summary reports on a semi-annual basis may reduce the frequency of reporting to annual if the following conditions are met: 63.567(e)(2)(i) For 1 full year the sources's excess emissions and continuous monitoring system performance reports continually demonstrate that the source is in compliance; and 63.567(e)(2)(ii) The owner or operator continues to comply with all recordkeeping and monitoring requirements specified in this subpart and subpart A of this part. 63.567(e)(3) The frequency of reporting of excess emissions and continuous monitoring system performance and summary reports required may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change and the Administrator does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Administrator may review information concerning the source's entire previous performance history during the 5-year recordkeeping prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation maintenance requirements. Such information may be used by the Administrator to make a judgement about the source's potential for noncompliance in the future. If the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted. 63.567(e)(4) Content and submittal dates for excess emissions and monitoring system performance reports. All excess emissions and monitoring system performance reports and all summary reports, if required per paragraph (e)(5) and (6) of this section, shall be delivered or postmarked within 30 days following the end of each calendar year, or within 30 days following the end of each six month period, if appropriate. Written reports of excess emissions or exceedances of process or control system parameters shall include all information required in §63.10(c)(5) through (13) of subpart A of this part as applicable in Table 1 of §63.560 and information from any calibration tests in which the monitoring equipment is not in compliance with PS 8 or other methods used for accuracy testing of temperature, pressure, or flow monitoring devices. The written

	report shall also include the name, title, and signature of the responsible official who is certifying the accuracy of the report. When no excess emissions or exceedances have occurred or monitoring equipment has not been inoperative, repaired, or adjusted, such information shall be stated in the report. This information will be kept for a minimum of 5 years and made readily available to the Administrator or delegated State authority upon request. 63.567(e)(5) If the total duration of excess emissions or control system parameter exceedances for the reporting period is less than 5 percent of the total operating time for the reporting period, and CMS downtime for the reporting period is less than 10 percent of the total operating time for the reporting period, only the summary report of §63.10(e)(3)(vi) of subpart A of this part shall be submitted, and the full excess emissions and continuous monitoring system performance report of paragraph (e)(4) of this section need not be submitted unless required by the Administrator. 63.567(e)(6) If the total duration of excess emissions or process or control system parameter exceedances for the reporting period is 5 percent or greater of the total operating time for the reporting period, or the total CMS downtime for the reporting period is 10 percent or greater of the total operating time for the reporting period, both the summary report of §63.10(e)(3)(vi) of subpart A of this part and the excess emissions and continuous monitoring system performance report of paragraph (e)(4) of this section shall be submitted.
	63.567(e)(5) If the total duration of excess emissions or control system parameter exceedances for the reporting period is less than 5 percent of the total operating time for the reporting period, and CMS downtime for the reporting period is less than 10 percent of the total operating time for the reporting period, only the summary report of §63.10(e)(3)(vi) of subpart A of this part shall be submitted, and the full excess emissions and continuous monitoring system performance report of paragraph (e)(4) of this section need not be submitted unless required by the Administrator. 63.567(e)(6) If the total duration of excess emissions or process or control system parameter exceedances for the reporting period is 5 percent or greater of the total operating time for the reporting period, or the total CMS downtime for the reporting period is 10 percent or greater of the total operating time for the reporting period, both the summary report of §63.10(e)(3)(vi) of subpart A of this part and the excess emissions and continuous monitoring system performance report of paragraph (e)(4) of this section shall be submitted.
40 CFR 63.567(f)	63.567(f) Vapor collection system of the terminal. Each owner or operator of an affected source shall submit with the initial performance test and maintain in an accessible location on site an engineering report describing in detail the vent system, or vapor collection system, used to vent each vent stream to a control device. This report shall include all valves and vent pipes that could vent the stream to the atmosphere, thereby bypassing the control device, and identify which valves are car-sealed opened and which valves are car-sealed closed.
40 CFR 63.567(g)	63.567(g) If a vent system, or vapor collection system, containing valves that could divert the emission stream away from the control device is used, each owner or operator of an affected source shall keep for at least 5 years up-to-date, readily accessible continuous records of: 63.567(g)(1) All periods when flow bypassing the control device is indicated if flow indicators are installed under §63.563(a)(1) and §63.564(b), and 63.567(g)(2) All times when maintenance is performed on car-sealed valves, when the car-seal is

	broken, and when the valve position is changed (i.e., from open to closed for valves in the vent piping to the control device and from closed to open for valves that vent the stream directly or indirectly to the atmosphere bypassing the control device) if valves are monitored under §63.564(b).
40 CFR 63.567(h)	63.567(h) The owner or operator of an affected source shall keep the vapor-tightness documentation required under §63.563(a)(4) on file at the source in a permanent form available for inspection.
40 CFR 63.567(i)	63.567(i) Vapor tightness test documentation for marine tank vessels. The owner or operator of an affected source shall maintain a documentation file for each marine tank vessel loaded at that source to reflect current test results as determined by the appropriate method in §63.565(c)(1) and (2). Updates to this documentation file shall be made at least once per year. The owner or operator shall include, as a minimum, the following information in this documentation: 63.567(i)(1) Test title; 63.567(i)(2) Marine vessel owner and address; 63.567(i)(3) Marine vessel identification number; 63.567(i)(4) Loading time, according to §63.563(a)(4)(ii) or (iii), if appropriate; 63.567(i)(5) Testing location; 63.567(i)(6) Date of test; 63.567(i)(7) Tester name and signature; 63.567(i)(8) Test results from §63.565(c)(1) or (2), as appropriate; 63.567(i)(9) Documentation provided under §63.563(a)(4)(ii) and (iii)(B) showing that the repair of leaking components attributed to a failure of a vapor-tightness test is technically infeasible without dry-docking the vessel; and 63.567(i)(10) Documentation that a marine tank vessel failing a pressure test or leak test has been repaired.
40 CFR 63.567(j)	63.567(j) Emission estimation reporting and recordkeeping procedures. The owner or operator of each source complying with the emission limits specified in §63.562(b)(2), (3), and (4) shall comply with the following provisions: 63.567(j)(1) Maintain records of all measurements, calculations, and other documentation used to identify commodities exempted under §63.560(d); 63.567(j)(2) Keep readily accessible records of the emission estimation calculations performed in §63.565(l) for 5 years; and 63.567(j)(3) Submit an annual report of the source's HAP control efficiency calculated using the procedures specified in §63.565(l), based on the source's actual throughput. 63.567(j)(4) Owners or operators of marine tank vessel loading operations specified in §63.560(a)(3) shall retain records of the emissions estimates determined in §65.565(l) and records of their actual throughputs by commodity, for 5 years.

40CFR 63.567(k)	63.567(k) Leak detection and repair of vapor collection systems and control devices. When each leak of the vapor collection system, or vapor collection system, and control device is detected and repaired as specified in §63.563(c) the following information required shall be maintained for 5 years: 63.567(k)(1) Date of inspection; 63.567(k)(2) Findings (location, nature, and severity of each leak); 63.567(k)(3) Leak determination method; 63.567(k)(4) Corrective action (date each leak repaired, reasons for repair interval); and 63.567(k)(5) Inspector name and signature.
40 CFR 63.567(m)	63.567(m) The number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded shall be stated in a semiannual report. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with § 63.562(e), including actions taken to correct a malfunction. The report, to be certified by the owner or operator or other responsible official, shall be submitted semiannually and delivered or postmarked by the 30th day following the end of each calendar half.
40 CFR 63.567(n)	63.567(n)(1) As of January 1, 2012 and within 60 days after the date of completing each performance test, as defined in § 63.2, and as required in this subpart, you must submit performance test data, except opacity data, electronically to EPA's Central Data Exchange by using the ERT (see http://www.epa.gov/ttn/chief/ert/ert tool.html/) or other compatible electronic spreadsheet. Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFIRE database. 63.567(n)(2) All reports required by this subpart not subject to the requirements in paragraph (n)(1) of this section must be sent to the Administrator at the appropriate address listed in § 63.13. If acceptable to both the Administrator and the owner or operator of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to paragraph (n)(1) of this section in paper format.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No
If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** N/A
Tank 253	Tank 253	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Internal floating roof storage tank containing gasoline / distillate (Materials stored in the gasoline tanks may include distillate fuel and gasoline products with seasonal RVP variations. Products described as distillate may include fuel oil #2, kerosene, and jet A fuel.)

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1948	1948	1992

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 2,444,400 gallons (shell capacity from OIS 2014)

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	790,172,460 gallons	8760 hours

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☐ Yes ☒ No	**If yes, is it?** ☐ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		

Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

US EPA Storage Tank Emissions Calculation Software: TANKS 4.09d (October 3, 2005), Emissions estimates are based on gasoline and account for the seasonal RVP variations. Emissions estimates are based on gasoline. The maximum throughput is assumed to be six (6) times the maximum throughput realized over the last four years.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Please refer to Table E-2. Applicable Requirements for IFR Tanks.

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For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Please refer to Table E-2. Applicable Requirements for IFR Tanks.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No
If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** N/A
Tank 255	Tank 255	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Vertical fixed cone roof storage tank containing distillate fuel (Products described as distillate may include fuel oil #2, kerosene, and jet A fuel.)

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1948	1948	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 5,527,200 gallons (shell capacity from OIS 2014)

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	1,140,014,736 gallons	8760 hours

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☐ Yes ☒ No	**If yes, is it?** ☐ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		

Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene		
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

US EPA Storage Tank Emissions Calculation Software: TANKS 4.09d (October 3, 2005). Emissions estimates are based on the material with the highest vapor pressure which is kerosene. The maximum throughput is assumed to be six (6) times the maximum throughput realized over the last four years.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

N/A

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For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

N/A

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No
If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** N/A
Tank 256	Tank 256	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
External floating roof storage tank containing wastewater with petroleum liquid waste (petroleum wastewater).

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1949	1949	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 2,280,600 gallons (shell capacity from OIS 2014)

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	1,436,400 gallons	8760 hours

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☐ Yes ☒ No	**If yes, is it?** ☐ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

US EPA Storage Tank Emissions Calculation Software: TANKS 4.09d (October 3, 2005). Emissions estimates are conservatively based on storage of gasoline RVP 10. The maximum throughput is assumed to be six (6) times the actual 2013 throughput.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

No owner or operator of a petroleum storage vessel with an external floating roof shall store petroleum liquid in that tank unless:

a. The tank has been fitted with a continuous secondary seal extending from the floating roof to the tank wall (rim-mounted secondary seal); or a closure or other device that controls VOC emissions with an effectiveness equal to or greater than a seal and is approved by the Director and the U.S. EPA; and
b. All seal closure devices must meet the following requirements: there are no visible holes, tears, or other openings in the seal(s) or seal fabric; the seal(s) are intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall; For vapor-mounted primary seals, the accumulated area of gaps exceeding 0.32 centimeters (cm) (0.125 inches [in]) in width between the secondary seal and the tank wall shall not exceed 21.2 square centimeters per meter (cm^2/m) (1.0 square inches per foot [in^2/ft]) of tank diameter; and
c. All openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves, are: Equipped with covers, seals, or lids in the closed position except when the openings are in actual use; Equipped with projections into the tank that remain below the liquid surface at all times; and
d. Automatic bleeder vents are closed at all times except when the roof is being floated off or being landed on the roof leg supports;
e. Rim vents are set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting; and
f. Emergency roof drains are provided with slotted membrane fabric covers or equivalent covers which cover at least 90 percent of the area of the opening.

[45CSR§21-27.3 *(Tank 256—wastewater and offspec petroleum liquid layer)*]

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For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring Requirements

The owner or operator of a petroleum liquid storage tank with an external floating roof shall perform routine inspections semiannually (the inspections shall include a visual inspection of the secondary seal gap); and measure the secondary seal gap annually when the floating roof is equipped with a vapor molded primary seal.
[45CSR§21-27.4 *(Tank 256 – wastewater with offspec petroleum liquid layer)*]

Compliance with inspection requirements shall be determined by physically measuring the length and width of all gaps around the entire circumference of the secondary seal in each place where a 0.32 cm (0.125 inch) uniform diameter probe passes freely (without forcing or binding against the seal) between the seal and tank wall; and summing the area of the individual gaps.
[45CSR§21-27.6 *(Tank 256 – wastewater with offspec petroleum liquid layer)*]

Recordkeeping Requirements

The owner or operator of any petroleum liquid storage tank with a fixed roof or external floating roof shall maintain the following records in a readily accessible location for at least five (5) years and shall make copies of the records available to the Director upon verbal or written request:

1. Records of the types of petroleum liquids stored;
2. Records of the maximum true vapor pressure of the liquid as stored; and
3. Records of the results of the inspections performed.

[45CSR§21-27.5 *(Tank 256 – wastewater with offspec petroleum liquid layer)*]

Reporting Requirements

The owner or operator of any facility containing sources subject to 45CSR21-27 and 28 shall comply with excess emission reporting requirements.
[45CSR§21-27.7 *(Tank 256 – wastewater with offspec petroleum liquid layer)*]

The owner or operator shall, for each occurrence of excess emissions expected to last more than 7 days, within 1 business day of becoming aware of such occurrence, supply the Director by letter with the following information:

a. The name and location of the facility;
b. The subject sources that caused the excess emissions;
c. The time and date of first observation of the excess emissions; and
d. The cause and expected duration of the excess emissions.
e. For sources subject to numerical emission limitations, the estimated rate of emissions (expressed in the units of the applicable emission limitation) and the operating data and calculations used in determining the magnitude of the excess emissions; and
f. The proposed corrective actions and schedule to correct the conditions causing the excess emissions.

[45CSR§21-5.2. *(Tank 256 – wastewater with offspec petroleum liquid layer)*]

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No
If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** N/A
Tank 257	Tank 257	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Internal floating roof storage tank containing gasoline (Materials stored in the gasoline tanks may include distillate fuel and gasoline products with seasonal RVP variations. Products described as distillate may include fuel oil #2, kerosene, and jet A fuel.

Manufacturer:	**Model number:**	**Serial number:**
Marathon field constructed	Marathon field constructed	Marathon field constructed
Construction date:	**Installation date:**	**Modification date(s):**
1951	1951	1995

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 4,653,600 gallons (shell capacity from OIS 2014)

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	1,933,705,872 gallons	8760 hours

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☐ Yes ☒ No	**If yes, is it?** ☐ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		

Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

US EPA Storage Tank Emissions Calculation Software: TANKS 4.09d (October 3, 2005). Emissions estimates are based on gasoline and account for the seasonal RVP variations. The maximum throughput is assumed to be six (6) times the maximum throughput realized over the last four years.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Please refer to Table E-2. Applicable Requirements for IFR Tanks.

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Please refer to Table E-2. Applicable Requirements for IFR Tanks.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No
If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** NA
Tank 258	Tank 258	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Internal floating roof storage tank containing gasoline / distillate (Materials stored in the gasoline tanks may include distillate fuel and gasoline products with seasonal RVP variations. Products described as distillate may include fuel oil #2, kerosene, and jet A fuel.)

Manufacturer:	**Model number:**	**Serial number:**
Marathon field constructed	Marathon field constructed	Marathon field constructed
Construction date:	**Installation date:**	**Modification date(s):**
1951	1951	1997

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 4,397,400 gallons (shell capacity from OIS 2014)

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	2,044,139,328 gallons	8760 hours

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☐ Yes ☒ No	**If yes, is it?** ☐ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		

Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

US EPA Storage Tank Emissions Calculation Software: TANKS 4.09d (October 3, 2005). Emissions estimates are based on gasoline and account for the seasonal RVP variations. The maximum throughput is assumed to be six (6) times the maximum throughput realized over the last four years.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Please refer to Table E-2. Applicable Requirements for IFR Tanks.

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Please refer to Table E-2. Applicable Requirements for IFR Tanks.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No
If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** N/A
Tank 259	Tank 259	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Internal floating roof storage tank containing gasoline / distillate (Materials stored in the gasoline tanks may include distillate fuel and gasoline products with seasonal RVP variations. Products described as distillate may include fuel oil #2, kerosene, and jet A fuel.)

Manufacturer:	**Model number:**	**Serial number:**
Marathon field constructed	Marathon field constructed	Marathon field constructed
Construction date:	**Installation date:**	**Modification date(s):**
1951	1951	2001

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 4,653,600 gallons (shell capacity from 2014 OIS)

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	1,864,196,964 gallons	8760 hours

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☐ Yes ☒ No	**If yes, is it?** ☐ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data Refer to Attachment I for Detailed Emissions Calculations

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		

Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

US EPA Storage Tank Emissions Calculation Software: TANKS 4.09d (October 3, 2005). Emissions estimates are based on gasoline and account for the seasonal RVP variations. The maximum throughput is assumed to be six (6) times the maximum throughput realized over the last four years.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Please refer to Table E-2. Applicable Requirements for IFR Tanks.

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Please refer to Table E-2. Applicable Requirements for IFR Tanks.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No
If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** N/A
Tank 260	Tank 260	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Internal floating roof storage tank containing gasoline / distillate (Materials stored in the gasoline tanks may include distillate fuel and gasoline products with seasonal RVP variations. Products described as distillate may include fuel oil #2, kerosene, and jet A fuel.)

Manufacturer:	**Model number:**	**Serial number:**
Marathon field constructed	Marathon field constructed	Marathon field constructed
Construction date:	**Installation date:**	**Modification date(s):**
1968	1968	2002

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 4,985,400 gallons (shell capacity from OIS 2014)

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	1,821,252,132 gallons	8760 hours

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☐ Yes ☒ No	**If yes, is it?** ☐ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		

Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

US EPA Storage Tank Emissions Calculation Software: TANKS 4.09d (October 3, 2005). Emissions estimates are based on gasoline and account for the seasonal RVP variations. The maximum throughput is assumed to be six (6) times the maximum throughput realized over the last four years.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Please refer to Table E-2. Applicable Requirements for IFR Tanks.

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Please refer to Table E-2. Applicable Requirements for IFR Tanks.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No
If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** N/A
Tank 261	Tank 261	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Vertical fixed cone roof distillate storage tank (Products described as distillate may include fuel oil #2, kerosene, and jet A fuel.)

Manufacturer:	**Model number:**	**Serial number:**
Marathon field constructed	Marathon field constructed	Marathon field constructed
Construction date:	**Installation date:**	**Modification date(s):**
1968	1968	1992

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 6,631,800 gallons (shell capacity from OIS 2014)

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	2,170,264,878 gallons	8760 hours

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☐ Yes ☒ No	**If yes, is it?** ☐ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data Refer to Attachment I for Detailed Emissions Calculations

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		

Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

US EPA Storage Tank Emissions Calculation Software: TANKS 4.09d (October 3, 2005). Emissions estimates are based on the material with the highest vapor pressure which is kerosene. The maximum throughput is assumed to be six (6) times the maximum throughput realized over the last four years.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Please refer to Table E-2. Applicable Requirements for IFR Tanks.

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Please refer to Table E-2. Applicable Requirements for IFR Tanks.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No
If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** N/A
Tank 262	Tank 262	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Vertical fixed cone roof distillate storage tank (Products described as distillate may include fuel oil #2, kerosene, and jet A fuel.)

Manufacturer:	**Model number:**	**Serial number:**
Marathon field constructed	Marathon field constructed	Marathon field constructed
Construction date:	**Installation date:**	**Modification date(s):**
1971	1971	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 6,631,800 gallons (shell capacity from OIS 2014)

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	2,213,571,528 gallons	8760 hours

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☐ Yes ☒ No	**If yes, is it?** ☐ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		

Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane (-n)		
Toluene		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

US EPA Storage Tank Emissions Calculation Software: TANKS 4.09d (October 3, 2005). Emissions estimates are based on the material with the highest vapor pressure which is kerosene. The maximum throughput is assumed to be six (6) times the maximum throughput realized over the last four years.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Please refer to Table E-2. Applicable Requirements for IFR Tanks.

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Please refer to Table E-2. Applicable Requirements for IFR Tanks.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No
If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** N/A
Tank 264	Tank 264	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Internal floating roof storage tank containing gasoline / distillate (Materials stored in the gasoline tanks may include distillate fuel and gasoline products with seasonal RVP variations. Products described as distillate may include fuel oil #2, kerosene, and jet A fuel.)

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1990	1990	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 3,838,800 gallons (shell capacity from OIS 2014)

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	886,692,240 gallons	8760 hours

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☐ Yes ☒ No	**If yes, is it?** ☐ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		

Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

US EPA Storage Tank Emissions Calculation Software: TANKS 4.09d (October 3, 2005). Emissions estimates are based on gasoline and account for the seasonal RVP variations. The maximum throughput is assumed to be six (6) times the maximum throughput realized over the last four years.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Please refer to Table E-2. Applicable Requirements for IFR Tanks.

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Please refer to Table E-2. Applicable Requirements for IFR Tanks.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No
If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** N/A
Tank 265	Tank 265	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Internal floating roof storage tank containing gasoline / distillate (Materials stored in the gasoline tanks may include distillate fuel and gasoline products with seasonal RVP variations. Products described as distillate may include fuel oil #2, kerosene, and jet A fuel.)

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1991	1991	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 1,377,600 gallons (shell capacity from OIS 2014)

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	1,134,000,000 gallons (R13-1352A)	8760 hours

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☐ Yes ☒ No	**If yes, is it?** ☐ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		

Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

US EPA Storage Tank Emissions Calculation Software: TANKS 4.09d (October 3, 2005). Emissions estimates are based on gasoline and account for the seasonal RVP variations.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Emissions to the atmosphere of volatile organic compounds (VOC) from operations associated with the following tanks shall not exceed the following:

Tank	**lbm/hr**	**lbm/yr**
265	0.64	5614
266	0.63	5457
267	0.63	5457
268	0.63	5457

45CSR13 – Permit No. R13-1352, Condition 4.1.5. *(E 265, 266, 267, & 268)*]

Annual throughput of gasoline through each of the four (4) permitted tanks (265, 266, 267, 268) shall not exceed 1134×10^6 gallons per year. For the purposes of this permit, a calendar year is defined as any one of a series of twelve consecutive months.
[45CSR13 – Permit No. R13-1352, Condition 4.1.6. EUs 265, 266, 267, & 268)]

Operation and Maintenance of Air Pollution Control Equipment. The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan

approved by the Secretary.
[45CSR§13-5.11.; 45CSR13 – Permit No. R13-1352, Condition 4.1.8. (Tanks 265, 266, 267, 268)]

Please refer also to Table E-2. Applicable Requirements for IFR Tanks

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

The permittee shall record the throughput of gasoline through associated tanks on a monthly and yearly basis. These records shall be maintained on site for a period of no less than five (5) years for inspection by the Director or a duly authorized representative of the Director.
[45CSR13 – Permit No. R13-1352, Condition 4.4.5.; 45CSR§30-5.1.c. *(Tanks 265, 266, 267, & 268)*]

Annual emissions shall be calculated by the fifteenth day of the subsequent month utilizing the equations listed in Section 7.1.3.2 of AP-42. A twelve month running total of emissions will be maintained to verify compliance with the long term emission limitations. Each month a new twelve month total shall be calculated using the previous twelve months data. Compliance with the hourly emission limits shall be demonstrated by dividing the monthly calculated annual emissions by the number of hours in a year to obtain an hourly average. Records indicating the hourly and twelve month rolling total emissions shall be maintained for a period of no less than five (5) years.
[45CSR13 – Permit No. R13-1352, Condition 4.4.6.; 45CSR§30-5.1.c. *(Tanks 265, 266, 267, & 268)*]

Record of Maintenance of Air Pollution Control Equipment. For all relevant pollution control equipment, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13 – Permit No. R13-1352, Condition 4.4.2. *(Tanks 265, 266, 267, 268)*]

Record of Malfunctions of Air Pollution Control Equipment. For all relevant air pollution control equipment, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:
a. The equipment involved.
b. Steps taken to minimize emissions during the event.
c. The duration of the event.
d. The estimated increase in emissions during the event.
For each such case associated with an equipment malfunction, the additional information shall also be recorded:
e. The cause of the malfunction.
f. Steps taken to correct the malfunction.
g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.
[45CSR13 – Permit No. R13-1352, Condition 4.4.3. *(Tanks 265, 266, 267, 268)*]

Please refer also to Table E-2. Applicable Requirements for IFR Tanks

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No
If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** N/A
Tank 266	Tank 266	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Internal floating roof storage tank containing gasoline / distillate (Materials stored in the gasoline tanks may include distillate fuel and gasoline products with seasonal RVP variations. Products described as distillate may include fuel oil #2, kerosene, and jet A fuel.)

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1993	1993	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 1,810,200 gallons (shell capacity from OIS 2014)

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	1,134,000,000 gallons (R13-1352A)	8760 hours

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☐ Yes ☒ No	**If yes, is it?** ☐ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		

Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

US EPA Storage Tank Emissions Calculation Software: TANKS 4.09d (October 3, 2005). Emissions estimates are based on gasoline and account for the seasonal RVP variations.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Emissions to the atmosphere of volatile organic compounds (VOC) from operations associated with the following tanks shall not exceed the following:

Tank	**lbm/hr**	**lbm/yr**
265	0.64	5614
266	0.63	5457
267	0.63	5457
268	0.63	5457

45CSR13 – Permit No. R13-1352, Condition 4.1.5. *(E 265, 266, 267, & 268)*]

Annual throughput of gasoline through each of the four (4) permitted tanks (265, 266, 267, 268) shall not exceed 1134×10^6 gallons per year. For the purposes of this permit, a calendar year is defined as any one of a series of twelve consecutive months.
[45CSR13 – Permit No. R13-1352, Condition 4.1.6. EUs 265, 266, 267, & 268)]

Operation and Maintenance of Air Pollution Control Equipment. The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.11.; 45CSR13 – Permit No. R13-1352, Condition 4.1.8. (Tanks 265, 266, 267, 268)]

Please refer also to Table E-2. Applicable Requirements for IFR Tanks

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

The permittee shall record the throughput of gasoline through associated tanks on a monthly and yearly basis. These records shall be maintained on site for a period of no less than five (5) years for inspection by the Director or a duly authorized representative of the Director.
[45CSR13 – Permit No. R13-1352, Condition 4.4.5.; 45CSR§30-5.1.c. *(Tanks 265, 266, 267, & 268)*]

Annual emissions shall be calculated by the fifteenth day of the subsequent month utilizing the equations listed in Section 7.1.3.2 of AP-42. A twelve month running total of emissions will be maintained to verify compliance with the long term emission limitations. Each month a new twelve month total shall be calculated using the previous twelve months data. Compliance with the hourly emission limits shall be demonstrated by dividing the monthly calculated annual emissions by the number of hours in a year to obtain an hourly average. Records indicating the hourly and twelve month rolling total emissions shall be maintained for a period of no less than five (5) years.
[45CSR13 – Permit No. R13-1352, Condition 4.4.6.; 45CSR§30-5.1.c. *(Tanks 265, 266, 267, & 268)*]

Record of Maintenance of Air Pollution Control Equipment. For all relevant pollution control equipment, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13 – Permit No. R13-1352, Condition 4.4.2. *(Tanks 265, 266, 267, 268)*]

Record of Malfunctions of Air Pollution Control Equipment. For all relevant air pollution control equipment, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:
a. The equipment involved.
b. Steps taken to minimize emissions during the event.
c. The duration of the event.
d. The estimated increase in emissions during the event.
For each such case associated with an equipment malfunction, the additional information shall also be recorded:
e. The cause of the malfunction.
f. Steps taken to correct the malfunction.
g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.
[45CSR13 – Permit No. R13-1352, Condition 4.4.3. *(Tanks 265, 266, 267, 268)*]

Please refer also to Table E-2. Applicable Requirements for IFR Tanks.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No
If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** N/A
Tank 267	Tank 267	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Internal floating roof storage tank containing gasoline / distillate (Materials stored in the gasoline tanks may include distillate fuel and gasoline products with seasonal RVP variations. Products described as distillate may include fuel oil #2, kerosene, and jet A fuel.)

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1993	1993	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 1,797,600 gallons (shell capacity from OIS 2014)

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	1,134,000,000 gallons (R13-1352A)	8760 hours

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☐ Yes ☒ No	**If yes, is it?** ☐ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		

Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

US EPA Storage Tank Emissions Calculation Software: TANKS 4.09d (October 3, 2005). Emissions estimates are based on gasoline and account for the seasonal RVP variations.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Emissions to the atmosphere of volatile organic compounds (VOC) from operations associated with the following tanks shall not exceed the following:

Tank	**lbm/hr**	**lbm/yr**
265	0.64	5614
266	0.63	5457
267	0.63	5457
268	0.63	5457

45CSR13 – Permit No. R13-1352, Condition 4.1.5. *(E 265, 266, 267, & 268)*]

Annual throughput of gasoline through each of the four (4) permitted tanks (265, 266, 267, 268) shall not exceed 1134×10^6 gallons per year. For the purposes of this permit, a calendar year is defined as any one of a series of twelve consecutive months.
[45CSR13 – Permit No. R13-1352, Condition 4.1.6. EUs 265, 266, 267, & 268)]

Operation and Maintenance of Air Pollution Control Equipment. The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.11.; 45CSR13 – Permit No. R13-1352, Condition 4.1.8. (Tanks 265, 266, 267, 268)]

Please refer also to Table E-2. Applicable Requirements for IFR Tanks

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

The permittee shall record the throughput of gasoline through associated tanks on a monthly and yearly basis. These records shall be maintained on site for a period of no less than five (5) years for inspection by the Director or a duly authorized representative of the Director.
[45CSR13 – Permit No. R13-1352, Condition 4.4.5.; 45CSR§30-5.1.c. *(Tanks 265, 266, 267, & 268)*]

Annual emissions shall be calculated by the fifteenth day of the subsequent month utilizing the equations listed in Section 7.1.3.2 of AP-42. A twelve month running total of emissions will be maintained to verify compliance with the long term emission limitations. Each month a new twelve month total shall be calculated using the previous twelve months data. Compliance with the hourly emission limits shall be demonstrated by dividing the monthly calculated annual emissions by the number of hours in a year to obtain an hourly average. Records indicating the hourly and twelve month rolling total emissions shall be maintained for a period of no less than five (5) years.
[45CSR13 – Permit No. R13-1352, Condition 4.4.6.; 45CSR§30-5.1.c. *(Tanks 265, 266, 267, & 268)*]

Record of Maintenance of Air Pollution Control Equipment. For all relevant pollution control equipment, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13 – Permit No. R13-1352, Condition 4.4.2. *(Tanks 265, 266, 267, 268)*]

Record of Malfunctions of Air Pollution Control Equipment. For all relevant air pollution control equipment, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:
a. The equipment involved.
b. Steps taken to minimize emissions during the event.
c. The duration of the event.
d. The estimated increase in emissions during the event.
For each such case associated with an equipment malfunction, the additional information shall also be recorded:
e. The cause of the malfunction.
f. Steps taken to correct the malfunction.
g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.
[45CSR13 – Permit No. R13-1352, Condition 4.4.3. *(Tanks 265, 266, 267, 268)*]

Please refer also to Table E-2. Applicable Requirements for IFR Tanks

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No
If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** N/A
Tank 268	Tank 268	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Internal floating roof storage tank containing gasoline / distillate (Materials stored in the gasoline tanks may include distillate fuel and gasoline products with seasonal RVP variations. Products described as distillate may include fuel oil #2, kerosene, and jet A fuel.)

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1993	1993	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 1,793,400 gallons (shell capacity from OIS 2014)

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	1,134,000,000 gallons (R13-1352A)	8760 hours

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☐ Yes ☒ No	**If yes, is it?** ☐ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		

Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

US EPA Storage Tank Emissions Calculation Software: TANKS 4.09d (October 3, 2005). Emissions estimates are based on gasoline and account for the seasonal RVP variations.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Emissions to the atmosphere of volatile organic compounds (VOC) from operations associated with the following tanks shall not exceed the following:

Tank	**lbm/hr**	**lbm/yr**
265	0.64	5614
266	0.63	5457
267	0.63	5457
268	0.63	5457

45CSR13 – Permit No. R13-1352, Condition 4.1.5. *(E 265, 266, 267, & 268)*]

Annual throughput of gasoline through each of the four (4) permitted tanks (265, 266, 267, 268) shall not exceed 1134×10^6 gallons per year. For the purposes of this permit, a calendar year is defined as any one of a series of twelve consecutive months.
[45CSR13 – Permit No. R13-1352, Condition 4.1.6. EUs 265, 266, 267, & 268)]

Operation and Maintenance of Air Pollution Control Equipment. The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.11.; 45CSR13 – Permit No. R13-1352, Condition 4.1.8. (Tanks 265, 266, 267, 268)]

Please refer also to Table E-2. Applicable Requirements for IFR Tanks

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

The permittee shall record the throughput of gasoline through associated tanks on a monthly and yearly basis. These records shall be maintained on site for a period of no less than five (5) years for inspection by the Director or a duly authorized representative of the Director.
[45CSR13 – Permit No. R13-1352, Condition 4.4.5.; 45CSR§30-5.1.c. *(Tanks 265, 266, 267, & 268)*]

Annual emissions shall be calculated by the fifteenth day of the subsequent month utilizing the equations listed in Section 7.1.3.2 of AP-42. A twelve month running total of emissions will be maintained to verify compliance with the long term emission limitations. Each month a new twelve month total shall be calculated using the previous twelve months data. Compliance with the hourly emission limits shall be demonstrated by dividing the monthly calculated annual emissions by the number of hours in a year to obtain an hourly average. Records indicating the hourly and twelve month rolling total emissions shall be maintained for a period of no less than five (5) years.
[45CSR13 – Permit No. R13-1352, Condition 4.4.6.; 45CSR§30-5.1.c. *(Tanks 265, 266, 267, & 268)*]

Record of Maintenance of Air Pollution Control Equipment. For all relevant pollution control equipment, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13 – Permit No. R13-1352, Condition 4.4.2. *(Tanks 265, 266, 267, 268)*]

Record of Malfunctions of Air Pollution Control Equipment. For all relevant air pollution control equipment, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:
a. The equipment involved.
b. Steps taken to minimize emissions during the event.
c. The duration of the event.
d. The estimated increase in emissions during the event.
For each such case associated with an equipment malfunction, the additional information shall also be recorded:
e. The cause of the malfunction.
f. Steps taken to correct the malfunction.
g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.
[45CSR13 – Permit No. R13-1352, Condition 4.4.3. *(Tanks 265, 266, 267, 268)*]

Please refer also to Table E-2. Applicable Requirements for IFR Tanks

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No
If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** N/A
Tank 270	Tank 270	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Internal floating roof storage tank containing gasoline / distillate (Materials stored in the gasoline tanks may include distillate fuel and gasoline products with seasonal RVP variations. Products described as distillate may include fuel oil #2, kerosene, and jet A fuel.)

Manufacturer:	**Model number:**	**Serial number:**
Marathon field constructed	Marathon field constructed	Marathon field constructed
Construction date:	**Installation date:**	**Modification date(s):**
2001	2001	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 2,377,200 gallons (shell capacity from OIS 2014)

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	1,533,000,000 gallons (R13-2277C)	8760 hours

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☐ Yes ☒ No	**If yes, is it?** ☐ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		

Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

US EPA Storage Tank Emissions Calculation Software: TANKS 4.09d (October 3, 2005). Emissions estimates are based on gasoline and account for the seasonal RVP variations.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

The permittee shall maintain the maximum annual emissions and maximum annual throughput, in accordance with the following limits:

a. Maximum annual emissions of hazardous air pollutants (HAPs) and non-HAP volatile organic compounds (VOCs) for each tank shall not exceed the following:

Pollutant	Tank 270		Tank 271		Tank 272		Total	
	lb/year	**TPY**	**lb/year**	**TPY**	**lb/year**	**TPY**	**lb/year**	**TPY**
Benzene	94.75	0.05	94.75	0.05	94.75	0.05	284.25	0.14
Ethyl Benzene	10.53	0.01	10.53	0.01	10.53	0.01	31.58	0.02
Hexane	168.44	0.09	168.44	0.09	168.44	0.09	505.33	0.25
Toluene	136.86	0.07	136.86	0.07	136.86	0.07	410.58	0.21
Trimethylpentane (2,2,4)	84.22	0.05	84.22	0.05	84.22	0.05	252.66	0.13
Xylene	52.64	0.03	52.64	0.03	52.64	0.03	157.92	0.08
non-HAP VOCs	8884.26	4.44	8884.26	4.44	8884.26	4.44	29938	14.96

b. The maximum annual throughput for each tank shall not exceed 1,533 million gallons per year (36,500,000 barrels per year).

[45CSR13 - Permit R13-2277, Conditions 4.1.1. and 4.1.2. *(Tanks 270, 271, and 272)*]

Operation and Maintenance of Air Pollution Control Equipment. The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed for Tanks 270, 271, and 272 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR13 - Permit R13-2277, Condition 4.1.10. (Tanks 270, 271, 272)]

Please refer also to Table E-2. Applicable Requirements for IFR Tanks

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

For the purpose of determining compliance with the maximum throughput limits set forth in Section 4.1.2.b. of Permit R30-09900100-2010 and the maximum emission limits set forth in Section 4.1.2.a. of Permit R30-09900100-2010, the facility shall maintain daily, monthly, and annual records of throughput for each tank. Records shall be maintained on site for a period of five (5) years. Certified copies of these records shall be made available to the Director or his duly authorized representative upon request.
[45CSR13 - Permit R13-2277, Condition 4.4.4. *(Tanks 270, 271, 272)*]

Record of Monitoring. The permittee shall keep records of monitoring information that include the following:
a. The date, place as defined in this permit and time of sampling or measurements;
b. The date(s) analyses were performed;
c. The company or entity that performed the analyses;
d. The analytical techniques or methods used;
e. The results of the analyses; and
f. The operating conditions existing at the time of sampling or measurement.
[45CSR13 - Permit R13-2277, Condition 4.4.1.]

Record of Maintenance of Air Pollution Control Equipment. For all pollution control equipment, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13 - Permit R13-2277, Condition 4.4.2. (Tanks 270, 271, 272)]

Record of Malfunctions of Air Pollution Control Equipment. For all relevant air pollution control equipment, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:
a. The equipment involved.
b. Steps taken to minimize emissions during the event.
c. The duration of the event.
d. The estimated increase in emissions during the event.
For each such case associated with an equipment malfunction, the additional information shall also be recorded:
e. The cause of the malfunction.
f. Steps taken to correct the malfunction.
g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.
[45CSR13 - Permit R13-2277, Condition 4.4.3. (Tanks 270, 271, 272)]

The permittee shall, for each occurrence of excess emissions expected to last more than 7 days, within 1 business day of becoming aware of such occurrence, supply the Director by letter with the following information:
a. The name and location of the facility;

b. The subject sources that caused the excess emissions;
c. The time and date of first observation of the excess emissions;
d. The cause and expected duration of the excess emissions;
e. The estimated rate of emissions (expressed in the units of the applicable emission limitation) and the operating data and calculations used in determining the magnitude of the excess emissions; and
f. The proposed corrective actions and schedule to correct the conditions causing the excess emissions.
[45CSR13 - Permit R13-2277, Condition 4.5.3.]

Please refer also to Table E-2. Applicable Requirements for IFR Tanks

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No
If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** N/A
Tank 271	Tank 271	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Internal floating roof storage tank containing gasoline /distillate (Materials stored in the gasoline tanks may include distillate fuel and gasoline products with seasonal RVP variations. Products described as distillate may include fuel oil #2, kerosene, and jet A fuel.)

Manufacturer:	**Model number:**	**Serial number:**
Marathon field constructed	Marathon field constructed	Marathon field constructed
Construction date:	**Installation date:**	**Modification date(s):**
2001	2001	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 2,377,200 gallons (shell capacity from OIS 2014)

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	1,533,000,000 gallons (R13-2277C)	8760 hours

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☐ Yes ☒ No	**If yes, is it?** ☐ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		

Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

US EPA Storage Tank Emissions Calculation Software: TANKS 4.09d (October 3, 2005). Emissions estimates are based on gasoline and account for the seasonal RVP variations.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

The permittee shall maintain the maximum annual emissions and maximum annual throughput, in accordance with the following limits:

a. Maximum annual emissions of hazardous air pollutants (HAPs) and non-HAP volatile organic compounds (VOCs) for each tank shall not exceed the following:

Pollutant	Tank 270		Tank 271		Tank 272		Total	
	lb/year	**TPY**	**lb/year**	**TPY**	**lb/year**	**TPY**	**lb/year**	**TPY**
Benzene	94.75	0.05	94.75	0.05	94.75	0.05	284.25	0.14
Ethyl Benzene	10.53	0.01	10.53	0.01	10.53	0.01	31.58	0.02
Hexane	168.44	0.09	168.44	0.09	168.44	0.09	505.33	0.25
Toluene	136.86	0.07	136.86	0.07	136.86	0.07	410.58	0.21
Trimethylpentane (2,2,4)	84.22	0.05	84.22	0.05	84.22	0.05	252.66	0.13
Xylene	52.64	0.03	52.64	0.03	52.64	0.03	157.92	0.08
non-HAP VOCs	8884.26	4.44	8884.26	4.44	8884.26	4.44	29938	14.96

b. The maximum annual throughput for each tank shall not exceed 1,533 million gallons per year (36,500,000 barrels per year).

[45CSR13 - Permit R13-2277, Conditions 4.1.1. and 4.1.2. *(Tanks 270, 271, and 272)*]

Operation and Maintenance of Air Pollution Control Equipment. The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed for Tanks 270, 271, and 272 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR13 - Permit R13-2277, Condition 4.1.10. (Tanks 270, 271, 272)]

Please refer also to Table E-2. Applicable Requirements for IFR Tanks

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

For the purpose of determining compliance with the maximum throughput limits and the maximum emission limits, the facility shall maintain daily, monthly, and annual records of throughput for each tank. Records shall be maintained on site for a period of five (5) years. Certified copies of these records shall be made available to the Director or his duly authorized representative upon request.
[45CSR13 - Permit R13-2277, Condition 4.4.4. *(Tanks 270, 271, 272)*]

Record of Monitoring. The permittee shall keep records of monitoring information that include the following:
a. The date, place as defined in this permit and time of sampling or measurements;
b. The date(s) analyses were performed;
c. The company or entity that performed the analyses;
d. The analytical techniques or methods used;
e. The results of the analyses; and
f. The operating conditions existing at the time of sampling or measurement.
[45CSR13 - Permit R13-2277, Condition 4.4.1.]

Record of Maintenance of Air Pollution Control Equipment. For all pollution control equipment, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13 - Permit R13-2277, Condition 4.4.2. (Tanks 270, 271, 272)]

Record of Malfunctions of Air Pollution Control Equipment. For all air pollution control equipment, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:
a. The equipment involved.
b. Steps taken to minimize emissions during the event.
c. The duration of the event.
d. The estimated increase in emissions during the event.
For each such case associated with an equipment malfunction, the additional information shall also be recorded:
e. The cause of the malfunction.
f. Steps taken to correct the malfunction.
g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.
[45CSR13 - Permit R13-2277, Condition 4.4.3. (Tanks 270, 271, 272)]

The permittee shall, for each occurrence of excess emissions expected to last more than 7 days, within 1 business day of becoming aware of such occurrence, supply the Director by letter with the following

information:
a. The name and location of the facility;
b. The subject sources that caused the excess emissions;
c. The time and date of first observation of the excess emissions;
d. The cause and expected duration of the excess emissions;
e. The estimated rate of emissions (expressed in the units of the applicable emission limitation) and the operating data and calculations used in determining the magnitude of the excess emissions; and
f. The proposed corrective actions and schedule to correct the conditions causing the excess emissions.
[45CSR13 - Permit R13-2277, Condition 4.5.3.]

Please refer also to Table E-2. Applicable Requirements for IFR Tanks

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No
If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** N/A
Tank 272	Tank 272	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Internal floating roof storage tank containing gasoline /distillate (Materials stored in the gasoline tanks may include distillate fuel and gasoline products with seasonal RVP variations. Products described as distillate may include fuel oil #2, kerosene, and jet A fuel.)

Manufacturer:	**Model number:**	**Serial number:**
Marathon field constructed	Marathon field constructed	Marathon field constructed
Construction date:	**Installation date:**	**Modification date(s):**
2001	2001	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 2,377,200 gallons (shell capacity from OIS 2014)

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	1,533,000,000 gallons (R13-2277C)	8760 hours

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☐ Yes ☒ No	**If yes, is it?** ☐ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		

Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

US EPA Storage Tank Emissions Calculation Software: TANKS 4.09d (October 3, 2005). Emissions estimates are based on gasoline and account for the seasonal RVP variations.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

The permittee shall maintain the maximum annual emissions and maximum annual throughput, in accordance with the following limits:
a. Maximum annual emissions of hazardous air pollutants (HAPs) and non-HAP volatile organic compounds (VOCs) for each tank shall not exceed the following:

Pollutant	Tank 270		Tank 271		Tank 272		Total	
	lb/year	**TPY**	**lb/year**	**TPY**	**lb/year**	**TPY**	**lb/year**	**TPY**
Benzene	94.75	0.05	94.75	0.05	94.75	0.05	284.25	0.14
Ethyl Benzene	10.53	0.01	10.53	0.01	10.53	0.01	31.58	0.02
Hexane	168.44	0.09	168.44	0.09	168.44	0.09	505.33	0.25
Toluene	136.86	0.07	136.86	0.07	136.86	0.07	410.58	0.21
Trimethylpentane (2,2,4)	84.22	0.05	84.22	0.05	84.22	0.05	252.66	0.13
Xylene	52.64	0.03	52.64	0.03	52.64	0.03	157.92	0.08
non-HAP VOCs	8884.26	4.44	8884.26	4.44	8884.26	4.44	29938	14.96

b. The maximum annual throughput for each tank shall not exceed 1,533 million gallons per year (36,500,000 barrels per year).
[45CSR13 - Permit R13-2277, Conditions 4.1.1. and 4.1.2. *(Tanks 270, 271, and 272)*]

Operation and Maintenance of Air Pollution Control Equipment. The permittee shall, to the extent

practicable, install, maintain, and operate all pollution control equipment listed for Tanks 270, 271, and 272 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR13 - Permit R13-2277, Condition 4.1.10. (Tanks 270, 271, 272)]

Please refer also to Table E-2. Applicable Requirements for IFR Tanks

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

For the purpose of determining compliance with the maximum throughput limits and the maximum emission limits, the facility shall maintain daily, monthly, and annual records of throughput for each tank. Records shall be maintained on site for a period of five (5) years. Certified copies of these records shall be made available to the Director or his duly authorized representative upon request.
[45CSR13 - Permit R13-2277, Condition 4.4.4. *(Tanks 270, 271, 272)*]

Record of Monitoring. The permittee shall keep records of monitoring information that include the following:
a. The date, place as defined in this permit and time of sampling or measurements;
b. The date(s) analyses were performed;
c. The company or entity that performed the analyses;
d. The analytical techniques or methods used;
e. The results of the analyses; and
f. The operating conditions existing at the time of sampling or measurement.
[45CSR13 - Permit R13-2277, Condition 4.4.1.]

Record of Maintenance of Air Pollution Control Equipment. For all pollution control equipment, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13 - Permit R13-2277, Condition 4.4.2. (Tanks 270, 271, 272)]

Record of Malfunctions of Air Pollution Control Equipment. For all relevant air pollution control equipment, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:
a. The equipment involved.
b. Steps taken to minimize emissions during the event.
c. The duration of the event.
d. The estimated increase in emissions during the event.
For each such case associated with an equipment malfunction, the additional information shall also be recorded:
e. The cause of the malfunction.
f. Steps taken to correct the malfunction.
g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.
[45CSR13 - Permit R13-2277, Condition 4.4.3. (Tanks 270, 271, 272)]

The permittee shall, for each occurrence of excess emissions expected to last more than 7 days, within 1 business day of becoming aware of such occurrence, supply the Director by letter with the following information:
a. The name and location of the facility;
b. The subject sources that caused the excess emissions;
c. The time and date of first observation of the excess emissions;

d. The cause and expected duration of the excess emissions;
e. The estimated rate of emissions (expressed in the units of the applicable emission limitation) and the operating data and calculations used in determining the magnitude of the excess emissions; and
f. The proposed corrective actions and schedule to correct the conditions causing the excess emissions.
[45CSR13 - Permit R13-2277, Condition 4.5.3.]

Please refer also to Table E-2. Applicable Requirements for IFR Tanks

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No
If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** N/A
Tank 273	Tank 273	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Cone Roof Storage Tank (Fixed Roof) - Biodiesel / #2 Diesel

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
2012	2012	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 957,600 gallons (shell capacity from OIS 2014)

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	65,167,019	8760 hours

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☐ Yes ☒ No	**If yes, is it?** ☐ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		

Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

US EPA Storage Tank Emissions Calculation Software: TANKS 4.09d (October 3, 2005). Emissions estimates are based on biodiesel.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

For Tank 273, the permittee shall not exceed the emission limits provided in the table below:

Regulated Pollutant	Maximum Emissions	
	lbs/hr	tpy
Volatile Organic Compounds (VOCs)	64	10.85
Napthalene	0.78	0.01
Total Hazardous Air Pollutants (HAPs)	0.78	0.01

[45CSR13 - Permit R13-2277, Condition 4.1.3. *(Tank 273)*]

For Tank 273, the permittee shall not exceed an annual throughput of 65,167,019 gallons or 77 tank turnovers per year on a 12 month rolling average.
[45CSR13 - Permit R13-2277, Condition 4.1.4. *(Tank 273)*]

The permittee shall store only biodiesel or #2 diesel fuel in Tank 273.
[45CSR13 - Permit R13-2277, Condition 4.1.5. *(Tank 273)*]

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

For the purpose of determining compliance with 45CSR21, 40 CFR 60, Subpart Kb, and 40 CFR 63, Subpart R, the facility shall maintain records for Tank 273 of the volatile organic liquid stored, the period of storage, and the maximum true vapor pressure of the volatile organic liquid during the respected storage period. Records shall be maintained on site for a period of five (5) years. Certified copies of these records shall be made available to the Director or his duly authorized representative upon request.
[45CSR13 - Permit R13-2277 *(Tank 273)*, Condition B.6. 4.4.6., 45CSR§21-28.5. *(Tank 273)*

For the purpose of determining compliance with the maximum throughput limits, the maximum hourly and annual emission limits, and the applicable material restrictions, the facility shall maintain daily, monthly, and 12-month rolling average records of the material, unloading time, and the throughput and number of turnovers for Tank 273. Records shall be maintained on site for a period of five (5) years. Certified copies of these records shall be made available to the Director or his duly authorized representative upon request.
[45CSR13 - Permit R13-2277, Condition 4.4.5. *(Tank 273)*]

The permittee shall keep records of monitoring information that include the following:

a. The date, place as defined in this permit and time of sampling or measurements;
b. The date(s) analyses were performed;
c. The company or entity that performed the analyses;
d. The analytical techniques or methods used;
e. The results of the analyses; and
f. The operating conditions existing at the time of sampling or measurement.

[45CSR13 - Permit R13-2277, Condition 4.4.1.]

The permittee shall, for each occurrence of excess emissions expected to last more than 7 days, within 1 business day of becoming aware of such occurrence, supply the Director by letter with the following information:

a. The name and location of the facility;
b. The subject sources that caused the excess emissions;
c. The time and date of first observation of the excess emissions;
d. The cause and expected duration of the excess emissions;
e. The estimated rate of emissions (expressed in the units of the applicable emission limitation) and the operating data and calculations used in determining the magnitude of the excess emissions; and
f. The proposed corrective actions and schedule to correct the conditions causing the excess emissions.

[45CSR13 - Permit R13-2277, Condition 4.5.3.]

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No
If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

Table E-2. Applicable Requirements for EUs 253, 257, 258, 259, 260, 264, 265, 266, 267, 268, 270, 271, & 272

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Citation	Citation Requirement
40 CFR 60.112b(a)	The owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m3 containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa but less than 76.6 kPa or with a design capacity greater than or equal to 75 m3 but less than 151 m3 containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa but less than 76.6 kPa, shall equip each storage vessel with one of the following: a. A fixed roof in combination with an internal floating roof meeting the following specifications: 1. 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.2. 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: 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. 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. 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. 3. 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. 4. 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. 5. 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. 6. 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. 7. 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. 8. 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. 9. Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover. b. An external floating roof, defined as a pontoon-type or double-deck type cover that rests on the liquid surface in a vessel with no fixed roof, which meets the following specifications: 1. Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. The closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal. The primary seal shall be either a mechanical shoe seal or a liquid-mounted seal. Except as provided in Section 4.2.4.b.4 of Permit R30-09900022-2010, the seal shall completely cover the annular space between the edge of the floating roof and tank wall. The secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion except as allowed in Section 4.2.4.b.4 of Permit R30-09900022-2010. 2. Except for automatic bleeder vents and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface. Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed cover, seal, or lid that is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. Automatic bleeder vents 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. Rim vents are to be set to open when the roof is being floated off the roof legs supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening. 3. The roof shall be floating on the liquid at all times (i.e., off the roof leg supports) except during initial fill until the roof is lifted off leg supports and when the tank is completely emptied and subsequently refilled. The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible.
40 CFR 60.114b	NSPS Kb - Alternative means of emission limitation. 60.114b(a) If, in the Administrator's judgment, an alternative means of emission limitation will achieve a reduction in emissions at least equivalent to the reduction in emissions achieved by any requirement in §60.112b, the Administrator will publish in the Federal Register a notice permitting the use of the alternative means for purposes of compliance with that requirement. 60.114b(b) Any notice under paragraph (a) of this section will be published only after notice and an opportunity for a hearing. 60.114b(c)

	Any person seeking permission under this section shall submit to the Administrator a written application including: 60.114b(c)(1) An actual emissions test that uses a full-sized or scale-model storage vessel that accurately collects and measures all VOC emissions from a given control device and that accurately simulates wind and accounts for other emission variables such as temperature and barometric pressure. 60.114b(c)(2) An engineering evaluation that the Administrator determines is an accurate method of determining equivalence. 60.114b(d) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same emissions reduction as specified in §60.112b.
45CSR21-28.3	No owner or operator of a petroleum liquid storage tank with a fixed roof shall store petroleum liquid in that tank unless: a. The tank is equipped with an internal floating roof equipped with a closure seal or seals to close the space between the roof edge and tank wall; or an equally effective alternative control, approved by the Director and the U.S. EPA. b. The tank is maintained such that there are no visible holes, tears, or other openings in the seal or any seal fabric or materials; and c. All openings, except stub drains, are equipped with covers, lids, or seals such that the cover, lid, or seal is in the closed position at all times except when in actual use; automatic bleeder vents are closed at all times except when the roof is being floated off or being landed on the roof leg supports; and rim vents, if provided, are set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting.
40 CFR 63.423(a)	a. Each owner or operator of a bulk gasoline terminal shall equip each gasoline storage vessel with a design capacity greater than or equal to 75 m3 according to the requirements in Section 4.1.5 of this permit, except for the requirements in Sections 4.1.5.a.4 through 9 and Section 4.1.5.a.2.ii of Permit R30-09900022-2010. b. Each owner or operator shall equip each external floating roof gasoline storage vessel with a design capacity greater than or equal to 75 m3 according to the requirements in Section 4.1.5.b.2 of Permit R30-09900022-2010 if such storage vessel does not currently meet the requirements in paragraph a. of this section.

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Citation	Citation Requirement
40 CFR 60.113b(a)(5), 115b	NSPS Kb - Reporting and Recordkeeping Requirements The owner or operator shall notify the Director and USEPA in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by Section 4.2.4.a. and d. of Permit R30-09900022-2010 to afford the Director and USEPA the opportunity to have an observer present. If the inspection required by Section 4.2.4.d. of Permit R30-09900022-2010 is not planned and the owner or operator could not have known about the inspection 30 days in advance or refilling the tank, the owner or operator shall notify the Director and USEPA at least 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 Director and USEPA at least 7 days prior to the refilling.
40 CFR 60.116b(b)-(c)	The permittee shall keep readily accessible records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel for the life of the source. In addition, the permittee shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period. These records shall be maintained for a period of no less than five (5) years.
40 CFR 60.113b	NSPS Kb - Testing and Procedures For all the inspections required by paragraph b.6. of this section, the owner or operator shall notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the Administrator the opportunity to inspect the storage vessel prior to refilling. If the inspection required by paragraph b.6. of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance of refilling the tank, the owner or operator shall notify the Administrator at least 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 Administrator at least 7 days prior to the refilling.
45CSR21-28.4	The owner or operator of a petroleum liquid storage tank with a fixed roof shall perform routine, semi-annual, visual inspections of the internal floating roof and its closure seal or seals through roof hatches; and perform a complete inspection of cover and seal whenever the tank is emptied for non-operational reasons or at least every 5 years, whichever is more frequent.
45CSR21-28.5	The owner or operator of any petroleum liquid storage tank with a fixed roof or external floating roof shall maintain the following records in a readily accessible location for at least five (5) years and shall make copies of the records available to the Director upon verbal or written request: 1. Records of the types of petroleum liquids stored; 2. Records of the maximum true vapor pressure of the liquid as stored; and 3. Records of the results of the inspections performed in accordance with sections 4.2.1. and 4.2.3. of Permit R30-09900022-2010.
45CSR21-28.6 & 21-5.2	The owner or operator of any facility containing sources subject to 45CSR21-27 and 28 shall comply with the requirements in section 4.5.2 of Permit R30-09900022-2010. The owner or operator shall, for each occurrence of excess emissions expected to last more than 7 days, within 1 business day of becoming aware of such occurrence, supply the Director by letter with the following information: a. The name and location of the facility; b. The subject sources that caused the excess emissions; c. The time and date of first observation of the excess emissions; and d. The cause and expected duration of the excess emissions. e. For sources subject to numerical emission limitations, the estimated rate of emissions (expressed in the units of the applicable emission limitation) and the operating data and calculations used in determining the

	magnitude of the excess emissions; and f. The proposed corrective actions and schedule to correct the conditions causing the excess emissions.
40 CFR 63.425(d) & 427(c)	The owner or operator of each storage vessel as specified in Section 4.1.5. of of Permit R30-09900022-2010 shall meet the requirements of this section. The applicable paragraph for a particular storage vessel depends on the control equipment installed to meet the requirements of Section 4.1.5. of of Permit R30-09900022-2010. a. 1. Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. 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, the owner or operator shall repair the items before filling the storage vessel. 2. For vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) 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 VOL 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 owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in Section 4.5.4.a.3 of Permit R30-09900022-2010. Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. 3. For vessels equipped with a double-seal system as specified in Section 4.1.5.a.2.ii. of Permit R30-09900022-2010: i. Visually inspect the vessel as specified in paragraph 4 of this section at least every 5 years; or ii. Visually inspect the vessel as specified in paragraph 2 of this section. 4. 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 owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with VOL. b. After installing the control equipment required to meet Section 4.1.5.b. (external floating roof)of Permit R30-09900022-2010, the owner or operator shall: 1. Determine the gap areas and maximum gap widths, between the primary seal and the wall of the storage vessel and between the secondary seal and the wall of the storage vessel according to the following frequency. i. Measurements of gaps between the tank wall and the primary seal (seal gaps) shall be performed during the hydrostatic testing of the vessel or within 60 days of the initial fill with VOL and at least once every 5 years thereafter. ii. Measurements of gaps between the tank wall and the secondary seal shall be performed within 60 days of the initial fill with VOL and at least once per year thereafter. iii. If any source ceases to store VOL for a period of 1 year or more, subsequent introduction of VOL into the vessel shall be considered an initial fill for the purposes of paragraphs b.1.i. and b.1.ii. above.

	2. Determine gap widths and areas in the primary and secondary seals individually by the following procedures: i. Measure seal gaps, if any, at one or more floating roof levels when the roof is floating off the roof leg supports. ii. Measure seal gaps around the entire circumference of the tank in each place where a 0.32-cm diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the wall of the storage vessel and measure the circumferential distance of each such location. iii. The total surface area of each gap described in paragraph b.2.ii of this section shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance. 3. Add the gap surface area of each gap location for the primary seal and the secondary seal individually and divide the sum for each seal by the nominal diameter of the tank and compare each ratio to the respective standards in paragraph b.4 of this section. 4. Make necessary repairs or empty the storage vessel within 45 days of identification in any inspection for seals not meeting the requirements listed in b.4.i. and ii. of this section: i. The accumulated area of gaps between the tank wall and the mechanical shoe or liquid-mounted primary seal shall not exceed 212 cm2 per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm. One end of the mechanical shoe is to extend into the stored liquid, and the other end is to extend a minimum vertical distance of 61 cm above the stored liquid surface. There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope. ii. The secondary seal is to be installed above the primary seal so that it completely covers the space between the roof edge and the tank wall except as provided in paragraph b.2.iii. of this section. The accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 cm2 per meter of tank diameter, and the width of any portion of any gap shall not exceed 1.27 cm. There are to be no holes, tears, or other openings in the secondary seal or seal fabric. iii. If a failure that is detected during inspections required in Section 4.2.4.b.1 of Permit R30-09900022-2010 cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in Section 4.5.4.b.4 of Permit R30-09900022-2010. Such extension request must include a demonstration of unavailability of alternate storage capacity and a specification of a schedule that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. 5. Notify the Administrator 30 days in advance of any gap measurements required by paragraph b.1. of this section to afford the Administrator the opportunity to have an observer present. 6. Visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed. i. If the external 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, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL. ii. For all the inspections required by paragraph b.6. of this section, the owner or operator shall notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the Administrator the opportunity to inspect the storage vessel prior to refilling. If the inspection required by paragraph b.6. of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance of refilling the tank, the owner or operator shall notify the Administrator at least 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 Administrator at least 7 days prior to the refilling.
40 CFR 63.427(c)	Each owner or operator of gasoline storage vessels subject to the provisions of §63.423 shall comply with the monitoring requirements in §60.116b of this chapter, except records shall be kept for at least 5 years. If a closed vent system and control device are used, as specified in §60.112b(a)(3) of this chapter, to comply with the requirements in §63.423, the owner or operator shall also comply with the requirements in paragraph (a) of this section.
40 CFR 63.425(d), 427(c), & 428(d)	The owner or operator of each storage vessel as specified in Section 4.1.5. of of Permit R30-09900022-2010 shall meet the requirements of this section. The applicable paragraph for a particular storage vessel depends on the control equipment installed to meet the requirements of Section 4.1.5. of of Permit R30-09900022-2010. a. 1. Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. 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, the owner or operator shall repair the items before filling the storage vessel. 2. For vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) 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 VOL 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 owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in Section 4.5.4.a.3 of Permit R30-09900022-2010. Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. 3. For vessels equipped with a double-seal system as specified in Section 4.1.5.a.2.ii. of Permit R30-09900022-2010: i. Visually inspect the vessel as specified in paragraph 4 of this section at least every 5 years; or ii. Visually inspect the vessel as specified in paragraph 2 of this section. 2. Determine gap widths and areas in the primary and secondary seals individually by the following procedures: i. Measure seal gaps, if any, at one or more floating roof levels when the roof is floating off the roof leg supports. 4. 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 owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with VOL.

	b. After installing the control equipment required to meet Section 4.1.5.b. (external floating roof)of Permit R30-09900022-2010, the owner or operator shall: 1. Determine the gap areas and maximum gap widths, between the primary seal and the wall of the storage vessel and between the secondary seal and the wall of the storage vessel according to the following frequency. i. Measurements of gaps between the tank wall and the primary seal (seal gaps) shall be performed during the hydrostatic testing of the vessel or within 60 days of the initial fill with VOL and at least once every 5 years thereafter. ii. Measurements of gaps between the tank wall and the secondary seal shall be performed within 60 days of the initial fill with VOL and at least once per year thereafter. iii. If any source ceases to store VOL for a period of 1 year or more, subsequent introduction of VOL into the vessel shall be considered an initial fill for the purposes of paragraphs b.1.i. and b.1.ii. above. ii. Measure seal gaps around the entire circumference of the tank in each place where a 0.32-cm diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the wall of the storage vessel and measure the circumferential distance of each such location. iii. The total surface area of each gap described in paragraph b.2.ii of this section shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance. 3. Add the gap surface area of each gap location for the primary seal and the secondary seal individually and divide the sum for each seal by the nominal diameter of the tank and compare each ratio to the respective standards in paragraph b.4 of this section. 4. Make necessary repairs or empty the storage vessel within 45 days of identification in any inspection for seals not meeting the requirements listed in b.4.i. and ii. of this section: i. The accumulated area of gaps between the tank wall and the mechanical shoe or liquid-mounted primary seal shall not exceed 212 cm2 per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm. One end of the mechanical shoe is to extend into the stored liquid, and the other end is to extend a minimum vertical distance of 61 cm above the stored liquid surface. There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope. ii. The secondary seal is to be installed above the primary seal so that it completely covers the space between the roof edge and the tank wall except as provided in paragraph b.2.iii. of this section. The accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 cm2 per meter of tank diameter, and the width of any portion of any gap shall not exceed 1.27 cm. There are to be no holes, tears, or other openings in the secondary seal or seal fabric. iii. If a failure that is detected during inspections required in Section 4.2.4.b.1 of Permit R30-09900022-2010 cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in Section 4.5.4.b.4 of Permit R30-09900022-2010. Such extension request must include a demonstration of unavailability of alternate storage capacity and a specification of a schedule that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. 5. Notify the Administrator 30 days in advance of any gap measurements required by paragraph b.1. of this section to afford the Administrator the opportunity to have an observer present. 6. Visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed. i. If the external 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, the owner or operator shall repair the items as

	necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL. For all the inspections required by paragraph b.6. of this section, the owner or operator shall notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the Administrator the opportunity to inspect the storage vessel prior to refilling. If the inspection required by paragraph b.6. of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance of refilling the tank, the owner or operator shall notify the Administrator at least 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 Administrator at least 7 days prior to the refilling.
40 CFR 60.116b(d)	The owner or operator of each storage vessel meeting the specifications of Section 4.1.5. of Permit R30-09900022-2010 shall notify the Administrator within thirty (30) days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor pressure values for each volume range. Except as provided in paragraph (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m 3 storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m 3 but less than 151 m 3 storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the Administrator within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor vapor pressure values for each volume range.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No
If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** N/A
Cooling Tower	Cooling Tower	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Cooling tower with 400 gpm recirculation rate

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
N/A	N/A	

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
400 gpm

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
24,000 gph	210,240,000 gpy	8760 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☐ Yes ☒ No	**If yes, is it?** ☐ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		

Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Refer to Attachment I for Detailed Emissions Calculations

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

No person shall cause, suffer, allow or permit any manufacturing process or storage structure generating fugitive particulate matter to operate that is not equipped with a system, which may include, but not be limited to, process equipment design, control equipment design or operation and maintenance procedures, to minimize the emissions of fugitive particulate matter. To minimize means such system shall be installed, maintained and operated to ensure the lowest fugitive particulate matter emissions reasonably achievable. **[45CSR7-5.1]**

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

MPC conducts cooling tower blowdowns on a daily basis, thus preventing total dissolved solids from accumulating in the cooling water and minimizing particulate emissions.

Are you in compliance with all applicable requirements for this emission unit? _☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** N/A
Engine #2	Emergency Backup Generator #1	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
14 hp propane-fired backup generator (office)

Manufacturer:	**Model number:**	**Serial number:**
Unknown	Unknown	Unknown
Construction date:	**Installation date:**	**Modification date(s):**
2012	2012	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
14 hp

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
0.11 MMBtu/hr	56.0 MMBtu/yr	500 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☒ Yes ☐ No	**If yes, is it?** ☐ Indirect Fired ☒ Direct Fired
Maximum design heat input and/or maximum horsepower rating: 14 hp	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Propane

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Propane	N/A	N/A	8,000 Btu/hp-hr (assumed)

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		

Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Emissions estimates based on emission factors derived from AP-42 (Section 3.2). Refer to Attachment I for Detailed Emissions Calculations.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Requirement Citation	Requirement Text
40 CFR 63.6590(c)	An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.
40 CFR 60.4233(a)	Owners and operators of stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP) manufactured on or after July 1, 2008, must comply with the emission standards in §60.4231(a) for their stationary SI ICE.
40 CFR 60.4234	Must operate and maintain the engine to achieve emission standards over the life of the engine.
40 CFR 60.4237(c):	Must install non-resettable hours meter (if engine does not meet the standards applicable to non-emergency engines).
40 CFR 60.4243(a):	Demonstrate compliance by purchasing a certified engine and doing one of the following: (a)(1) If you operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, you must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required if you are an owner or operator. You must also meet the requirements as specified in 40 CFR part 1068, subparts A through D, as they apply to you. If you adjust engine settings according to and consistent with the manufacturer's instructions, your stationary SI internal combustion engine will not be considered out of compliance.; or (a)(2) If you do not comply via (a)(1), engine will be considered non-certified; demonstrate compliance with emission standards via an initial performance test and develop a maintenance plan (subject to additional requirements).
40 CFR 60.4243(d):	No time limit on use in emergency situations. Up to 100 hours per year for maintenance checks/readiness testing, emergency demand response, or voltage/frequency deviation ≥ 5% below standard. 50 hours (of the 100) per year can be for non-emergency operation. Except as provided in 40 CFR 60.4243(d)(3)(i), the 50 hours per year for non-emergency situations cannot be used for peak shaving, non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Requirement Citation **Requirement Text**

40 CFR 60.4245(a):	Must maintain records of the following information: (a)(1) All notifications submitted to comply with this subpart and all documentation supporting any notification (a)(2) Maintenance conducted on the engine (a)(3) Documentation that the engine is certified, or documentation that the engine is meeting emission standards if not certified
40 CFR 60.4245(b):	Must maintain records of the hours of operation of the engine recorded through the non-resettable hour meter (if do not meet the standards applicable to non-emergency engines). Must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operations.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** N/A
Engine #3	Emergency Backup Generator #2	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
14 hp propane-fired emergency backup generator (tank farm)

Manufacturer:	**Model number:**	**Serial number:**
Unknown	Unknown	Unknown
Construction date:	**Installation date:**	**Modification date(s):**
2012	2012	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
14 hp

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
0.11 MMBtu/hr	56.0 MMBtu/yr	500 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☒ Yes ☐ No	**If yes, is it?** ☐ Indirect Fired ☒ Direct Fired
Maximum design heat input and/or maximum horsepower rating: 14 hp	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Propane

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Propane	N/A	N/A	8,000 Btu/hp-hr (assumed)

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		

Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Emissions estimates based on emission factors derived from AP-42 (Section 3.2). Refer to Attachment I for Detailed Emissions Calculations.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Requirement Citation	Requirement Text
40 CFR 63.6590(c)	An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.
40 CFR 60.4233(a)	Owners and operators of stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP) manufactured on or after July 1, 2008, must comply with the emission standards in §60.4231(a) for their stationary SI ICE.
40 CFR 60.4234	Must operate and maintain the engine to achieve emission standards over the life of the engine.
40 CFR 60.4237(c):	Must install non-resettable hours meter (if engine does not meet the standards applicable to non-emergency engines).
40 CFR 60.4243(a):	Demonstrate compliance by purchasing a certified engine and doing one of the following: (a)(1) If you operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, you must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required if you are an owner or operator. You must also meet the requirements as specified in 40 CFR part 1068, subparts A through D, as they apply to you. If you adjust engine settings according to and consistent with the manufacturer's instructions, your stationary SI internal combustion engine will not be considered out of compliance.; or (a)(2) If you do not comply via (a)(1), engine will be considered non-certified; demonstrate compliance with emission standards via an initial performance test and develop a maintenance plan (subject to additional requirements).
40 CFR 60.4243(d):	No time limit on use in emergency situations. Up to 100 hours per year for maintenance checks/readiness testing, emergency demand response, or voltage/frequency deviation ≥ 5% below standard. 50 hours (of the 100) per year can be for non-emergency operation. Except as provided in 40 CFR 60.4243(d)(3)(i), the 50 hours per year for non-emergency situations cannot be used for peak shaving, non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

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For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Requirement Citation **Requirement Text**

40 CFR 60.4245(a):	Must maintain records of the following information: (a)(1) All notifications submitted to comply with this subpart and all documentation supporting any notification (a)(2) Maintenance conducted on the engine (a)(3) Documentation that the engine is certified, or documentation that the engine is meeting emission standards if not certified
40 CFR 60.4245(b):	Must maintain records of the hours of operation of the engine recorded through the non-resettable hour meter (if do not meet the standards applicable to non-emergency engines). Must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operations.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description:		
Emission unit ID number: Engine #1	**Emission unit name:** Emergency Fire Water Pump Engine	**List any control devices associated with this emission unit:** N/A
Provide a description of the emission unit (type, method of operation, design parameters, etc.): 400 hp diesel-fired emergency fire water pump engine		
Manufacturer: Cummins	**Model number:** NT A855F	**Serial number:** 11356902
Construction date: September, 1986	**Installation date:** Unknown	**Modification date(s):** N/A
Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 400 hp		
Maximum Hourly Throughput: 20.90 gal/hr	**Maximum Annual Throughput:** 10,450 gal/yr	**Maximum Operating Schedule:** 500 hrs/yr
Fuel Usage Data **(fill out all applicable fields)**		
Does this emission unit combust fuel? ☒ Yes ☐ No		**If yes, is it?** ☐ Indirect Fired ☒ Direct Fired
Maximum design heat input and/or maximum horsepower rating: 400 hp		**Type and Btu/hr rating of burners:** N/A
List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each. Diesel		
Describe each fuel expected to be used during the term of the permit.		

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Diesel	N/A	N/A	0.142 MMBtu/gal

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		

Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Emissions estimates based on emission factors derived from AP-42 (Sections 3.3 and 3.4) and manufacturer specifications for NTA-855-F model dated 3/8/1995. Refer to Attachment I for Detailed Emissions Calculations

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Requirement Citation	Requirement Text
40 CFR 63.6603 (Table 2d-4):	Change oil and filter every 500 hours of operation or annually, whichever comes first OR use oil change analysis program to extend oil change frequencies per 40 CFR 63.6625(i). Inspect air cleaner on CI engines every 1,000 hours or annually, whichever comes first, and replace as necessary. Inspect all hoses and belts every 500 hours or annually, whichever comes first, and replace as necessary.
40 CFR 63.6605(a):	Comply with the emission limitations, operating limitations, and other requirements in this subpart that apply at all times.
40 CFR 63.6605(b):	At all times operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.
40 CFR 63.6625(e):	Operate and maintain emergency stationary RICE according to manufacturer's emission-related instructions or develop own maintenance plan that provides for the maintenance and operation in a manner consistent with good air pollution control practices for minimizing emissions.
40 CFR 63.6625(f):	Install non-resettable hour meter if one is not already installed.
40 CFR 63.6625(h):	Minimize time spent at idle during startup and minimize startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes – after 30 minutes, non-startup emission limits apply if applicable.
40 CFR 63.6625(i):	You have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Table 2c to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.
40 CFR 63.6640(f)(1)-(2),(4):	No time limit on use in emergency situations. Up to 100 hours per year for maintenance checks/readiness testing, emergency demand response, or voltage/frequency deviation ≥ 5% below standard. 50 hours (of the 100)

	per year can be for non-emergency operation. Except as provided in 40 CFR 63.6640(f)(4)(i)-(ii), the 50 hours per year for non-emergency situations cannot be used for peak shaving, non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

___ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Requirement Citation	**Requirement Text**
40 CFR 63.6655(e):	Maintain the following: Records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan.
40 CFR 63.6655(f):	Records of hours of operation that is recorded through the non-resettable hour meter. Document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in 40 CFR 63.6640(f)(2)(ii) (i.e., emergency demand response) or (iii) (i.e., voltage/frequency deviations), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** N/A
Hot Oil Heater #1	Tank 273 Hot Oil Heater	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
2.499 MMBtu/hr natural gas-fired heater used to heat oil which maintains temperature of biodiesel storage tank (Tank 273)

Manufacturer:	**Model number:**	**Serial number:**
HEATEC	HCS-175 H11-130	N/A
Construction date:	**Installation date:**	**Modification date(s):**
2011	2012	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
2.499 MMBtu/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
2.38E-03 MMscf/hr	20.8 MMscf/yr	8,760 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☒ Yes ☐ No	**If yes, is it?** ☒ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: 2.499 MMBtu/hr	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural Gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Diesel	SO_2 emission factor of 0.6 lb/MMscf per AP-42	N/A	1,020 Btu/scf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		

Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Refer to Attachment I for Detailed Emissions Calculations

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Requirement Citation	Requirement
45CSR2-3.1	Emissions of smoke and/or particulate matter must not exceed ten (10) percent opacity based on a six-minute average
45CSR2-10	In the event of an unavoidable shortage of fuel having characteristics or specifications necessary for a fuel burning unit to comply with the visible emission standards set forth in section 3 or any emergency situation or condition creating a threat to public safety or welfare, the Director may grant an exception to the otherwise applicable visible emission standards for a period not to exceed fifteen (15) days, provided that visible emissions during the exception period do not exceed a maximum six (6) minute average of thirty (30) percent and that a reasonable demonstration is made by the owner or operator that the emission standards under section 4 will not be exceeded during the exemption period.

___ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

MPC complies with smoke and PM emissions limitations by firing only gaseous fuel in this emissions unit.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description		
Emission unit ID number: Oily Sewer System	**Emission unit name:** Oily Sewer System	**List any control devices associated with this emission unit:** N/A
Provide a description of the emission unit (type, method of operation, design parameters, etc.): System of sumps, drains, junction boxes, etc. which diverts stormwater to Tank 256		
Manufacturer: N/A	**Model number:** N/A	**Serial number:** N/A
Construction date: N/A	**Installation date:** N/A	**Modification date(s):** N/A
Design Capacity (examples: furnaces - tons/hr, tanks - gallons): N/A		
Maximum Hourly Throughput: N/A	**Maximum Annual Throughput:** N/A	**Maximum Operating Schedule:** 8760 hrs/yr
Fuel Usage Data **(fill out all applicable fields)**		
Does this emission unit combust fuel? ☐ Yes ☒ No		**If yes, is it?** ☐ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A		**Type and Btu/hr rating of burners:** N/A
List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each. N/A		
Describe each fuel expected to be used during the term of the permit.		

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		

Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane (-n)		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Emissions estimates based on benzene sample data and the ratios provided in Table 7-9 from "Benzene Emission Protocol For Petroleum Refineries Version 2.1.1," March 2011. Refer to Attachment I for Detailed Emissions Calculations.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

N/A

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

N/A

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** N/A
Roadways	Roadways	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Paved facility roadways and parking areas

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
N/A	N/A	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	14,071 VMT/yr	8,760 hr/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☐ Yes ☒ No	**If yes, is it?** ☐ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		

Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Emissions estimated in accordance with assumptions regarding facility traffic patterns and the methods provided in AP-42 Section 13.2.1. Refer to Attachment I for Detailed Emissions Calculations

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

The owner or operator of a plant shall maintain particulate matter control of the plant premises, and plant owned, leased or controlled access roads, by paving, application of asphalt, chemical dust suppressants or other suitable dust control measures. Good operating practices shall be implemented and when necessary particulate matter suppressants shall be applied in relation to stockpiling and general material handling to minimize particulate matter generation and atmospheric entrainment. **[45CSR7-5.2]**

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

MPC has paved all employee parking areas and roads accessed by additive delivery trucks.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:** N/A
LDAR	LDAR	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Fugitive component equipment leaks (valves, connectors, pump seals, etc.)

Manufacturer:	**Model number:**	**Serial number:**
N/A	N/A	N/A
Construction date:	**Installation date:**	**Modification date(s):**
N/A	N/A	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
N/A

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	N/A	8760 hrs/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ☐ Yes ☒ No	**If yes, is it?** ☐ Indirect Fired ☐ Direct Fired
Maximum design heat input and/or maximum horsepower rating: N/A	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
N/A

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
N/A			

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	**Refer to Attachment I for Detailed Emissions Calculations**	
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		

Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	**Refer to Attachment I for Detailed Emissions Calculations**	
Ethylbenzene		
Hexane (-n)		
Toluene		
Trimethylpentane (2,2,4)		
Xylene		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Emissions estimates are based on facility-wide fugitive component counts and factors from "EPA Protocol for Equipment Leak Emission Estimates," Table 2-3: Marketing Terminal Average Emission Factors (November 1995). There are no emission factors for components in heavy liquid service (i.e., distillate); therefore, light liquid emission factors are utilized for components in heavy liquid service.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Requirement Citation	Requirement Text
40 CFR 63.424(a)	Each owner or operator of a bulk gasoline terminal or pipeline breakout station subject to the provisions of this subpart shall perform a monthly leak inspection of all equipment in gasoline service. For this inspection, detection methods incorporating sight, sound, and smell are acceptable. Each piece of equipment shall be inspected during the loading of a gasoline cargo tank.
40 CFR 63.424(c)	When a leak is detected, an initial attempt at repair shall be made as soon as practicable, but no later than 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 as provided in paragraph (d) of this section.
40 CFR 63.424(d)	Delay of repair of leaking equipment will be allowed upon a demonstration to the Administrator that repair within 15 days is not feasible. The owner or operator shall provide the reason(s) a delay is needed and the date by which each repair is expected to be completed.
40 CFR 63.424(e)	Initial compliance with the requirements in paragraphs (a) through (d) of this section shall be achieved by existing sources as expeditiously as practicable, but no later than December 15, 1997. For new sources, initial compliance shall be achieved upon startup.
40 CFR 63.424(f)	As an alternative to compliance with the provisions in paragraphs (a) through (d) of this section, owners or operators may implement an instrument leak monitoring program that has been demonstrated to the Administrator as at least equivalent.
40 CFR 63.424(g)	Owners and operators shall not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following: 63.424(g)(1) Minimize gasoline spills; 63.424(g)(2) Clean up spills as expeditiously as practicable; 63.424(g)(3) Cover all open gasoline containers with a gasketed seal when not in use; 63.424(g)(4) Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.

☒ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Requirement Citation	Requirement Text
40 CFR 63.424(b)	A log book shall be used and shall be signed by the owner or operator at the completion of each inspection. A section of the log shall contain a list, summary description, or diagram(s) showing the location of all equipment in gasoline service at the facility.
40 CFR 63.424(c)	Each detection of a liquid or vapor leak shall be recorded in the log book.
40 CFR 63.428(e)	Each owner or operator complying with the provisions of §63.424 (a) through (d) shall record the following information in the log book for each leak that is detected: 63.428(e)(1) The equipment type and identification number; 63.428(e)(2) The nature of the leak (i.e., vapor or liquid) and the method of detection (i.e., sight, sound, or smell); 63.428(e)(3) The date the leak was detected and the date of each attempt to repair the leak; 63.428(e)(4) Repair methods applied in each attempt to repair the leak; 63.428(e)(5) "Repair delayed" and the reason for the delay if the leak is not repaired within 15 calendar days after discovery of the leak; 63.428(e)(6) The expected date of successful repair of the leak if the leak is not repaired within 15 days; and 63.428(e)(7) The date of successful repair of the leak.
40 CFR 63.428(g)(3)	Each owner or operator of a bulk gasoline terminal or pipeline breakout station subject to the provisions of this subpart shall include in a semiannual report to the Administrator the following information, as applicable: 63.428(g)(3) The number of equipment leaks not repaired within 5 days after detection.
40 CFR 63.428(h)(4)	For each occurrence of an equipment leak for which no repair attempt was made within 5 days or for which repair was not completed within 15 days after detection: 63.428(h)(4)(i) The date on which the leak was detected; 63.428(h)(4)(ii The date of each attempt to repair the leak; 63.428(h)(4)(iii) The reasons for the delay of repair; and 63.428(h)(4)(iv) The date of successful repair.

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

APPENDIX F – WVDEP TITLE V SCHEDULE OF COMPLIANCE FORMS

This application form is required if a facility indicated noncompliance with any of the applicable requirements identified in the permit application. If the facility is in compliance with the applicable requirements this form is not required and as such has not been included in this appendix.

APPENDIX G – WVDEP TITLE V CONTROL DEVICE FORMS

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: 0001	**List all emission units associated with this control device.** Barge Loading	
Manufacturer: John Zink	**Model number:** HAM54001650101085B	**Installation date:** 03/01/1999

Type of Air Pollution Control Device:

___ Baghouse/Fabric Filter ___ Venturi Scrubber ___ Multiclone

_X_ Carbon Bed Adsorber ___ Packed Tower Scrubber ___ Single Cyclone

___ Carbon Drum(s) ___ Other Wet Scrubber ___ Cyclone Bank

___ Catalytic Incinerator ___ Condenser ___ Settling Chamber

___ Thermal Incinerator ___ Flare ___ Other (describe) _____

___ Wet Plate Electrostatic Precipitator ___ Dry Plate Electrostatic Precipitator

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Volatile Organic Compounds	100%	97+%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Pressure Drop: minimum = 2.0 inches H_2O, average = 5.0 inches H_2O, and maximum = 14.0 inches H_2O
Inlet Gas Flow: average = 750 ft^3/min and maximum = 1,520 ft3/min
Inlet Gas Temperatures: average = 80 deg. F and maximum = 180 deg. F
Outlet Gas Flow: 750 ft^3/min and maximum = 1,520 ft^3/min
Outlet Gas Temperatures: average = 100 deg. F and maximum = 180 deg. F

Is this device subject to the CAM requirements of 40 C.F.R. 64? ___ Yes _X_ No

If Yes, **Complete ATTACHMENT H**

If No**, Provide justification.** Refer to section 2.5 of the attached application narrative.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

A stack test was conducted on June 1, 2011. The Gasoline Terminal Air Emission Source Test was conducted in accordance with procedures established and the test methods referenced in 40 CFR 63, Subpart Y which specifically included: Method 2, Method 2A, Method 25B, Method 21, and 40 CFR 63.565(b)(3).

Marathon operates a continuous emissions monitoring system (CEMS) to monitor the outlet VOC concentration at the outlet of each of the carbon absorber units.

APPENDIX H – COMPLIANCE ASSURANCE MONITORING (CAM) FORM

As detailed in Section 2 of the application report CAM is not applicable to the Kenova-TriState Terminal (as detailed on the form including in this appendix).

ATTACHMENT H - Compliance Assurance Monitoring (CAM) Plan Form

For definitions and information about the CAM rule, please refer to 40 CFR Part 64. Additional information (including guidance documents) may also be found at http://www.epa.gov/ttn/emc/cam.html

CAM APPLICABILITY DETERMINATION

1) Does the facility have a PSEU (Pollutant-Specific Emissions Unit considered separately with respect to **EACH** regulated air pollutant) that is subject to CAM (40 CFR Part 64), which must be addressed in this CAM plan submittal? To determine applicability, a PSEU must meet **all** of the following criteria (*If No, then the remainder of this form need not be completed*): ☐ YES ☒ NO

a. The PSEU is located at a major source that is required to obtain a Title V permit;

b. The PSEU is subject to an emission limitation or standard for the applicable regulated air pollutant that is NOT exempt;

LIST OF EXEMPT EMISSION LIMITATIONS OR STANDARDS:

- NSPS (40 CFR Part 60) or NESHAP (40 CFR Parts 61 and 63) proposed after 11/15/1990.
- Stratospheric Ozone Protection Requirements.
- Acid Rain Program Requirements.
- Emission Limitations or Standards for which a WVDEP Division of Air Quality Title V permit specifies a continuous compliance determination method, as defined in 40 CFR §64.1.
- An emission cap that meets the requirements specified in 40 CFR §70.4(b)(12).

c. The PSEU uses an add-on control device (as defined in 40 CFR §64.1) to achieve compliance with an emission limitation or standard;

d. The PSEU has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than the Title V Major Source Threshold Levels; AND

e. The PSEU is NOT an exempt backup utility power emissions unit that is municipally-owned.

BASIS OF CAM SUBMITTAL

2) Mark the appropriate box below as to why this CAM plan is being submitted as part of an application for a Title V permit:

☐ RENEWAL APPLICATION. **ALL** PSEUs for which a CAM plan has NOT yet been approved need to be addressed in this CAM plan submittal.

☐ INITIAL APPLICATION (submitted after 4/20/98). **ONLY** large PSEUs (i. e., PSEUs with potential post-control device emissions of an applicable regulated air pollutant that are equal to or greater than Major Source Threshold Levels) need to be addressed in this CAM plan submittal.

☐ SIGNIFICANT MODIFICATION TO LARGE PSEUs. **ONLY** large PSEUs being modified after 4/20/98 need to be addressed in this cam plan submittal. For large PSEUs with an approved CAM plan, Only address the appropriate monitoring requirements affected by the significant modification.

3) [a] BACKGROUND DATA AND INFORMATION					
Complete the following table for **all** PSEUs that need to be addressed in this CAM plan submittal. This section is to be used to provide background data and information for each PSEU In order to supplement the submittal requirements specified in 40 CFR §64.4. If additional space is needed, attach and label accordingly.					
PSEU DESIGNATION	DESCRIPTION	POLLUTANT	CONTROL DEVICE	[b] EMISSION LIMITATION or STANDARD	[c] MONITORING REQUIREMENT
EXAMPLE Boiler No. 1	Wood-Fired Boiler	PM	Multiclone	45CSR§2-4.1.c.; 9.0 lb/hr	Monitor pressure drop across multiclone: Weekly inspection of multiclone

[a] If a control device is common to more than one PSEU, one monitoring plan may be submitted for the control device with the affected PSEUs identified and any conditions that must be maintained or monitored in accordance with 40 CFR §64.3(a). If a single PSEU is controlled by more than one control device similar in design and operation, one monitoring plan for the applicable control devices may be submitted with the applicable control devices identified and any conditions that must be maintained or monitored in accordance with 40 CFR §64.3(a).

[b] Indicate the emission limitation or standard for any applicable requirement that constitutes an emission limitation, emission standard, or standard of performance (as defined in 40 CFR §64.1).

[c] Indicate the monitoring requirements for the PSEU that are required by an applicable regulation or permit condition.

CAM MONITORING APPROACH CRITERIA			
Complete this section for **EACH** PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide monitoring data and information for EACH indicator selected for EACH PSEU in order to meet the monitoring design criteria specified in 40 CFR §64.3 and §64.4. if more than two indicators are being selected for a PSEU or if additional space is needed, attach and label accordingly with the appropriate PSEU designation, pollutant, and indicator numbers.			
4a) PSEU Designation:	**4b) Pollutant:**	**4c) [a] Indicator No. 1:**	**4d) [a] Indicator No. 2:**
5a) GENERAL CRITERIA Describe the MONITORING APPROACH used to measure the indicators:			
[b] Establish the appropriate INDICATOR RANGE or the procedures for establishing the indicator range which provides a reasonable assurance of compliance:			
5b) PERFORMANCE CRITERIA Provide the SPECIFICATIONS FOR OBTAINING REPRESENTATIVE DATA, such as detector location, installation specifications, and minimum acceptable accuracy:			
[c] For new or modified monitoring equipment, provide VERIFICATION PROCEDURES, including manufacturer's recommendations, TO CONFIRM THE OPERATIONAL STATUS of the monitoring:			
Provide QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PRACTICES that are adequate to ensure the continuing validity of the data, (i.e., daily calibrations, visual inspections, routine maintenance, RATA, etc.):			
[d] Provide the MONITORING FREQUENCY:			
Provide the DATA COLLECTION PROCEDURES that will be used:			
Provide the DATA AVERAGING PERIOD for the purpose of determining whether an excursion or exceedance has occurred:			

[a] Describe all indicators to be monitored which satisfies 40 CFR §64.3(a). Indicators of emission control performance for the control device and associated capture system may include measured or predicted emissions (including visible emissions or opacity), process and control device operating parameters that affect control device (and capture system) efficiency or emission rates, or recorded findings of inspection and maintenance activities.

[b] Indicator Ranges may be based on a single maximum or minimum value or at multiple levels that are relevant to distinctly different operating conditions, expressed as a function of process variables, expressed as maintaining the applicable indicator in a particular operational status or designated condition, or established as interdependent between more than one indicator. For CEMS, COMS, or PEMS, include the most recent certification test for the monitor.

[c] The verification for operational status should include procedures for installation, calibration, and operation of the monitoring equipment, conducted in accordance with the manufacturer's recommendations, necessary to confirm the monitoring equipment is operational prior to the commencement of the required monitoring.

[d] Emission units with post-control PTE ≥ 100 percent of the amount classifying the source as a major source (i.e., Large PSEU) must collect four or more values per hour to be averaged. A reduced data collection frequency may be approved in limited circumstances. Other emission units must collect data at least once per 24 hour period.

RATIONALE AND JUSTIFICATION

Complete this section for **EACH** PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide rationale and justification for the selection of EACH indicator and monitoring approach and EACH indicator range in order to meet the submittal requirements specified in 40 CFR §64.4.

6a) PSEU Designation:	6b) Regulated Air Pollutant:

7) **INDICATORS AND THE MONITORING APPROACH**: Provide the rationale and justification for the selection of the indicators and the monitoring approach used to measure the indicators. Also provide any data supporting the rationale and justification. Explain the reasons for any differences between the verification of operational status or the quality assurance and control practices proposed, and the manufacturer's recommendations. (If additional space is needed, attach and label accordingly with the appropriate PSEU designation and pollutant):

8) **INDICATOR RANGES**: Provide the rationale and justification for the selection of the indicator ranges. The rationale and justification shall indicate how **EACH** indicator range was selected by either a COMPLIANCE OR PERFORMANCE TEST, a TEST PLAN AND SCHEDULE, or by ENGINEERING ASSESSMENTS. Depending on which method is being used for each indicator range, include the specific information required below for that specific indicator range. (If additional space is needed, attach and label accordingly with the appropriate PSEU designation and pollutant):

- COMPLIANCE OR PERFORMANCE TEST (Indicator ranges determined from control device operating parameter data obtained during a compliance or performance test conducted under regulatory specified conditions or under conditions representative of maximum potential emissions under anticipated operating conditions. Such data may be supplemented by engineering assessments and manufacturer's recommendations). The rationale and justification shall INCLUDE a summary of the compliance or performance test results that were used to determine the indicator range, and documentation indicating that no changes have taken place that could result in a significant change in the control system performance or the selected indicator ranges since the compliance or performance test was conducted.

- TEST PLAN AND SCHEDULE (Indicator ranges will be determined from a proposed implementation plan and schedule for installing, testing, and performing any other appropriate activities prior to use of the monitoring). The rationale and justification shall INCLUDE the proposed implementation plan and schedule that will provide for use of the monitoring as expeditiously as practicable after approval of this CAM plan, except that in no case shall the schedule for completing installation and beginning operation of the monitoring exceed 180 days after approval.

- ENGINEERING ASSESSMENTS (Indicator Ranges or the procedures for establishing indicator ranges are determined from engineering assessments and other data, such as manufacturers' design criteria and historical monitoring data, because factors specific to the type of monitoring, control device, or PSEU make compliance or performance testing unnecessary). The rationale and justification shall INCLUDE documentation demonstrating that compliance testing is not required to establish the indicator range.

RATIONALE AND JUSTIFICATION:

APPENDIX I – SITE-WIDE EMISSION CALCULATIONS

Potential Emissions Summary: Kenova-TriState Terminal

EU ID	Description/ Product Stored	Control	Capacity[4] (gallons)	Install Date	Potential Emissions (tpy)																			
					VOC	PM_{FILT}	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	CO_2	CH_4	N_2O	CO_2e	Benzene	Ethylbenzene	Hexane	Toluene	2,2,4-Trimethylpentane	Naphthalene	Xylene	Max Ind. HAP	HAP (Total)
Tank 300	Distillate Fuel Storage Tank[1]	VFR	3,654	N/A	1.2E-03											2.33E-07	4.66E-07	1.16E-07	3.03E-06	0.00E+00	2.62E-06	8.03E-06	8.03E-06	1.45E-05
Tank 301	Distillate Fuel Storage Tank[1]	VFR	7,995	N/A	0.01											1.43E-06	2.86E-06	7.16E-07	1.86E-05	0.00E+00	1.61E-05	4.94E-05	4.94E-05	8.91E-05
Tank 202	Distillate Fuel Storage Tank[1]	VFR	893,814	1938	0.77											1.54E-04	3.08E-04	7.69E-05	2.00E-03	0.00E+00	1.73E-03	5.31E-03	5.31E-03	0.01
Tank 253	Gasoline / Distillate Fuel Storage Tank[3]	IFR	1,832,376	1948 (Modified 1992)	1.67											1.51E-02	1.67E-03	2.68E-02	2.18E-02	1.34E-02	0.00E+00	8.37E-03	2.68E-02	0.09
Tank 255	Distillate Fuel Storage Tank[1]	VFR	5,165,538	1948	4.55											9.10E-04	1.82E-03	4.55E-04	1.18E-02	0.00E+00	1.02E-02	3.14E-02	3.14E-02	5.67E-02
Tank 256	Petroleum Waste Water Storage Tank[2]	EFR	2,284,380	1949	2.40											2.16E-02	2.40E-03	3.83E-02	3.12E-02	1.92E-02	0.00E+00	1.20E-02	3.83E-02	0.12
Tank 257	Gasoline Storage Tank	IFR	3,803,478	1951 (Modified 2008)	6.12											5.51E-02	6.12E-03	9.79E-02	7.95E-02	4.89E-02	0.00E+00	3.06E-02	9.79E-02	0.32
Tank 258	Gasoline Storage Tank	IFR	3,546,889	1951 (Modified 1997)	7.22											6.50E-02	7.22E-03	1.16E-01	9.39E-02	5.78E-02	0.00E+00	3.61E-02	0.12	0.38
Tank 259	Gasoline Storage Tank	IFR	3,731,517	1951 (Modified 2007)	5.31											4.77E-02	5.31E-03	8.49E-02	6.90E-02	4.24E-02	0.00E+00	2.65E-02	8.49E-02	0.28
Tank 260	Gasoline Storage Tank	IFR	4,090,340	1968 (Modified 2004)	5.35											4.81E-02	5.35E-03	8.56E-02	6.95E-02	4.28E-02	0.00E+00	2.67E-02	8.56E-02	0.28
Tank 261	Distillate Fuel Storage Tank[1]	VFR	6,223,602	1968 (Modified 2003)	7.05											1.41E-03	2.82E-03	7.05E-04	1.83E-02	0.00E+00	1.59E-02	4.86E-02	4.86E-02	0.09
Tank 262	Distillate Fuel Storage Tank[1]	VFR	6,288,746	1971	7.15											1.43E-03	2.86E-03	7.15E-04	1.86E-02	0.00E+00	1.61E-02	4.93E-02	4.93E-02	0.09
Tank 264	Gasoline / Distillate Fuel Storage Tank[3]	IFR	2,961,882	1990	3.31											2.98E-02	3.31E-03	5.30E-02	4.31E-02	2.65E-02	0.00E+00	1.66E-02	5.30E-02	0.17
Tank 265	Gasoline / Distillate Fuel Storage Tank[3]	IFR	1,038,786	1991	2.81											2.53E-02	2.81E-03	4.49E-02	3.65E-02	2.25E-02	0.00E+00	1.40E-02	4.49E-02	0.15
Tank 266	Gasoline / Distillate Fuel Storage Tank[3]	IFR	1,337,280	1993	2.73											2.46E-02	2.73E-03	4.37E-02	3.55E-02	2.18E-02	0.00E+00	1.36E-02	4.37E-02	0.14
Tank 267	Gasoline / Distillate Fuel Storage Tank[3]	IFR	1,324,890	1993	2.73											2.46E-02	2.73E-03	4.37E-02	3.55E-02	2.18E-02	0.00E+00	1.36E-02	4.37E-02	0.14
Tank 268	Gasoline / Distillate Fuel Storage Tank[3]	IFR	1,324,890	1993	2.73											2.46E-02	2.73E-03	4.37E-02	3.55E-02	2.18E-02	0.00E+00	1.36E-02	4.37E-02	0.14
Tank 270	Gasoline Storage Tank	IFR	1,956,497	2001	4.44											5.00E-02	1.00E-02	9.00E-02	7.00E-02	5.00E-02	0.00E+00	3.00E-02	9.00E-02	0.30
Tank 271	Gasoline Storage Tank	IFR	1,952,628	2001	4.44											5.00E-02	1.00E-02	9.00E-02	7.00E-02	5.00E-02	0.00E+00	3.00E-02	9.00E-02	0.30
Tank 272	Gasoline Storage Tank	IFR	2,065,595	2001	4.44											5.00E-02	1.00E-02	9.00E-02	7.00E-02	5.00E-02	0.00E+00	3.00E-02	9.00E-02	0.30
Tank 273	Cone Roof Storage Tank (Fixed Roof) - Biodiesel / #2 Diesel	VFR	943,343	2012	10.85											2.17E-03	4.34E-03	1.09E-03	2.82E-02	0.00E+00	1.00E-02	7.49E-02	7.49E-02	0.12
Tank K2	Assumed RVP 10 gasoline	HFR	851	2007	0.37											3.37E-03	3.75E-04	6.00E-03	4.87E-03	3.00E-03	0.00E+00	1.87E-03	6.00E-03	0.02
Tank K3	Assumed RVP 10 gasoline	HFR	830	2007	0.37											3.37E-03	3.75E-04	6.00E-03	4.87E-03	3.00E-03	0.00E+00	1.87E-03	6.00E-03	0.02
Landing Losses	[Floating Roof Tanks]	N/A	N/A	N/A	18.12											1.63E-01	1.81E-02	2.90E-01	2.36E-01	1.45E-01	0.00E+00	9.06E-02	2.90E-01	0.94
Oily Sewer System	Assumed RVP 10 gasoline (when necessary for calcs)	N/A	N/A	N/A	24.26											1.80E-01	1.66E-01	8.83E-01	6.09E-01	6.43E-01	3.57E-02	6.56E-01	8.83E-01	3.42
Gasoline Filter Change-outs		N/A	N/A	N/A	0.0049											4.39E-05	4.88E-06	7.80E-05	6.34E-05	3.90E-05	0.00E+00	2.44E-05	7.80E-05	2.54E-04
Barge Loading - Gasoline		N/A	N/A	N/A	292.7172											2.63	0.29	4.68	3.81	2.34	0.00E+00	1.46	4.68	15.22
Barge Loading - Distillate Fuels					5.52											1.10E-03	2.21E-03	5.52E-04	1.43E-02	0.00E+00	1.24E-02	3.81E-02	3.81E-02	0.07
Fugitive Equipment Leaks - LL/GV		N/A	N/A	N/A	0.97											8.74E-03	9.71E-04	1.55E-02	1.26E-02	7.77E-03	0.00E+00	4.86E-03	1.55E-02	0.05
Fugitive Equipment Leaks - HL					0.84											1.68E-04	3.36E-04	8.39E-05	2.18E-03	0.00E+00	1.89E-03	5.79E-03	5.79E-03	0.01
Hot Oil Heater for Tank 273		N/A	2.499 MMBtu/hr	2011	0.06	0.02	0.08	0.08	1.07	0.90	0.01	1280.39	0.02	2.41E-03	1281.71	2.25E-05		1.93E-02	3.65E-05		6.55E-06		0.02	0.02
Emergency Fire/Water Pump Engine		N/A	N/A	1984	2.65	0.11	0.12	0.12	2.65	0.44	0.14	119.05	4.63E-03	9.26E-04	119.44	6.53E-04			2.86E-04		5.94E-05	2.00E-04		2.71E-03
Emergency Backup Generator #1		N/A	N/A	2012	3.30E-03	2.16E-06	2.80E-04	2.80E-04	0.17	0.02	1.65E-05	3.81	1.85E-04	3.70E-05	3.82	1.23E-05			1.14E-05		2.08E-06	5.15E-06	1.48E-03	2.02E-03
Emergency Backup Generator #2		N/A	N/A	2012	3.30E-03	2.16E-06	2.80E-04	2.80E-04	0.17	0.02	1.65E-05	3.81	1.85E-04	3.70E-05	3.82	1.23E-05			1.14E-05		2.08E-06	5.15E-06	1.48E-03	2.02E-03
Diesel Fueling Station		N/A	N/A	N/A	0.33											6.57E-05	1.31E-04	3.29E-05	8.54E-04	0.00E+00	7.39E-04	2.27E-03	2.27E-03	4.09E-03
Roadway Emissions		N/A	N/A	N/A		0.15	0.03	0.01																
Cooling Tower		N/A	N/A	N/A		0.01	0.01	1.40E-02																
				Total:	**432.3**	**0.30**	**0.25**	**0.23**	**4.06**	**1.37**	**0.15**	**1407**	**0.03**	**3.41E-03**	**1409**	**3.53**	**0.57**	**6.85**	**5.53**	**3.63**	**0.10**	**2.78**	**6.85**	**23.3**

[1] Products described as distillate may include fuel oil #2, kerosene, and jet A fuel. Emissions estimates are based on the material with the highest vapor pressure which is kerosene.
[2] Worst-case material properties of the waste water assume a gasoline layer exists on top of the stored liquid.
[3] Materials stored in the gasoline tanks may include distillate fuel and gasoline products with seasonal RVP variations. Emissions estimates are based on storage of gasoline RVP 9 from October - March, RVP 13.5 during April and September, and RVP 15 from May - August.
[4] Tank volume provided is the working volume.

Storage Tank Potential Emissions

EU ID	Description/ Product Stored	Product Modeled	Capacity[f] (gallons)	Max Throughput[e] (gal/yr)	Permit Limit (lb/yr)	Tanks Run Emissions[a] (lb/yr)	VOC Emissions (lbs/year)	VOC Emissions (tpy)
Tank 300	Diesel Dye Tank	Diesel Additives and Dyes	3,654	66,138		2	2.33	1.16E-03
Tank 301	Lubricity Tank	Lubricity Additive	7,995	39,150		14	14.31	7.16E-03
Tank 202	Distillate Fuel Storage Tank[b]	Jet kerosene	893,814	181,091,988		1,538	1,538	0.77
Tank 253	Gasoline / Distillate Fuel Storage Tank[d]	Gasoline (RVP 9/13.5/15)	1,832,376	790,172,460		3,347	3,347	1.67
Tank 255	Distillate Fuel Storage Tank[b]	Jet kerosene	5,165,538	1,140,014,736		9,103	9,103	4.55
Tank 256	Petroleum Waste Water Storage Tank	Gasoline (RVP 9/13.5/15)	2,284,380	1,436,400		4,793	4,793	2.40
Tank 257	Gasoline Storage Tank	Gasoline (RVP 9/13.5/15)	3,803,478	1,933,705,872		12,234	12,234	6.12
Tank 258	Gasoline Storage Tank	Gasoline (RVP 9/13.5/15)	3,546,889	2,044,139,328		14,441	14,441	7.22
Tank 259	Gasoline Storage Tank	Gasoline (RVP 9/13.5/15)	3,731,517	1,864,196,964		10,610	10,610	5.31
Tank 260	Gasoline Storage Tank	Gasoline (RVP 9/13.5/15)	4,090,340	1,821,252,132		10,695	10,695	5.35
Tank 261	Distillate Fuel Storage Tank[b]	Jet kerosene	6,223,602	2,170,264,878		14,092	14,092	7.05
Tank 262	Distillate Fuel Storage Tank[b]	Jet kerosene	6,288,746	2,213,571,528		14,302	14,302	7.15
Tank 264	Gasoline / Distillate Fuel Storage Tank[d]	Gasoline (RVP 9/13.5/15)	2,961,882	886,692,240		6,627	6,627	3.31
Tank 265	Gasoline / Distillate Fuel Storage Tank[d]	Gasoline (RVP 9/13.5/15)	1,038,786	1,134,000,000	5,614	5,676	5,614	2.81
Tank 266	Gasoline / Distillate Fuel Storage Tank[d]	Gasoline (RVP 9/13.5/15)	1,337,280	1,134,000,000	5,457	5,554	5,457	2.73
Tank 267	Gasoline / Distillate Fuel Storage Tank[d]	Gasoline (RVP 9/13.5/15)	1,324,890	1,134,000,000	5,457	4,401	5,457	2.73
Tank 268	Gasoline / Distillate Fuel Storage Tank[d]	Gasoline (RVP 9/13.5/15)	1,324,890	1,134,000,000	5,457	4,401	5,457	2.73
Tank 270	Gasoline Storage Tank	Gasoline (RVP 9/13.5/15)	1,956,497	1,533,000,000	8,884	8,771	8,884	4.44
Tank 271	Gasoline Storage Tank	Gasoline (RVP 9/13.5/15)	1,952,628	1,533,000,000	8,884	8,812	8,884	4.44
Tank 272	Gasoline Storage Tank	Gasoline (RVP 9/13.5/15)	2,065,595	1,533,000,000	8,884	8,811	8,884	4.44
Tank K2	Oily Wastewater (Assumed RVP 10 Gasoline)	Gasoline (RVP 10)	851	310,615		750	750	0.37
Tank K3	Oily Wastewater (Assumed RVP 10 Gasoline)	Gasoline (RVP 10)	830	302,950		750	750	0.37
Tank 273	Biodiesel B-100 Storage Tank	BioDiesel (B100) Virgin Soybean Oil	943,343	65,167,019	21,700	1,671	21,700	10.85
					Total:	**151,396.99**	**173,636.42**	**86.82**

[a] Emissions estimated from EPA TANKS 4.09 software program

[b] Products described as distillate may include fuel oil #2, kerosene, and jet A fuel. Emissions estimates are based on the material with the highest vapor pressure which is kerosene.

[c] Worst-case material properties of the waste water are to assume a gasoline layer.

[d] Materials stored in the gasoline tanks may include distillate fuel and gasoline products with seasonal RVP variations. Emissions estimates are based on gasoline and account for the seasonal RVP variations.

[e] Maximum throughput is the permitted throughput limit (1,134,000,000 gallons for tanks 265-268 from R13-1352A, 1,533,000,000 gal/yr for Tanks 270-272 from R13-2277C, and 65,167,019 for Tank 273 from R13-2277C) where applicable; Tanks K2 and K3 conservatively assume a throughput of one turnover per day. For all other tanks, the maximum throughput is assumed to be six (6) times the maximum throughput realized over the last four years.

[f] The capacity provided here refers to the working volume (rather than the shell capacity), as this was the parameter used to estimate emisisons in TANKS.

Tank Landing Emissions

Based on AP-42, February 1996, Section 7.1.3.1.

Variable	Value	Value	Value	Value	Value	Value	Value
Tank Identification	***Tank 253***	***Tank 256***	***Tank 264***	***Tank 265***	***Tank 266***	***Tank 267***	***Tank 268***
Actual Location	***Kenova, WV***	***Kenova, WV***	***Kenova, WV***	***Kenova, WV***	***Kenova, WV***	***Kenova, WV***	***Kenova, WV***
Location for Calculation Purposes	**Huntington, West Virginia**	**Huntington, West Virginia**	**Huntington, West Virginia**	**Huntington, West Virginia**	**Huntington, West Virginia**	**Huntington, West Virginia**	**Huntington, West Virginia**
Tank Type	**IFR**	**EFR**	**IFR**	**IFR**	**IFR**	**IFR**	**IFR**
Type of Substance	**Petroleum Distillate**	**Petroleum Distillate**	**Petroleum Distillate**	**Petroleum Distillate**	**Petroleum Distillate**	**Petroleum Distillate**	**Petroleum Distillate**
Contents of Tank	**Gasoline (RVP 13.5)**	**Gasoline (RVP 10)**	**Gasoline (RVP 13.5)**	**Gasoline (RVP 13.5)**	**Gasoline (RVP 13.5)**	**Gasoline (RVP 13.5)**	**Gasoline (RVP 13.5)**
Diameter, ft	**90**	**90**	**110**	**70**	**80**	**80**	**80**
Tank Paint Color	**White**	**White**	**White**	**White**	**White**	**White**	**White**
Tank Paint Condition	**Good**	**Good**	**Good**	**Good**	**Good**	**Good**	**Good**
Deck Leg Height (ft)	**6.03**	**3.29**	**7.50**	**7.50**	**7.50**	**7.50**	**7.50**
Number of Days Tank is Idle per year	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
Number of Roof Landings per year	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Worst Case Month	**September**	**September**	**September**	**September**	**September**	**September**	**September**
Ideal Gas Constant (psia ft3/lbmole °R)	10.731	10.731	10.731	10.731	10.731	10.731	10.731
Vapor Space Volume, ft^3	38,369	20,941	71,275	28,863	37,699	37,699	37,699
Average Daily Minimum Ambient Temperature, F	57.10	57.10	57.10	57.10	57.10	57.10	57.10
Average Daily Maximum Ambient Temperature, F	78.00	78.00	78.00	78.00	78.00	78.00	78.00
Daily Total Solar Insolation Factor, Btu/ft^2/day	1371.24	1371.24	1371.24	1371.24	1371.24	1371.24	1371.24
Daily Average Ambient Temperature, F	67.6	67.6	67.6	67.6	67.6	67.6	67.6
Tank Paint Solar Absorbance, dimensionless	0.170	0.170	0.170	0.170	0.170	0.170	0.170
Daily Vapor Temperature Range, R	21.6	21.6	21.6	21.6	21.6	21.6	21.6
Daily Average Liquid Surf. Temperature, F	69.4	69.4	69.4	69.4	69.4	69.4	69.4
Daily Minimum Liquid Surf. Temperature, F	64.0	64.0	64.0	64.0	64.0	64.0	64.0
Daily Maximum Liquid Surf. Temperature, F	74.8	74.8	74.8	74.8	74.8	74.8	74.8
Liquid Bulk Temperature	67.6	67.6	67.6	67.6	67.6	67.6	67.6
Vapor Molecular Weight, lb/lbmol	62.0	66.0	62.0	62.0	62.0	62.0	62.0
Liquid Density, (lb/gal)	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Antoine's Coefficient A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Antoine's Coefficient B	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Antoine's Coefficient C	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Type of Substance (for use in calculations)	Gas	Gas	Gas	Gas	Gas	Gas	Gas
Vapor Pressure at Daily Av. Liquid Surf. Temp., psia	8.604	6.203	8.604	8.604	8.604	8.604	8.604
Vapor Pressure at Daily Min. Liquid Surf. Temp., psia	7.804	5.602	7.804	7.804	7.804	7.804	7.804
Vapor Pressure at Daily Max. Liquid Surf. Temp., psia	9.468	6.855	9.468	9.468	9.468	9.468	9.468
Vapor Pressure Calculation Method	AP-42 Figure 7.1-14b: RVP=13.5 ASTM Slope=3	AP-42 Figure 7.1-14b: RVP=10 ASTM Slope=3	AP-42 Figure 7.1-14b: RVP=13.5 ASTM Slope=3	AP-42 Figure 7.1-14b: RVP=13.5 ASTM Slope=3	AP-42 Figure 7.1-14b: RVP=13.5 ASTM Slope=3	AP-42 Figure 7.1-14b: RVP=13.5 ASTM Slope=3	AP-42 Figure 7.1-14b: RVP=13.5 ASTM Slope=3
Daily Vapor Pressure range, psi	1.664	1.253	1.664	1.664	1.664	1.664	1.664
Ambient Pressure, psia	14.3	14.3	14.3	14.3	14.3	14.3	14.3
Vapor Space Expansion Factor (K_E)	0.331678	0.1951	0.3317	0.3317	0.3317	0.3317	0.3317
Vented Vapor Saturation Factor (K_S)	0.267	0.480	0.226	0.226	0.226	0.226	0.226
P*	0.23	0.14	0.23	0.23	0.23	0.23	0.23
Filling Saturation Factor (S)	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Filling Saturation Correction Factor (Csf)	0.840	0.681	0.918	0.807	0.845	0.845	0.845
(Csf S)	0.50	0.41	0.55	0.48	0.51	0.51	0.51
Standing Loss During Landing (lb/yr)	639.92	954.21	1,008.59	408.44	533.47	533.47	533.47
Filling Loss During Landing (lb/landing)	2,170.72	618.73	4,032.36	1,632.94	2,132.82	2,132.82	2,132.82
Annual Landing Loss Emissions (lb/yr)	2,810.64	1,572.95	5,040.94	2,041.37	2,666.28	2,666.28	2,666.28

Tank Landing Emissions

Based on AP-42, February 1996, Section 7.1.3.1.

Variable	Value	Value	Value	Value	Value	Value	Value	Totals
Tank Identification	***Tank 257***	***Tank 258***	***Tank 259***	***Tank 260***	***Tank 270***	***Tank 271***	***Tank 272***	
Actual Location	***Kenova, WV***	***Kenova, WV***	***Kenova, WV***	***Kenova, WV***	***Kenova, WV***	***Kenova, WV***	***Kenova, WV***	
Location for Calculation Purposes	**Huntington, West Virginia**	**Huntington, West Virginia**	**Huntington, West Virginia**	**Huntington, West Virginia**	**Huntington, West Virginia**	**Huntington, West Virginia**	**Huntington, West Virginia**	
Tank Type	**IFR**	**IFR**	**IFR**	**IFR**	**IFR**	**IFR**	**IFR**	
Type of Substance	**Petroleum Distillate**	**Petroleum Distillate**	**Petroleum Distillate**	**Petroleum Distillate**	**Petroleum Distillate**	**Petroleum Distillate**	**Petroleum Distillate**	
Contents of Tank	**Gasoline (RVP 13.5)**	**Gasoline (RVP 13.5)**	**Gasoline (RVP 13.5)**	**Gasoline (RVP 13.5)**	**Gasoline (RVP 13.5)**	**Gasoline (RVP 13.5)**	**Gasoline (RVP 13.5)**	
Diameter, ft	**120**	**120**	**120**	**120**	**85**	**85**	**85**	
Tank Paint Color	**White**	**White**	**White**	**White**	**White**	**White**	**White**	
Tank Paint Condition	**Good**	**Good**	**Good**	**Good**	**Good**	**Good**	**Good**	
Deck Leg Height (ft)	**3.79**	**3.67**	**3.83**	**3.42**	**2.25**	**2.42**	**2.42**	
Number of Days Tank is Idle per year	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	
Number of Roof Landings per year	**1**	**1**	**1**	**1**	**1**	**1**	**1**	
Worst Case Month	**September**	**September**	**September**	**September**	**September**	**September**	**September**	
Ideal Gas Constant (psia ft3/lbmole °R)	10.731	10.731	10.731	10.731	10.731	10.731	10.731	
Vapor Space Volume, ft^3	42,883	41,469	43,354	38,642	12,768	13,713	13,713	
Average Daily Minimum Ambient Temperature, F	57.10	57.10	57.10	57.10	57.10	57.10	57.10	
Average Daily Maximum Ambient Temperature, F	78.00	78.00	78.00	78.00	78.00	78.00	78.00	
Daily Total Solar Insolation Factor, Btu/ft^2/day	1371.24	1371.24	1371.24	1371.24	1371.24	1371.24	1371.24	
Daily Average Ambient Temperature, F	67.6	67.6	67.6	67.6	67.6	67.6	67.6	
Tank Paint Solar Absorbance, dimensionless	0.170	0.170	0.170	0.170	0.170	0.170	0.170	
Daily Vapor Temperature Range, R	21.6	21.6	21.6	21.6	21.6	21.6	21.6	
Daily Average Liquid Surf. Temperature, F	69.4	69.4	69.4	69.4	69.4	69.4	69.4	
Daily Minimum Liquid Surf. Temperature, F	64.0	64.0	64.0	64.0	64.0	64.0	64.0	
Daily Maximum Liquid Surf. Temperature, F	74.8	74.8	74.8	74.8	74.8	74.8	74.8	
Liquid Bulk Temperature	67.6	67.6	67.6	67.6	67.6	67.6	67.6	
Vapor Molecular Weight, lb/lbmol	62.0	62.0	62.0	62.0	62.0	62.0	62.0	
Liquid Density, (lb/gal)	5.6	5.6	5.6	5.6	5.6	5.6	5.6	
Antoine's Coefficient A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Antoine's Coefficient B	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Antoine's Coefficient C	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Type of Substance (for use in calculations)	Gas	Gas	Gas	Gas	Gas	Gas	Gas	
Vapor Pressure at Daily Av. Liquid Surf. Temp., psia	8.604	8.604	8.604	8.604	8.604	8.604	8.604	
Vapor Pressure at Daily Min. Liquid Surf. Temp., psia	7.804	7.804	7.804	7.804	7.804	7.804	7.804	
Vapor Pressure at Daily Max. Liquid Surf. Temp., psia	9.468	9.468	9.468	9.468	9.468	9.468	9.468	
Vapor Pressure Calculation Method	AP-42 Figure 7.1-14b: RVP=13.5 ASTM Slope=3	AP-42 Figure 7.1-14b: RVP=13.5 ASTM Slope=3	AP-42 Figure 7.1-14b: RVP=13.5 ASTM Slope=3	AP-42 Figure 7.1-14b: RVP=13.5 ASTM Slope=3	AP-42 Figure 7.1-14b: RVP=13.5 ASTM Slope=3	AP-42 Figure 7.1-14b: RVP=13.5 ASTM Slope=3	AP-42 Figure 7.1-14b: RVP=13.5 ASTM Slope=3	
Daily Vapor Pressure range, psi	1.664	1.664	1.664	1.664	1.664	1.664	1.664	
Ambient Pressure, psia	14.3	14.3	14.3	14.3	14.3	14.3	14.3	
Vapor Space Expansion Factor (K_E)	0.3317	0.3317	0.3317	0.3317	0.3317	0.3317	0.3317	
Vented Vapor Saturation Factor (K_S)	0.366	0.374	0.364	0.391	0.494	0.476	0.476	
P*	0.23	0.23	0.23	0.23	0.23	0.23	0.23	
Filling Saturation Factor (S)	0.60	0.60	0.60	0.60	0.60	0.60	0.60	
Filling Saturation Correction Factor (Csf)	0.840	0.833	0.843	0.818	0.477	0.516	0.516	
(Csf S)	0.50	0.50	0.51	0.49	0.29	0.31	0.31	
Standing Loss During Landing (lb/yr)	982.84	970.71	986.77	944.84	394.16	408.05	408.05	**9,706.99**
Filling Loss During Landing (lb/landing)	2,426.08	2,346.10	2,452.74	2,186.14	722.32	775.83	775.83	**26,538.23**
Annual Landing Loss Emissions (lb/yr)	3,408.92	3,316.81	3,439.51	3,130.98	1,116.49	1,183.88	1,183.88	**36,245.22**

Marine Barge Loading Potential Emissions

These calculations estimate potential emissions from the VRU assuming the worst-case short-term operating scenario occurs for the duration of the year.

PROCESS PARAMETERS / DIMENSIONAL ANALYSIS

Maximum Gasoline Loading Rate	13,600	bbl/hr	*Loading is hydraulically limited*
Maximum Distilalte Loading Rate	6,000	bbl/hr	*If gasoline is being loaded at capacity, only 1 loading line can load distillate simultaneously.*
Mass Conversion	2000	lb/ton	
Volume Conversion	42	gal/bbl	
Maximum Annual Operating Schedule	8760	hrs/yr	

GASOLINE LOADING

Estimated Throughput	5,003,712,000	gal/yr	*= Gasoline Loading Capacity (bbl/hr) * 42 (gal/bbl) * 8760 (hr/yr)*
VOC Emission Factor	3.9	lbs/Mgal	*Emission Factor for uncleaned barges from AP-42 Section 5.2, Table 5.2-2 (07/2008)*
% Capture Efficiency of VRU	100%	[%]	*Per the preamble to MACT Y (Federal Register: May 13, 1994), vapor tight loading allows for an assumed 100% capture efficiency. MPC additionally utilizes vacuum-assist unit (VAVAC) on the VRU.*
% Control Efficiency of VRU	97%	[%]	*40 CFR 63.562(b)(2) - MACT Y*
Overall Efficiency of VRU	97%	[%]	*= % Capture Efficiency * % Control Efficiency*
Uncontrolled Emissions	19,514,477	lbs VOC/yr	*= Estimated Throughput (gal/yr) * 1/1000 (Mgal/gal) * Emission factor (lb/Mgal)*
Uncontrolled Emissions	9,757	tpy	*= Uncontrolled Emissions (lb/yr) / 2000 (lb/ton)*
Controlled Emissions (lbs VOC/year)	585,434	lbs VOC/yr	*= Throughput (gal/yr) * Emission Factor (lb/Mgal) * 1/1000 (Mgal/gal) * (1 - Overall Efficiency of VRU)*
Estimated Emissions (tpy)	292.7	tpy	*= Controlled Emissions (lb/yr) / 2000 (lb/ton)*

DISTILLATE LOADING

Estimated Throughput	2,207,520,000	gal/yr	*= Distillate Loading Capacity (bbl/hr) * 42 (gal/bbl) * 8760 (hr/yr)*
Emission Factor	0.005	lbs/Mgal	*Emission Factor for barge loading of distillate #2 from AP-42 Section 5.2, Table 5.2-6 (07/2008)*
% Capture Efficiency of VRU	0%	[%]	*MPC only recovers vapors from gasoline barge loading*
% Control Efficiency of VRU	0%	[%]	*MPC only recovers vapors from gasoline barge loading*
Overall Efficiency of VRU	0%	[%]	*= % Capture Efficiency * % Control Efficiency*
Uncontrolled Emissions	11,038	lbs VOC/yr	*= Estimated Throughput (gal/yr) * 1/1000 (Mgal/gal) * Emission factor (lb/Mgal)*
Uncontrolled Emissions	5.5	tpy	*= Uncontrolled Emissions (lb/yr) / 2000 (lb/ton)*
Emissions (lbs VOC/year)	11,038	lbs VOC/yr	*= Throughput (gal/yr) * Emission Factor (lbs/Mgal) * 1/1000 (Mgal/gal) * (1 - Overall Efficiency of VRU)*
Estimated Emissions (tpy)	5.5	tpy	*= Controlled Emissions (lb/yr) / 2000 (lb/ton)*

Gasoline Filter Changes Potential Emissions

Filter Changeouts per Year[a]	6		
Amount of Gasoline per Changeout[a]	0.5	gallons	
Amount of Gasoline per Year[a]	3	gallons	
Gasoline Vapor Emitted per Changeout[a]	50%		
Density of Gasoline[b]	6.5	lb/gallon	
VOC Emissions per Year	9.75	lb VOC/year	*= Volume of Gasoline per Filter Changeout * # of Changeouts per Year * % of Gasoline Vapor Emitted per Changeout * Gasoline Density*
VOC Emissions per Year	0.00488	tons VOC/year	*= VOC Emissions (lb/yr) / 2000 (lb/ton)*

[a] *Estimates based on conservative engineering judgement*

[b] *American Petroleum Institute (API), Alcohols and Ethers, Table B-1. Publication 4261, June 2001.*

Diesel Fueling Station Potential Emissions

DIMENSIONAL ANALYSIS

Time Conversion	365	day/yr	
Mass Conversion	2,000	lb/ton	*NIST SP1038*

POTENTIAL PROCESS DATA

Boats Filled per Day	3	boats/day	*The frequency of fueling operations is estimated to be 3 boats per day at a maximum MPC personnel*
Volume of Boat Fuel Tanks	20,000	gal/boat	*The volume of the fuel tanks is estimated be between 4,000 and 20,000 gallons by MPC personnel*
No. 2 Diesel Throughput	60,000	gal/day	*No. 2 Diesel Throughput (gal/day) = Boats Filled Per Day (boats/day) * Volume of Boat Fuel Tanks (gal/boat)*
No. 2 Diesel Throughput	21,900	10^3 gal/yr	*No. 2 Diesel Throughput (10^3 gal/yr) = No. 2 Diesel Throughput (gal/day) * 365 (day/yr) / 1,000 (gal/10^3 gal)*

EMISSION FACTORS AND OPERATING PARAMETERS

VOC Emission Factor	0.030	lbs/10^3 gal	*The distillate emissions factor was obtained from AP-42 Chapter 5, Table 5.2.5 splash loading emissions factors. There are no AP-42 emission factors available for diesel fuel tank filling, only gasoline.*

POTENTIAL EMISSIONS CALCULATIONS

VOC Emissions	1.800	lbs/day	*VOC Emissions (lbs/day) = No. 2 Diesel Throughput (gal/day) * VOC Emission Factor (lbs/10^3 gal) / 1,000 (gal/10^3 gal)*
VOC Emissions	0.33	tpy	*VOC Emissions (tpy) = No. 2 Diesel Throughput (10^3 gal/yr) * VOC Emissions Factor (lbs/10^3 gal) / 2,000 (lbs/ton)*

Hot Oil Heater Potential Emissions

Source Designation:

Manufacturer:	HEATEC		
Year Installed	2011		
Fuel Used:	Natural Gas		
Higher Heating Value (HHV) (Btu/scf):	1,050	Btu/scf	
Standard Heating Value (Btu/scf):	1,020	Btu/scf	*Average natural gas higher heating value, per AP-42 Table 1.4.1, footnote 'a' (basis of emission factors)*
Heat Input (MMBtu/hr)	2.5	MMBtu/hr	
Fuel Consumption (mmscf/hr):	2.38E-03	mmscf/hr	
Fuel Consumption (mmscf/yr):	20.85	mmscf/yr	
Potential Annual Hours of Operation (hr/yr):	8,760	hr/yr	

Dimensional Analysis

Mass Conversion (g/lb)	453.59	g/lb
Mass Conversion (g/kg)	1,000	g/kg

Emission Factors[a,b,c]

NO_x	100	lb/MMscf	*Factor for Uncontrolled Small Boilers from AP-42, Section 1.4, Table 1.4-1*
CO	84	lb/MMscf	*Factor for Uncontrolled Small Boilers from AP-42, Section 1.4, Table 1.4-1*
SO_2	0.6	lb/MMscf	
PM Total	7.6	lb/MMscf	
PM Condensable	5.7	lb/MMscf	
PM_{10} (Filterable)	1.9	lb/MMscf	
$PM_{2.5}$ (Filterable)	1.9	lb/MMscf	
VOC	5.5	lb/MMscf	
Hexane	1.80	lb/MMscf	
Total HAP	1.89	lb/MMscf	
CO_2	53.06	kg/MMBtu	
CH_4	1.0E-03	kg/MMBtu	
N_2O	1.0E-04	kg/MMBtu	
CO_2 (GWP)	1		
CH_4 (GWP)	25		
N_2O (GWP)	298		

[a] *Criteria pollutant and HAP emission factors from AP-42, Section 1.4, Tables 1.4-2 and 1.4-3, unless otherwise noted.*
[b] *GHG emission factors from 40 CFR 98, Subpart C, Tables C-1 and C-2 for natural gas.*
[c] *Total CO_2e emission calculations based on global warming potentials as provided in Table A-1 of Part 98, Subpart A.*

Potential Emissions Calculations

	Potential Emissions	
Pollutant	**(lb/hr)**[d,f]	**(tons/yr)**[e]
NO_x	0.245	1.073
CO	0.206	0.901
SO_2	0.0015	0.0064
PM Total	0.0186	0.0816
PM Condensable	0.014	0.061
PM_{10} (Filterable)	0.005	0.020
$PM_{2.5}$ (Filterable)	0.005	0.020
VOC	0.013	0.059
Hexane	4.41E-03	1.93E-02
Total HAP	4.63E-03	2.03E-02
CO_2	292.326	1,280
CH_4	0.006	2.41E-02
N_2O	0.001	2.41E-03
CO_2e	292.6	1,282

[d] *For non-GHG pollutants: Emission Rate (lb/hr) = Firing Rate (MMBtu/hr) × Emission Factor (lb/mmscf) / Standard Heat Content (Btu/scf)*
[e] *Annual Emissions (tons/yr) = Hourly Emissions (lb/hr) × Operating Hours (hr/yr) × (1 ton/2000 lb).*
[f] *For GHG Pollutants: GHG Emission Rate (lb/hr) = Heat Input (MMBtu/hr) × Emission Factor (kg/MMBtu) × 1,000 (g/kg) / 453.59237 (g/lb) / 2,000 (lb/ton)*

Hazardous Air Pollutant (HAP) Potential Emissions

Pollutant	Emission Factor (lb/MMscf)[a]	Potential Emissions (lb/hr)[b]	Potential Emissions (tons/yr)[c]
HAPs:			
3-Methylchloranthrene	1.80E-06	4.41E-09	1.93E-08
7,12-Dimethylbenz(a)anthracene	1.60E-05	3.92E-08	1.72E-07
Acenaphthene	1.80E-06	4.41E-09	1.93E-08
Acenaphthylene	1.80E-06	4.41E-09	1.93E-08
Anthracene	2.40E-06	5.88E-09	2.58E-08
Benz(a)anthracene	1.80E-06	4.41E-09	1.93E-08
Benzene	2.10E-03	5.15E-06	2.25E-05
Benzo(a)pyrene	1.20E-06	2.94E-09	1.29E-08
Benzo(b)fluoranthene	1.80E-06	4.41E-09	1.93E-08
Benzo(g,h,i)perlyene	1.20E-06	2.94E-09	1.29E-08
Benzo(k)fluoranthene	1.80E-06	4.41E-09	1.93E-08
Chrysene	1.80E-06	4.41E-09	1.93E-08
Dibenzo(a,h) anthracene	1.20E-06	2.94E-09	1.29E-08
Dichlorobenzene	1.20E-03	2.94E-06	1.29E-05
Fluoranthene	3.00E-06	7.35E-09	3.22E-08
Fluorene	2.80E-06	6.86E-09	3.00E-08
Formaldehyde	7.50E-02	1.84E-04	8.05E-04
Hexane	1.80E+00	4.41E-03	1.93E-02
Indo(1,2,3-cd)pyrene	1.80E-06	4.41E-09	1.93E-08
Phenanthrene	1.70E-05	4.17E-08	1.82E-07
Pyrene	5.00E-06	1.23E-08	5.37E-08
Toluene	3.40E-03	8.33E-06	3.65E-05
Arsenic	2.00E-04	4.90E-07	2.15E-06
Beryllium	1.20E-05	2.94E-08	1.29E-07
Cadmium	1.10E-03	2.70E-06	1.18E-05
Chromium	1.40E-03	3.43E-06	1.50E-05
Cobalt	8.40E-05	2.06E-07	9.01E-07
Lead	5.00E-04	1.23E-06	5.37E-06
Manganese	3.80E-04	9.31E-07	4.08E-06
Mercury	2.60E-04	6.37E-07	2.79E-06
Nickel	2.10E-03	5.15E-06	2.25E-05
Selenium	2.40E-05	5.88E-08	2.58E-07
Polycyclic Organic Matter:			
2-Methylnaphthalene	2.40E-05	5.88E-08	2.58E-07
Naphthalene	6.10E-04	1.49E-06	6.55E-06
Total HAP		**4.63E-03**	**2.03E-02**

[a] *Emission factors from AP-42 Section 1.4 "Natural Gas Combustion" Tables 1.4-3 & 1.4-4*

[b] *Emission Rate (lb/hr) = Rated Capacity (MMBtu/hr) × Emission Factor (lb/mmscf) / AP-42 Standard Heat Content (mmscf/MMBtu).*

[c] *Annual Emissions (tons/yr) = Hourly Emissions (lb/hr) × Operating Hours (hr/yr) × (1 ton/2000 lb).*

Cooling Tower Potential Emissions

PROCESS PARAMETERS

Drift Loss	0.005	%	*Assumed*
Maximum Operating Days of Operation per Year	365	days/yr	
Maximum Operating Hours	24	hr/day	
Conversion	60	min/hr	
Conversion	2000	lb/ton	
Conversion	1000	gal/Mgal	
Conversion	100	cm/m	
Conversion	1.00E-06	µmhos/mhos	
Density of Water	8.345	lb/gal	
Total Liquid Drift Loss	0.417	lbs drift/Mgal	*Total Liquid Drift Loss (lbs drift/Mgal) = [Drift Loss (gal drift/gal flow) * Density of Water (8.345 lbs drift/gal drift) * (1000 gal flow/Mgal flow)].*
Total Dissolved Solids Content	0.05	mhos/m	*Cooling water is city water. Maximum of range provided for drinking water in "Water Conductivity" from LENNTECH (http://www.lenntech.com/applications/ultrapure/conductivity/water-conductivity.htm)*
Total Dissolved Solids Content	500	µmhos/cm	*= TDS Content (mhos/m) / 1E-6 (umhos/mhos) / 100 (cm/m)*
Total Dissolved Solids Content	320	ppm	*TDS Content (ppm) = TDS Content (umhos/cm) / (10^3) * 640. Conversion is based on Equation 16-1 on page 1145 of Wastewater Engineering, Metcalf and Eddy.*
PM_{10} Emission Factor	0.0001	lbs/Mgal	*PM_{10} Emission Factor (lbs/Mgal) = TDS Content (ppm) / (10^6) * Total Liquid Drift Loss (lbs drift/Mgal) per AP-42, Section 13.4.2 (January 1995).*

EMISSIONS CALCULATIONS

EU Description	*Total Flow Capacity [a] (gpm)*	*PM_{10} Emissions [b] (lb/day)*	*PM_{10} Emissions [c] (tpy)*
MPC Kenova-TriState Cooling Tower	400	0.08	0.01

[a] *Per manufacturer specifications (BAC U148042801-RH Drawings.pdf)*

[b] *Potential PM_{10} Emissions (lb/day) = PM_{10} Emission Factor (lb/Mgal) * Total Flow Capacity (gpm) * (60 min/hr * 24 hr/day) / 1000 (gal/Mgal)*

[c] *Potential PM_{10} Emissions (tpy) = Potential PM_{10} Emissions (lb/day) * 365 (days/yr) / 2000 (lb/ton)*

Fire/Water Pump Engine Potential Emissions

OPERATING PARAMETERS

Fuel Used	Diesel		
Power Output	400	hp	
Heat Input Capacity	2.80	MMBtu/hr	*= Power Output (hp) * 7000 (Btu/(hp-hr)) * 1x10^{-6} MMBtu/Btu*
Heat Content	0.142	MMBtu/gal	*Assumed, based on heat content of distillate fuel oil No. 2 used in boilers*
Maximum Annual Fuel Usage	10,450	Gal/yr	*= Estimated Hourly Fuel Usage * Operating Hours (500 hrs/yr)*
Estimated Hourly Fuel Usage	20.90	Gal/hr	*Per manufacturer specifications for Cummins NTA-855-F (08Mar95 Data Sheet DS-1300 for 400 hp/2100 RPM)*
Operating Hours	500	hr/yr	

DIMENSIONAL ANALYSIS

Power Conversion	7,000	Btu/hp-hr	*per Footnote 'a' to Table 3.3-1 in AP-42 Section 3.3*
General Conversion	1,000,000	Units/MMUnit	
Mass Conversion	0.4536	kg/lb	*NIST*
Mass Conversion	1,000	g/kg	
Mass Conversion	453.592	g/lb	
Mass Conversion	2,000	lb/ton	

EMISSION FACTORS

Pollutant	***Emission Factor***	***Units***	***Source***
NO_X	12.00	g/hp-hr	*Per manufacturer specifications for Cummins NTA-855-F (08Mar95 Data Sheet DS-1300 for 400 hp/2100 RPM)*
CO	2.00	g/hp-hr	*Per manufacturer specifications for Cummins NTA-855-F (08Mar95 Data Sheet DS-1300 for 400 hp/2100 RPM)*
SO_2	0.65	g/hp-hr	*Per manufacturer specifications for Cummins NTA-855-F (08Mar95 Data Sheet DS-1300 for 400 hp/2100 RPM)*
Filterable PM	0.50	g/hp-hr	*Per manufacturer specifications for Cummins NTA-855-F (08Mar95 Data Sheet DS-1300 for 400 hp/2100 RPM); assumes PM factor is for PM_{FILT}*
Condensable PM Factor	0.0077	lb/MMBtu	*AP-42, Section 3.4, Table 3.4-2 (10/96)*
Filterable PM Factor	0.062	lb/MMBtu	*AP-42, Section 3.4, Table 3.4-2 (10/96)*
Condensable PM	0.06	g/hp-hr	*Condensable emission factor (g/hp-hr) = (Condensable Particulate Emission Factor (lb/MMBtu) / (Filterable Particulate Emission Factor (lb/MMBtu)) * Filterable Emission Factor (g/hp-hr); where the ratio is taken from section AP-42, Section 3.4,Table 3.4-2 (10/96) to account for the absence of condensable factor in mfr specs*
Total PM	0.56	g/hp-hr	*= Filterable PM/PM_{10} EF (lb/MMBtu) + Condensable PM EF (lb/MMBtu)*
TOC	0.46	g/hp-hr	*Per manufacturer specifications for total hydrocarbons for Cummins NTA-855-F (08Mar95 Data Sheet DS-1300 for 400 hp/2100 RPM)*
Formaldehyde	1.18E-03	lb/MMBtu	*AP-42, Section 3.3, Table 3.3-2*
Total HAP	3.87E-03	lb/MMBtu	*AP-42, Section 3.3, Table 3.3-2*
CO_2	540	g/hp-hr	*Per manufacturer specifications for Cummins NTA-855-F (08Mar95 Data Sheet DS-1300 for 400 hp/2100 RPM)*
CH_4	3.00E-03	kg/MMBtu	*40 CFR 98, Subpart C, Table C-2 for Petroleum*
N_2O	6.00E-04	kg/MMBtu	*40 CFR 98, Subpart C, Table C-2 for Petroleum*
CO_2	170.07	lb/MMBtu	*= CO_2 EF (g/hp-hr) / 453.6 (g/lb) / 7,000 (Btu/hp-hr) * 1,000,000 (Btu/MMBtu)*
CH_4	6.61E-03	lb/MMBtu	*= CH_4 EF (kg/MMBtu) / 0.4536 (kg/lb)*
N_2O	1.32E-03	lb/MMBtu	*= N_2O EF (kg/MMBtu) / 0.4536 (kg/lb)*
GWP - CO_2	1		*Table A-1 of 40 CFR 98, Subpart A*
GWP - CH_4	25		*Table A-1 of 40 CFR 98, Subpart A*
GWP - N_2O	298		*Table A-1 of 40 CFR 98, Subpart A*

SOURCE EMISSIONS

Pollutant	*(tons/yr)*	
NO_X	2.65	*= Emission Factor (g/hp-hr) * 500 (hrs/yr) * 400 (hp) / 453.593 (g/lb) / 2,000 (lb/ton)*
CO	0.44	*= Emission Factor (g/hp-hr) * 500 (hrs/yr) * 400 (hp) / 453.593 (g/lb) / 2,000 (lb/ton)*
SO_2	0.14	*= Emission Factor (g/hp-hr) * 500 (hrs/yr) * 400 (hp) / 453.593 (g/lb) / 2,000 (lb/ton)*
Filterable PM/PM_{10}	0.11	*= Emission Factor (g/hp-hr) * 500 (hrs/yr) * 400 (hp) / 453.593 (g/lb) / 2,000 (lb/ton)*
Condensable PM	0.01	*= Emission Factor (g/hp-hr) * 500 (hrs/yr) * 400 (hp) / 453.593 (g/lb) / 2,000 (lb/ton)*
Total PM	0.12	*= Emission Factor (g/hp-hr) * 500 (hrs/yr) * 400 (hp) / 453.593 (g/lb) / 2,000 (lb/ton)*
TOC	0.10	*= Emission Factor (g/hp-hr) * 500 (hrs/yr) * 400 (hp) / 453.593 (g/lb) / 2,000 (lb/ton)*
Formaldehyde	8.26E-04	*= Emission Factor (lb/MMBtu) * Heat Input Capacity (MMBtu/hr) * Operating Hours (hr/yr) / 2,000 (lb/ton)*
Total HAP	2.71E-03	*= Emission Factor (lb/MMBtu) * Heat Input Capacity (MMBtu/hr) * Operating Hours (hr/yr) / 2,000 (lb/ton)*
CO_2	119.05	*= Emission Factor (lb/MMBtu) * Heat Input Capacity (MMBtu/hr) * Operating Hours (hr/yr) / 2,000 (lb/ton)*
CH_4	4.63E-03	*= Emission Factor (lb/MMBtu) * Heat Input Capacity (MMBtu/hr) * Operating Hours (hr/yr) / 2,000 (lb/ton)*
N_2O	9.26E-04	*= Emission Factor (lb/MMBtu) * Heat Input Capacity (MMBtu/hr) * Operating Hours (hr/yr) / 2,000 (lb/ton)*
CO_2e[a]	119.44	*= Emission Factor (lb/MMBtu) * Heat Input Capacity (MMBtu/hr) * Operating Hours (hr/yr) / 2,000 (lb/ton)*

[a] *CO_2e Emissions (tpy) = Annual CO_2 Emission (tpy) * CO_2 GWP + Annual CH_4 Emissions (tpy) * CH_4 GWP + Annual N_2O Emissions (tpy) * N_2O GWP*

Hazardous Air Pollutant (HAP) Emissions

Pollutant	**Emission Factor (lb/MMBtu)[a]**	**Annual Emissions (tons/yr)[b]**
HAPs:		
1,3-Butadiene	3.91E-05	2.74E-05
Acetaldehyde	7.67E-04	5.37E-04
Acrolein	9.25E-05	6.48E-05
Acenaphthylene	5.06E-06	3.54E-06
Acenaphthene	1.42E-06	9.94E-07
Fluorene	2.92E-05	2.04E-05
Phenanthrene	2.94E-05	2.06E-05
Anthracene	1.87E-06	1.31E-06
Fluoranthene	7.61E-06	5.33E-06
Pyrene	4.78E-06	3.35E-06
Benzo(a)anthracene	1.68E-06	1.18E-06
Chrysene	3.53E-07	2.47E-07
Benzo(b)fluoranthene	9.91E-08	6.94E-08
Benzo(k)fluoranthene	1.55E-07	1.09E-07
Benzo(a)pyrene	1.88E-07	1.32E-07
Indeno(1,2,3-cd)pyrene	3.75E-07	2.63E-07
Dibenz(a,h)anthracene	5.83E-07	4.08E-07
Benzo(g,h,l)perylene	4.89E-07	3.42E-07
Benzene	9.33E-04	6.53E-04
Formaldehyde	1.18E-03	8.26E-04
Naphthalene	8.48E-05	5.94E-05
Toluene	4.09E-04	2.86E-04
Xylene	2.85E-04	2.00E-04
Total HAP (Includes Formaldehyde)	**3.87E-03**	**2.71E-03**

[a] *HAP emission factors from AP-42 Section 3.3, Table 3.3-2*

[b] *Emissions (tpy) = Rated Capacity (MMBtu/hr) × Emission Factor (lb/MMBtu) * Operating Hours (hr/yr) / 2,000 (lb/ton)*

Paved Roads Potential Emissions

$E = [k\ (sL)^{0.91} * (W)^{1.02} + C] * (1-P/4N)$

AP-42 Section 13.2.1, Equation 1 (January 2011); Emission factor equation for Paved Roads, AP-42 Section 13.2.1, Equation 1 (January 2011). Equation 1 has been modified to add the C factors from the November 2006 edition of AP-42 into the empirical equation to account for emissions from tire wear, brake wear, and exhaust.

SITE PARAMETERS

One-Way Road Lengths [a]

Path 1 - Office Employees	0.22	miles
Path 2 - Far Dock Operators	0.81	miles
Path 3 - A-300 (Dye) Truck Traffic	0.22	miles
Path 4 - A-301 (Additive) Truck Traffic	0.17	miles

[a] *Length of each road segment is determined using Google Earth*

Vehicle Pathways

Vehicle Type	*Entering Weight (tons)*	*Entering Pathway*	*Exiting Weight (tons)*	*Exiting Pathway*	*Annual Maximum (#/year)*	*VMT Entering the Facility on Paved Roads (miles/yr)* [b]	*VMT Exiting the Facility on Paved Roads (miles/yr)* [b]
Employee Cars	2	1	2	1	25550	5565	5565
Employee Cars (Far Dock Operators)	2	2	2	2	1825	1469	1469
Raw Material Trucks (A-300)	40	3	13	3	4	0.86	0.86
Raw Material Trucks (A-301)	40	4	13	4	4	0.69	0.69

[b] *Total VMT on Paved Roads = Total Length of the Paved Pathway Travelled by each Vehicle (miles) * Max. Number of Vehicles Travelling the Pathway (Vehicles/yr)*

Average Vehicle Weight	2.0	tons	*Weighted against vehicle miles travelled on paved roads*
Total Vehicle Miles Travelled	14,071	VMT/yr	*Sum of VMT for all vehicles entering and exiting facility on paved roads*
Silt Loading (sL)	1.05	g/m^2	*[Non-Frozen Precip. Silt Loading (g/m^2) * 9 (Months w/o Frozen Precip.) + Frozen Precip. Silt Loading (g/m^2) * 9 (Months w/ Frozen Precip.)] / 12 (months/yr)*
Silt Loading (s)	0.6	g/m^2	*AP-42 Section 13.2.1, Table 13.2.1-2 (January 2011)*
Winter Silt Loading (sL)	2.4	g/m^2	*AP-42 Section 13.2.1, Table 13.2.1-2 (January 2011); because MPC does not qualify as any of the industries listed in Table 13.2.1-3, the ubiquitous baseline factor was used*
Months with Frozen Precipitation	3	months	*estimate*
Months without Frozen Precipitation	9	months	*estimate*
Number of Days in Averaging Period (N)	365	days	
Number of Days w/ at least 0.01" of Precipitation	140	days	*AP-42 Section 13.2.2, Figure 13.2.2-1*

EMISSION PARAMETERS[c]

Particle Size Multiplier (k) - PM	0.011	lb/VMT	*AP-42 Section 13.2.1, Table 13.2.1-1 (January 2011)*
Particle Size Multiplier (k) - PM_{10}	0.0022	lb/VMT	*AP-42 Section 13.2.1, Table 13.2.1-1 (January 2011)*
Particle Size Multiplier (k) - $PM_{2.5}$	0.00054	lb/VMT	*AP-42 Section 13.2.1, Table 13.2.1-1 (January 2011)*
Empirical Constant, a	0.91		*AP-42 Section 13.2.1, Equation (1) (January 2011)*
Empirical Constant, b	1.02		*AP-42 Section 13.2.1, Equation (1) (January 2011)*
Brake Wear and Tire Wear Factor (C) - PM/PM_{10}	0.00047	lb/VMT	*AP-42, Section 13.2.1, Table 13.2.1-2 (November 2006)*
Brake Wear and Tire Wear Factor (C) - $PM_{2.5}$	0.00036	lb/VMT	*AP-42, Section 13.2.1, Table 13.2.1-2 (November 2006)*
PM Emission Factor	2.2E-02	lb/VMT	$E = [k\ (sL)^{0.91}\ (W)^{1.02} + C] * (1-P/4N)$
PM_{10} Emission Factor	4.7E-03	lb/VMT	$E = [k\ (sL)^{0.91}\ (W)^{1.02} + C] * (1-P/4N)$
$PM_{2.5}$ Emission Factor	1.4E-03	lb/VMT	$E = [k\ (sL)^{0.91}\ (W)^{1.02} + C] * (1-P/4N)$

[c] *PM = PM_{30}*

DIMENSIONAL ANALYSIS

1 ton	2,000	lbs	*NIST SP1038*
1 yr	12	months	
1 yr	8,760	hrs	
1 yr	365	days	

POTENTIAL EMISSIONS

Pollutant	(tpy)[d]
PM	0.15
PM_{10}	0.03
$PM_{2.5}$	0.01

[d] *Emissions (tpy) = Emissions (lb/day) * 365 (days/yr) / 2000 (lb/ton)*

Propane-Fired Emergency Generator Potential Emissions

OPERATING PARAMETERS

Rated Horsepower	14	hp	
Heat Input Capacity	0.11	MMBtu/hr	= Rated Horsepower (hp) x 8,000 [Btu/(hp-hr)] / 1,000,000 (Btu/MMBtu)
Annual Heat Input Capacity	56	MMBtu/yr	= Heat Input Capacity (MMBtu/hr) x Maximum Annual Operating Hours (hr/yr)
Potential Annual Hours of Operation	500	hr/yr	Emergency engine maximum annual operating hours

DIMENSIONAL ANALYSIS

Heat Input Conversion	1,000,000	Btu/MMBtu	
Power Conversion	8,000	Btu/hp-hr	AP-42 Section 3.4, Table 3.4-1, Footnote e presents a value of 7,000 (Btu/hp-hr) for a mixture of 5% diesel with 95% natural gas. Assumes 8,000 Btu/hp-hr for LPG
Mass Conversion	1,000	g/kg	
Mass Conversion	2,000	lb/ton	
Mass Conversion	453.59	g/lb	

EMISSION FACTORS

AP-42 Section 3.2 [a]

NO_X	6.12	lb/MMBtu	AP-42, Section 3.2, Table 3.2-2 (7/2000) for 90-105% load x 1.5 (propane / NG NO_X Emissions Factor)
CO	5.57E-01	lb/MMBtu	AP-42, Section 3.2, Table 3.2-2 (7/2000) for <90% load
SO_2	5.88E-04	lb/MMBtu	AP-42, Section 3.2, Table 3.2-2 (7/2000)
PM condensable	9.91E-03	lb/MMBtu	AP-42, Section 3.2, Table 3.2-2 (7/2000)
Filterable $PM/PM_{10}/PM_{2.5}$	7.71E-05	lb/MMBtu	AP-42, Section 3.2, Table 3.2-2 (7/2000)
Total $PM/PM_{10}/PM_{2.5}$	9.99E-03	lb/MMBtu	= Filterable $PM/PM_{10}/PM_{2.5}$ (lb/MMBtu) + Condensable PM (lb/MMBtu)
VOC	1.18E-01	lb/MMBtu	AP-42, Section 3.2, Table 3.2-2 (7/2000)
Formaldehyde	5.28E-02	lb/MMBtu	AP-42, Section 3.2, Table 3.2-2 (7/2000)
Total Combustion HAP	7.22E-02	lb/MMBtu	AP-42, Section 3.2, Table 3.2-2 (7/2000)

[a] Per AP-42 Section 1.5, Table 1.5-1 for external LPG combustion, "footnote a," PM, CO, and hydrocarbon emissions are assumed to be equivalent to natural gas combustion on a heat input basis. NO_X emissions are multiplied by a 1.5 correction factor. Similar to PM, CO, and hydrocarbons, SO_2 is assumed to be equivalent to natural gas combustion based on the use of low sulfur fuels. AP-42 Section 3.2 emission factors are used assuming 4-stroke, lean burn combustion for the engine.

40 CFR 98, Subparts A & C for LPG Combustion

CO_2	61.71	kg/MMBtu	40 CFR 98, Subpart C, Table C-1 for Liquified Petroleum Gases (LPG)
CH_4	3.00E-03	kg/MMBtu	40 CFR 98, Subpart C, Table C-2 for Petroleum Products
N_2O	6.00E-04	kg/MMBtu	40 CFR 98, Subpart C, Table C-2 for Petroleum Products
CO_2	136.05	lb/MMBtu	= CO_2 EF (kg/MMBtu) x 1,000 (g/kg) / 453.49 (g/lb)
CH_4	6.61E-03	lb/MMBtu	= CH_4 EF (kg/MMBtu) x 1,000 (g/kg) / 453.49 (g/lb)
N_2O	1.32E-03	lb/MMBtu	= N_2O EF (kg/MMBtu) x 1,000 (g/kg) / 453.49 (g/lb)
GWP - CO_2	1		Table A-1 of 40 CFR 98, Subpart A
GWP - CH_4	25	GWP	Table A-1 of 40 CFR 98, Subpart A
GWP - N_2O	298	GWP	Table A-1 of 40 CFR 98, Subpart A

POTENTIAL EMISSION CALCULATIONS

Pollutant	*(lb/hr)* [a]	*(tons/yr)* [b]
NO_X	0.69	0.17
CO	0.06	0.02
SO_2	0.00	1.65E-05
$PM/PM_{10}/PM_{2.5}$ (Filterable)	8.64E-06	2.16E-06
PM Condensable	1.11E-03	2.77E-04
PM Total	1.12E-03	2.80E-04
VOC	0.01	3.30E-03
Formaldehyde	0.01	1.48E-03
Total HAP	0.01	2.02E-03
CO_2		3.8
CH_4		1.85E-04
N_2O		3.70E-05
CO_2e [c]		3.8

[a] Potential Emissions (lb/hr) = Rated Capacity (MMBtu/hr) × Emission Factor (lb/MMBtu)

[b] Potential Emissions (tpy) = Rated Capacity (MMBtu/hr) × Emission Factor (lb/MMBtu) x Operation Hours (hr/yr) / 2,000 lb/ton

[c] CO_2e Emissions (tpy) = Annual CO_2 Emission (tpy) x CO_2 GWP + Annual CH_4 Emissions (tpy) x CH_4 GWP + Annual N_2O Emissions (tpy) x N_2O GWP

HAZARDOUS AIR POLLUTANTS (HAP) EMISSIONS

Pollutant	Emission Factor (lb/MMBtu)[a]	Potential Emissions (lb/hr)[b]	Potential Emissions (tons/yr)[c]
1,1,2,2-Tetrachloroethane	4.00E-05	4.48E-06	1.12E-06
1,1,2-Trichloroethane	3.18E-05	3.56E-06	8.90E-07
1,3-Butadiene	2.67E-04	2.99E-05	7.48E-06
1,3,-Dichloropropene	2.64E-05	2.96E-06	7.39E-07
2-Methylnaphthalene	3.32E-05	3.72E-06	9.30E-07
2,2,4-Trimethylpentane	2.50E-04	2.80E-05	7.00E-06
Acenaphthene	1.25E-06	1.40E-07	3.50E-08
Acenaphthylene	5.53E-06	6.19E-07	1.55E-07
Acetaldehyde	8.36E-03	9.36E-04	2.34E-04
Acrolein	5.14E-03	5.76E-04	1.44E-04
Benzene	4.40E-04	4.93E-05	1.23E-05
Benzo(b)fluoranthene	1.66E-07	1.86E-08	4.65E-09
Benzo(e)pyrene	4.15E-07	4.65E-08	1.16E-08
Benzo(g,h,i)perylene	4.14E-07	4.64E-08	1.16E-08
Biphenyl	2.12E-04	2.37E-05	5.94E-06
Carbon Tetrachloride	3.67E-05	4.11E-06	1.03E-06
Chlorobenzene	3.04E-05	3.40E-06	8.51E-07
Choroform	2.85E-05	3.19E-06	7.98E-07
Chrysene	6.93E-07	7.76E-08	1.94E-08
Ethylbenzene	3.97E-05	4.45E-06	1.11E-06
Ethylene Dibromide	4.43E-05	4.96E-06	1.24E-06
Fluoranthene	1.11E-06	1.24E-07	3.11E-08
Fluorene	5.67E-06	6.35E-07	1.59E-07
Formaldehyde	5.28E-02	5.91E-03	1.48E-03
Methanol	2.50E-03	2.80E-04	7.00E-05
Methylene Chloride	2.00E-05	2.24E-06	5.60E-07
Hexane	1.11E-03	1.24E-04	3.11E-05
Naphthalene	7.44E-05	8.33E-06	2.08E-06
PAH	2.69E-05	3.01E-06	7.53E-07
Phenanthrene	1.04E-05	1.16E-06	2.91E-07
Phenol	2.40E-05	2.69E-06	6.72E-07
Pyrene	1.36E-06	1.52E-07	3.81E-08
Styrene	2.36E-05	2.64E-06	6.61E-07
Tetracholorethane	2.48E-06	2.78E-07	6.94E-08
Toluene	4.08E-04	4.57E-05	1.14E-05
Vinyl Chloride	1.49E-05	1.67E-06	4.17E-07
Xylene	1.84E-04	2.06E-05	5.15E-06
Total HAP	**7.22E-02**	**8.08E-03**	**2.02E-03**

[a] *HAP emission factors from AP-42 Section 3.2, Table 3.2-2 "Uncontrolled Emission Factors for 4-Stroke Lean-Burn Engines," Supplement F, July 2000.*

[b] *HAP Emissions (lb/hr) = Rated Capacity (MMBtu/hr) × Emission Factor (lb/MMBtu)*

[c] *HAP Emissions (tpy) = Rated Capacity (MMBtu/hr) × Emission Factor (lb/MMBtu) x Operating Hours (hr/yr) / 2,000 (lb/ton)*

LDAR Components Potential Emissions

EMISSION FACTORS AND OPERATING PARAMETERS[a]

Component Type	Heavy Liquid Service[b]		Light Liquid Service		Gas Vapor Service	
	kg/hr	lb/hr	kg/hr	lb/hr	kg/hr	lb/hr
Valve	4.30E-05	9.48E-05	4.30E-05	9.48E-05	1.30E-05	2.87E-05
Pump Seal	5.40E-04	1.19E-03	5.40E-04	1.19E-03		
Fitting	8.00E-06	1.76E-05	8.00E-06	1.76E-05	4.20E-05	9.26E-05
Other (e.g., PRD)	1.30E-04	2.87E-04	1.30E-04	1.30E-04	1.20E-04	1.20E-04

[a] *EPA Protocol for Equipment Leak Emission Estimates, Office of Air Quality, Planning and Standards, Research Triangle Park, NC 27711. EPA-453/R-95-017 November 1995, Table 2-3 Marketing Terminal Average Emission Factors*

[b] *Factors for heavy liquid are assumed to be equivalent to factors used for light liquids from EPA Protocol for Equipment Leak Emission Estimates, Office of Air Quality, Planning and Standards, Research Triangle Park, NC 27711. EPA-453/R-95-017 November 1995, Table 2-3 Marketing Terminal Average Emission Factors (used due to absence of heavy liquid factors in Table 2-3; applies emission factor provided for 'Connectors' to 'Fittings')*

DIMENSIONAL ANALYSIS

Time Conversion	365	day/yr	
Time Conversion	24	hr/day	
Mass Conversion	2,000	lb/ton	*NIST SP1038*
Mass Conversion	0.454	kg/lb	*NIST SP1038*

COMPONENT COUNT ESTIMATES

No. of Components	Heavy Liquid Service	Light Liquid Service	Gas Vapor Service	
Valves	1,088	966	185	
Pump Seals	22	20		
Fittings/Connectors	3,062	2,600	556	*fittings include connectors, flanges, and threaded unions*
Other (e.g., PRDs)	29	25	4	

COMPOSITION DATA

VOC Composition	100%	*Assuming 100% of material is VOC*

POTENTIAL EMISSIONS CALCULATIONS

Component Type	Heavy Liquid Service (lb/yr)	Light Liquid Service (lb/yr)	Gas Vapor Service (lb/yr)	
Valves	904	802	46	*Emissions by Component Type (lb/yr) = No. of Components * EF for Component (lb/hr) * 365 (day/yr) * 24 (hr/day) * VOC Composition (%)*
Pump Seals	229	209	0	*Emissions by Component Type (lb/yr) = No. of Components * EF for Component (lb/hr) * 365 (day/yr) * 24 (hr/day) * VOC Composition (%)*
Fittings	473	402	451	*Emissions by Component Type (lb/yr) = No. of Components * EF for Component (lb/hr) * 365 (day/yr) * 24 (hr/day) * VOC Composition (%)*
Other	73	28	4	*Emissions by Component Type (lb/yr) = No. of Components * EF for Component (lb/hr) * 365 (day/yr) * 24 (hr/day) * VOC Composition (%)*
Total	1,679	1,441	502	

POTENTIAL EMISSIONS TOTALS

Total LDAR VOC PTE	
3,621 lb/yr	*Total LDAR VOC PTE (lb/yr) = Total Light Liquid Service (lb/yr) + Total Gas Vapor Service (lb/yr)*
1.81 tpy	*Total LDAR VOC PTE (tpy) = Total LDAR VOC PTE (lb/yr) / 2000 (lb/ton)*

Wastewater System Potential Emissions

Collection System Component	Process Drainage Area #1	
Number of uncontrolled drains		
Number of sealed drains	46	
Linear meters of open trench	0	
Number of uncontrolled manholes	0	
Number of sealed manholes	0	
Number of uncontrolled junction boxes		
Number of controlled junction boxes	23	*Includes catch basins and junction boxes*
Number of uncontrolled lift stations		
Number of controlled lift stations	1	
Number of uncontrolled sumps		
Number of controlled sumps	10	

Collection System Component Air Emissions Control	Control Efficiency, %	Default Control Efficiency, %
Drain water seal	95	95
Manhole seal	95	95
Junction box water seal	95	95
Lift station control (e.g., carbon adsportion)	95	95
Sump control (e.g., carbon adsorption)	95	95

	Process Drainage Area #1				
Wastewater flow rate (Q)	1.68E-03	m^3/s			*Assumes Wastewater Flow = Assumed Max Organic Phase Flow from Tank 256 + 2013 Aqueous Flow*
Compound Name	**POG Concentration[a]**	**Units**	**Air Emissions**	**Units**	
Methanol	0.0000	g/m^3	0	g/s	
Benzene	101.3164	g/m^3	0.005189255	g/s	
Carbon disulfide	0.0000	g/m^3	0	g/s	
Methyl ethyl ketone	0.0000	g/m^3	0	g/s	
Naphthalene	29.3817	g/m^3	0.001026649	g/s	
Cumene	37.4870	g/m^3	0.002158839	g/s	
Ethylbenzene	89.1584	g/m^3	0.004770573	g/s	
Styrene	58.7635	g/m^3	0.002733848	g/s	
1,3-Butadiene	0.0608	g/m^3	4.14984E-06	g/s	
Ethylene glycol	0.0000	g/m^3	0	g/s	
Methyl isobutyl ketone	0.0000	g/m^3	0	g/s	
Toluene	334.3440	g/m^3	0.017510324	g/s	
Phenol	18.2369	g/m^3	1.68863E-05	g/s	
n-Hexane	354.6072	g/m^3	0.025386867	g/s	
Cresols (total)	25.3291	g/m^3	3.94505E-05	g/s	
Xylenes	364.7389	g/m^3	0.018873689	g/s	
Methyl tert-butyl ether	58.7635	g/m^3	0.002107868	g/s	
Biphenyl, 1,1-	3.4448	g/m^3	0.000107823	g/s	
Carbonyl sulfide	0.0000	g/m^3	0	g/s	
Dichloroethane, 1,2-	0.0000	g/m^3	0	g/s	
Diethanolamine	0.0000	g/m^3	0	g/s	
Trimethylpentane, 2,2,4-	199.5932	g/m^3	0.018488348	g/s	
n-Butane (VOC Surrogate)	8206.6244	g/m^3	0.698009349	g/s	
[a]For benzene, POG concentration obtained from 'Kenova T	0.0000				

[b]For non-benzene pollutants, POG concentration obtained using the ratios from Table 7-9. Refinery Wastewater Contaminant Concentrations as a Ratio to Benzene provided in "Emission Estimation Protocol for Petroleum Refineries" Version 2.1.1 (5/2011); specifically, Pollutant Concentration (g/m^3) = Benzene Concentration (g/m^3) * Table 7-9. Pollutant-Specific Factor

OUTPUTS								
Compound Name	Total Emissions	Units	Collection System Effluent Concentration	Units	POG Total Load	Units	Total Emissions	Units
Methanol	0.000000	g/s					0.000E+00	lb/yr
Benzene	0.005189	g/s					3.608E+02	lb/yr
Carbon disulfide	0.000000	g/s					0.000E+00	lb/yr
Methyl ethyl ketone	0.000000	g/s					0.000E+00	lb/yr
Naphthalene	0.001027	g/s					7.138E+01	lb/yr
Cumene	0.002159	g/s					1.501E+02	lb/yr
Ethylbenzene	0.004771	g/s					3.317E+02	lb/yr
Styrene	0.002734	g/s					1.901E+02	lb/yr
1,3-Butadiene	0.000004	g/s					2.885E-01	lb/yr
Ethylene glycol	0.000000	g/s					0.000E+00	lb/yr
Methyl isobutyl ketone	0.000000	g/s					0.000E+00	lb/yr
Toluene	0.017510	g/s					1.217E+03	lb/yr
Phenol	0.000017	g/s					1.174E+00	lb/yr
n-Hexane	0.025387	g/s					1.765E+03	lb/yr
Cresols (total)	0.000039	g/s					2.743E+00	lb/yr
Xylenes	0.018874	g/s					1.312E+03	lb/yr
Methyl tert-butyl ether	0.002108	g/s					1.465E+02	lb/yr
Biphenyl, 1,1-	0.000108	g/s					7.496E+00	lb/yr
Carbonyl sulfide	0.000000	g/s					0.000E+00	lb/yr
Dichloroethane, 1,2-	0.000000	g/s					0.000E+00	lb/yr
Diethanolamine	0.000000	g/s					0.000E+00	lb/yr
Trimethylpentane, 2,2,4-	0.018488	g/s					1.285E+03	lb/yr
n-Butane (VOC Surrogate)	0.698009	g/s					4.853E+04	lb/yr
Total HAP Emissions							**6,842.3**	**lb/yr**
Total HAP Emissions							**3.4**	**tpy**
Total VOC Emissions							**48,529.1**	**lb/yr**
Total VOC Emissions							**24.3**	**tpy**

Compound Name	fe, Drains	fe, Sealed Drains	fe, Trenches	fe, Manholes	fe, Sealed Manholes	fe, Junction Boxes	fe, Controlled Junction Boxes	fe, Lift Stations	fe, Controlled Lift Stations	fe, Sumps	fe, Controlled Sumps
Methanol	0.000E+00	0.000E+00	4.298E-03	0.000E+00	0.000E+00	1.245E-02	6.223E-04	3.253E-02	1.626E-03	2.080E-03	1.040E-04
Benzene	2.263E-01	1.131E-02	3.986E-02	5.690E-02	2.845E-03	8.712E-02	4.356E-03	2.544E-01	1.272E-02	4.925E-03	2.462E-04
Carbon disulfide	2.854E-01	1.427E-02	4.830E-02	7.211E-02	3.605E-03	1.049E-01	5.243E-03	3.071E-01	1.536E-02	5.600E-03	2.800E-04
Methyl ethyl ketone	6.518E-02	3.259E-03	1.684E-02	1.547E-02	7.736E-04	3.878E-02	1.939E-03	1.108E-01	5.540E-03	3.083E-03	1.542E-04
Naphthalene	1.407E-01	7.033E-03	2.762E-02	3.488E-02	1.744E-03	6.143E-02	3.071E-03	1.781E-01	8.904E-03	3.946E-03	1.973E-04
Cumene	2.600E-01	1.300E-02	4.467E-02	6.556E-02	3.278E-03	9.722E-02	4.861E-03	2.844E-01	1.422E-02	5.309E-03	2.655E-04
Ethylbenzene	2.384E-01	1.192E-02	4.158E-02	6.001E-02	3.000E-03	9.074E-02	4.537E-03	2.652E-01	1.326E-02	5.063E-03	2.531E-04
Styrene	2.015E-01	1.008E-02	3.632E-02	5.053E-02	2.527E-03	7.969E-02	3.985E-03	2.323E-01	1.162E-02	4.642E-03	2.321E-04
1,3-Butadiene	3.166E-01	1.583E-02	5.275E-02	8.012E-02	4.006E-03	1.142E-01	5.710E-03	3.349E-01	1.674E-02	5.956E-03	2.978E-04
Ethylene glycol	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Methyl isobutyl ketone	9.682E-02	4.841E-03	2.136E-02	2.361E-02	1.180E-03	4.828E-02	2.414E-03	1.390E-01	6.950E-03	3.445E-03	1.722E-04
Toluene	2.324E-01	1.162E-02	4.073E-02	5.847E-02	2.923E-03	8.895E-02	4.447E-03	2.598E-01	1.299E-02	4.994E-03	2.497E-04
Phenol	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.104E-03	5.521E-05
n-Hexane	3.343E-01	1.671E-02	5.528E-02	8.467E-02	4.233E-03	1.195E-01	5.976E-03	3.507E-01	1.753E-02	6.159E-03	3.079E-04
Cresols (total)	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.603E-03	8.013E-05	3.078E-04	1.539E-05	1.667E-03	8.334E-05
Xylenes	2.291E-01	1.145E-02	4.025E-02	5.762E-02	2.881E-03	8.795E-02	4.398E-03	2.569E-01	1.284E-02	4.956E-03	2.478E-04
Methyl tert-butyl ether	1.455E-01	7.276E-03	2.832E-02	3.613E-02	1.807E-03	6.289E-02	3.144E-03	1.824E-01	9.121E-03	4.001E-03	2.001E-04
Biphenyl, 1,1-	1.216E-01	6.079E-03	2.490E-02	2.997E-02	1.499E-03	5.570E-02	2.785E-03	1.611E-01	8.053E-03	3.728E-03	1.864E-04
Carbonyl sulfide	3.025E-01	1.512E-02	5.074E-02	7.649E-02	3.825E-03	1.100E-01	5.499E-03	3.223E-01	1.612E-02	5.795E-03	2.898E-04
Dichloroethane, 1,2-	1.779E-01	8.895E-03	3.294E-02	4.446E-02	2.223E-03	7.260E-02	3.630E-03	2.113E-01	1.056E-02	4.371E-03	2.186E-04
Diethanolamine	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Trimethylpentane, 2,2,4-	4.467E-01	2.233E-02	7.134E-02	1.136E-01	5.679E-03	1.532E-01	7.662E-03	4.509E-01	2.254E-02	7.443E-03	3.722E-04
n-Butane (VOC Surrogate)	4.061E-01	2.031E-02	6.554E-02	1.031E-01	5.157E-03	1.411E-01	7.053E-03	4.147E-01	2.073E-02	6.979E-03	3.490E-04

Process Parameters / Conversion Factors

Benzene Concentration in Aqueous Phase	3.30	ppmw	*Assumes benzene concentration is the maximum concentration obtained from 'Kenova TAB Contribution' spreadsheet*
Benzene Concentration in Organic Phase	8,688	ppmw	*Assumes benzene concentration is the maximum concentration obtained from 'Kenova TAB Contribution' spreadsheet*
Aqueous Flow	12,538,218	gal/yr	*Obtained from 'Kenova TAB Contribution' spreadsheet*
Organic Flow	214,136	gal/yr	*Obtained from 'Kenova TAB Contribution' spreadsheet*
Liquid Density of Aqueous Phase	8.35	lb/gal	*assumes water*
Liquid Density of Organic Phase	5.60	lb/gal	*Per AP-42, Table 7.1-2 (assumes gasoline RVP 10)*
Mass Aqueous Flow	104,636,500	lb/yr	*= Volumetric Flow Rate (gal/yr) * Density (lb/gal)*
Mass Organic Flow	1,199,160	lb/yr	*= Volumetric Flow Rate (gal/yr) * Density (lb/gal)*
Benzene Flow	10,763	lb/yr	*= (Aq Benzene Concentration (ppmw) * Aq Mass Flow (lb/yr) + Org Benzene Concentration (ppmw) * Org Mass Flow (lb/yr)) / (1,000,000 ppm)*
Weighted Avg Benzene Concentration	101.7	ppmw	*= Total Benzene Flow (lb/yr) / Total Liquid Flow (lb/yr) / 1,000,000 (ppmw)*
Weighted Avg Liquid Density	8.31	lb/gal	*= (Aq Benzene Density (lb/gal * Aq Mass Flow (lb/yr) + Org Benzene Density (lb/gal) * Org Mass Flow (lb/yr)) / (Total Liquid Flow (gal/yr))*
Weighted Avg Liquid Density	996,272.6	g/m^3	*= Weighted Avg Liquid Density (lb/gal) * 453.593 (g/lb) / 264.17 (gal/m^3)*
Benzene Weighted Average Concentration	101.3	g/m^3	*=Weighted Avg Benzene Concentration (ppmw) * Weighted Avg Liquid Density (g/m^3) / 1,000,000 (ppmw)*
Volume Conversion	264.17	gal/m^3	
Conversion	1,000,000	units/Mmunit	
Time Conversion	8,760	hr/yr	
Time Conversion	3,600	sec/min	
Mass Conversion	2,000.00	lb/ton	
Mass Conversion	0.45	kg/lb	
Mass Conversion	1,000	g/kg	

Table 7-9. Refinery Wastewater Contaminant Concentrations as a Ratio to Benzene
Emission Estimation Protocol for Petroleum Refineries Version 2.1.1 (5/2011)

CAS	HAP	Mass Concentration Ratio of Compounds to the Concentration of Benzene	
		Inlet to OWS	Outlet from OWS
540841	Trimethylpentane, 2,2,4-	1.97	0.022
71432	Benzene	1	1
92524	Biphenyl, 1,1-	0.034	0.0005
1319773	Cresols (total)	0.25	0.38
98828	Cumene	0.37	0.013
100414	Ethylbenzene	0.88	0.086
110543	N-Hexane	3.5	0.047
1634044	Methyl tert-butyl ether	0.58	0.98
91203	Naphthalene	0.29	0.02
108952	Phenol	0.18	0.8
100425	Styrene	0.58	0.09
108883	Toluene	3.3	0.8
1330207	Xylenes	3.6	0.33
106990	1,3-Butadiene	0.0006	0.0027
VOC	n-Butane (VOC Surrogate)	81	17

Facility-Wide HAP Calculations

HAP EMISSIONS FACTORS[a]

Arithmetic Average HAP to VOC Ratio (Percent by Weight)

	Gasoline	Diesel
Hexane	1.60%	0.01%
Benzene	0.90%	0.02%
Toluene	1.30%	0.26%
2,2,4-Trimethylpentane	0.80%	0.00%
Xylene	0.50%	0.69%
Naphthalene	-	0.23%
Ethylbenzene	0.10%	0.04%

[a]Potential HAP emissions are based on the factors provided in the Gasoline Distribution Industry (Stage I) - Background Information for Proposed Standards Draft Report (Table 3.1). #2 Diesel data calculated using data from Karin Ritter (API) memo to the Gasoline Distribution MACT Workgroup dated 2/8/95 containing speciation data submitted by various API member companies.

POTENTIAL HAP EMISSIONS CALCULATIONS[b]

EU ID	Description	Material Stored/Loaded[e]	VOC (tpy)	Hexane (tpy)	Benzene (tpy)	Toluene (tpy)	2,2,4-Trimethylpentane (tpy)	Xylene (tpy)	Naphthalene (tpy)	Ethylbenzene (tpy)	Total HAPs[c] (tpy)
Tank 300	Distillate Fuel Storage Tank	Distillate Additives/Dyes	1.16E-03	1.16E-07	2.33E-07	3.03E-06	0.00E+00	8.03E-06	2.62E-06	4.66E-07	1.45E-05
Tank 301	Distillate Fuel Storage Tank	Lubricity Additive	0.0	7.16E-07	1.43E-06	1.86E-05	0.00E+00	4.94E-05	1.61E-05	2.86E-06	8.91E-05
Tank 202	Distillate Fuel Storage Tank	Distillate	0.8	7.69E-05	1.54E-04	2.00E-03	0.00E+00	5.31E-03	1.73E-03	3.08E-04	9.58E-03
Tank 253	Gasoline / Distillate Fuel Storage Tank	Gasoline	1.7	2.68E-02	1.51E-02	2.18E-02	1.34E-02	8.37E-03	0.00E+00	1.67E-03	8.70E-02
Tank 255	Distillate Fuel Storage Tank	Distillate	4.6	4.55E-04	9.10E-04	1.18E-02	0.00E+00	3.14E-02	1.02E-02	1.82E-03	5.67E-02
Tank 256	Petroleum Waste Water Storage Tank	Wastewater[f]	2.4	3.83E-02	2.16E-02	3.12E-02	1.92E-02	1.20E-02	0.00E+00	2.40E-03	1.25E-01
Tank 257	Gasoline Storage Tank	Gasoline	6.1	9.79E-02	5.51E-02	7.95E-02	4.89E-02	3.06E-02	0.00E+00	6.12E-03	3.18E-01
Tank 258	Gasoline Storage Tank	Gasoline	7.2	1.16E-01	6.50E-02	9.39E-02	5.78E-02	3.61E-02	0.00E+00	7.22E-03	3.75E-01
Tank 259	Gasoline Storage Tank	Gasoline	5.3	8.49E-02	4.77E-02	6.90E-02	4.24E-02	2.65E-02	0.00E+00	5.31E-03	2.76E-01
Tank 260	Gasoline Storage Tank	Gasoline	5.3	8.56E-02	4.81E-02	6.95E-02	4.28E-02	2.67E-02	0.00E+00	5.35E-03	2.78E-01
Tank 261	Distillate Fuel Storage Tank	Distillate	7.0	7.05E-04	1.41E-03	1.83E-02	0.00E+00	4.86E-02	1.59E-02	2.82E-03	8.77E-02
Tank 262	Distillate Fuel Storage Tank	Distillate	7.2	7.15E-04	1.43E-03	1.86E-02	0.00E+00	4.93E-02	1.61E-02	2.86E-03	8.90E-02
Tank 264	Gasoline / Distillate Fuel Storage Tank	Gasoline	3.3	5.30E-02	2.98E-02	4.31E-02	2.65E-02	1.66E-02	0.00E+00	3.31E-03	1.72E-01
Tank 265	Gasoline / Distillate Fuel Storage Tank	Gasoline	2.8	4.49E-02	2.53E-02	3.65E-02	2.25E-02	1.40E-02	0.00E+00	2.81E-03	1.46E-01
Tank 266	Gasoline / Distillate Fuel Storage Tank	Gasoline	2.7	4.37E-02	2.46E-02	3.55E-02	2.18E-02	1.36E-02	0.00E+00	2.73E-03	1.42E-01
Tank 267	Gasoline / Distillate Fuel Storage Tank	Gasoline	2.7	4.37E-02	2.46E-02	3.55E-02	2.18E-02	1.36E-02	0.00E+00	2.73E-03	1.42E-01
Tank 268	Gasoline / Distillate Fuel Storage Tank	Gasoline	2.7	4.37E-02	2.46E-02	3.55E-02	2.18E-02	1.36E-02	0.00E+00	2.73E-03	1.42E-01
Tank 270	Gasoline Storage Tank[f]	Gasoline	4.4	9.00E-02	5.00E-02	7.00E-02	5.00E-02	3.00E-02	0.00E+00	1.00E-02	3.00E-01
Tank 271	Gasoline Storage Tank[f]	Gasoline	4.4	9.00E-02	5.00E-02	7.00E-02	5.00E-02	3.00E-02	0.00E+00	1.00E-02	3.00E-01
Tank 272	Gasoline Storage Tank[f]	Gasoline	4.4	9.00E-02	5.00E-02	7.00E-02	5.00E-02	3.00E-02	0.00E+00	1.00E-02	3.00E-01
Tank 273	Cone Roof Biodiesel Storage Tank	Biodiesel	10.9	1.09E-03	2.17E-03	2.82E-02	0.00E+00	7.49E-02	1.00E-02	4.34E-03	1.21E-01
Tank K2	Assumed RVP 10 gasoline	Gasoline	0.37	6.00E-03	3.37E-03	4.87E-03	3.00E-03	1.87E-03	0.00E+00	3.75E-04	1.95E-02
Tank K3	Assumed RVP 10 gasoline	Gasoline	0.37	6.00E-03	3.37E-03	4.87E-03	3.00E-03	1.87E-03	0.00E+00	3.75E-04	1.95E-02
Landing Losses		Gasoline	18.12	2.90E-01	1.63E-01	2.36E-01	1.45E-01	9.06E-02	0.00E+00	1.81E-02	9.42E-01
Oily Sewer System		See 'Wastewater Calculations	24.26	8.83E-01	1.80E-01	6.09E-01	6.43E-01	6.56E-01	3.57E-02	1.66E-01	3.42E+00
Gasoline Filter Change-outs		Gasoline	4.88E-03	7.80E-05	4.39E-05	6.34E-05	3.90E-05	2.44E-05	0.00E+00	4.88E-06	2.54E-04
Hot Oil Heater for Tank 273		NA	0.1	1.93E-02	2.25E-05	3.65E-05			6.55E-06		2.03E-02
Emergency Fire/Water Pump Engine		NA	2.6		6.53E-04	2.86E-04		2.00E-04	5.94E-05		2.71E-03
Emergency Backup Generator #1		NA	3.30E-03	3.11E-05	1.23E-05	1.14E-05	7.00E-06	5.15E-06	2.08E-06	1.11E-06	2.02E-03
Emergency Backup Generator #2		NA	3.30E-03	3.11E-05	1.23E-05	1.14E-05	7.00E-06	5.15E-06	2.08E-06	1.11E-06	2.02E-03
Diesel Fueling Station		NA	0.3	3.29E-05	6.57E-05	8.54E-04	0.00E+00	2.27E-03	7.39E-04	1.31E-04	4.09E-03
Roadway Emissions		NA	-	-	-	-	-	-	-	-	-
Cooling Tower		NA	-	-	-	-	-	-	-	-	-
Barge Loading - Gasoline		Gasoline	292.7	4.68	2.63	3.81	2.34	1.46	0.00	0.29	15.22
Barge Loading - Distillate		Distillate	5.5	5.52E-04	1.10E-03	1.43E-02	0.00E+00	3.81E-02	1.24E-02	2.21E-03	6.87E-02
Fugitive Equipment Leaks - LL/GV		Gasoline[d]	1.0	1.55E-02	8.74E-03	1.26E-02	7.77E-03	4.86E-03	0.00E+00	9.71E-04	5.05E-02
Fugitive Equipment Leaks - HL		Distillate[d]	0.8	8.39E-05	1.68E-04	2.18E-03	0.00E+00	5.79E-03	1.89E-03	3.36E-04	0.01
Total Emissions			**432.30**	**6.85**	**3.53**	**5.53**	**3.63**	**2.78**	**0.10**	**0.57**	**23.3**

Maximum Individual HAP Emissions

	Hexane (tpy)
Maximum Individual HAP	6.9

[b] Individual HAP Emission (tpy) = Individual HAP to VOC Ratio (Percent by Weight) * VOC (tpy)

[c] Note that these calculations conservatively assume that total HAP is equal to the sum of the individual HAP shown (with the exception of engines, heater, and oily sewer system)

[d] Assumes that HAP concentration in VOC emissions from Piping Components is consistent with the worst-case product being transmitted via the relevant pipes. Wastewater is conservatively considered to be gasoline for the purposes of these calculations.

[e] Calculations assume 'distillate' refers to diesel, kerosene, jet fuel, and distillate additives.

[f] HAP emissions for Tanks 270-272 and taken from R13-2277C.

[g] Wastewater is conservatively considered to be gasoline for the purposes of these calculations.

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Kenova : AA-1-300
City:	Kenova
State:	WV
Company:	MPC
Type of Tank:	Horizontal Tank
Description:	550035:T300

Tank Dimensions

Shell Length (ft):	24.00
Diameter (ft):	5.25
Volume (gallons):	3,654.00
Turnovers:	18.10
Net Throughput(gal/yr):	66,138.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Huntington, West Virginia (Avg Atmospheric Pressure = 14.33 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Kenova : AA-1-300 - Horizontal Tank
Kenova, WV

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
Diesel Additives and Dyes	All	56.53	51.44	61.62	54.87	0.0076	0.0064	0.0089	130.0000			162.00	Option 1: VP50 = .006 VP60 = .0085

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Kenova : AA-1-300 - Horizontal Tank
Kenova, WV

Annual Emission Calcaulations	
Standing Losses (lb):	0.7663
Vapor Space Volume (cu ft):	330.9178
Vapor Density (lb/cu ft):	0.0002
Vapor Space Expansion Factor:	0.0355
Vented Vapor Saturation Factor:	0.9989
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	330.9178
Tank Diameter (ft):	5.2500
Effective Diameter (ft):	12.6692
Vapor Space Outage (ft):	2.6250
Tank Shell Length (ft):	24.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0002
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid	
Surface Temperature (psia):	0.0076
Daily Avg. Liquid Surface Temp. (deg. R):	516.2007
Daily Average Ambient Temp. (deg. F):	54.8458
Ideal Gas Constant R	
(psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	514.5358
Tank Paint Solar Absorptance (Shell):	0.1700
Daily Total Solar Insulation	
Factor (Btu/sqft day):	1,246.2101
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0355
Daily Vapor Temperature Range (deg. R):	20.3740
Daily Vapor Pressure Range (psia):	0.0025
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid	
Surface Temperature (psia):	0.0076
Vapor Pressure at Daily Minimum Liquid	
Surface Temperature (psia):	0.0064
Vapor Pressure at Daily Maximum Liquid	
Surface Temperature (psia):	0.0089
Daily Avg. Liquid Surface Temp. (deg R):	516.2007
Daily Min. Liquid Surface Temp. (deg R):	511.1072
Daily Max. Liquid Surface Temp. (deg R):	521.2942
Daily Ambient Temp. Range (deg. R):	20.0583
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9989
Vapor Pressure at Daily Average Liquid:	
Surface Temperature (psia):	0.0076
Vapor Space Outage (ft):	2.6250
Working Losses (lb):	1.5625
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid	
Surface Temperature (psia):	0.0076
Annual Net Throughput (gal/yr.):	66,138.0000
Annual Turnovers:	18.1002
Turnover Factor:	1.0000
Tank Diameter (ft):	5.2500
Working Loss Product Factor:	1.0000
Total Losses (lb):	2.3288

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Kenova : AA-1-300 - Horizontal Tank
Kenova, WV

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Diesel Additives and Dyes	1.56	0.77	2.33

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Kenova : AA-1-301
City:	Kenova
State:	WV
Company:	MPC
Type of Tank:	Horizontal Tank
Description:	550035:T301

Tank Dimensions

Shell Length (ft):		21.33
Diameter (ft):		8.00
Volume (gallons):		7,995.00
Turnovers:		4.90
Net Throughput(gal/yr):		39,150.00
Is Tank Heated (y/n):	N	
Is Tank Underground (y/n):	N	

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Huntington, West Virginia (Avg Atmospheric Pressure = 14.33 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Kenova : AA-1-301 - Horizontal Tank
Kenova, WV

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
Lubricity Additive	All	56.53	51.44	61.62	54.87	0.0431	0.0360	0.0512	130.0000			162.00	Option 1: VP50 = .034 VP60 = .048

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Kenova : AA-1-301 - Horizontal Tank
Kenova, WV

Annual Emission Calcaulations	
Standing Losses (lb):	9.0870
Vapor Space Volume (cu ft):	682.9062
Vapor Density (lb/cu ft):	0.0010
Vapor Space Expansion Factor:	0.0363
Vented Vapor Saturation Factor:	0.9909
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	682.9062
Tank Diameter (ft):	8.0000
Effective Diameter (ft):	14.7437
Vapor Space Outage (ft):	4.0000
Tank Shell Length (ft):	21.3300
Vapor Density	
Vapor Density (lb/cu ft):	0.0010
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0431
Daily Avg. Liquid Surface Temp. (deg. R):	516.2007
Daily Average Ambient Temp. (deg. F):	54.8458
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	514.5358
Tank Paint Solar Absorptance (Shell):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,246.2101
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0363
Daily Vapor Temperature Range (deg. R):	20.3740
Daily Vapor Pressure Range (psia):	0.0152
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0431
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0360
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0512
Daily Avg. Liquid Surface Temp. (deg R):	516.2007
Daily Min. Liquid Surface Temp. (deg R):	511.1072
Daily Max. Liquid Surface Temp. (deg R):	521.2942
Daily Ambient Temp. Range (deg. R):	20.0583
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9909
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.0431
Vapor Space Outage (ft):	4.0000
Working Losses (lb):	5.2280
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0431
Annual Net Throughput (gal/yr.):	39,150.0000
Annual Turnovers:	4.8968
Turnover Factor:	1.0000
Tank Diameter (ft):	8.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	14.3150

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Kenova : AA-1-301 - Horizontal Tank
Kenova, WV

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Lubricity Additive	5.23	9.09	14.31

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Kenova : T202
City:	Kenova
State:	West Virginia
Company:	MPC
Type of Tank:	Vertical Fixed Roof Tank
Description:	550035:0T202 located at Tri-State

Tank Dimensions

Shell Height (ft):	41.42
Diameter (ft):	65.83
Liquid Height (ft) :	35.08
Avg. Liquid Height (ft):	17.54
Volume (gallons):	893,814.00
Turnovers:	202.61
Net Throughput(gal/yr):	181,091,988.00
Is Tank Heated (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Cone
Height (ft)	2.06
Slope (ft/ft) (Cone Roof)	0.06

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Huntington, West Virginia (Avg Atmospheric Pressure = 14.33 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Kenova : T202 - Vertical Fixed Roof Tank
Kenova, West Virginia

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
Jet kerosene	All	56.53	51.44	61.62	54.87	0.0076	0.0064	0.0089	130.0000			162.00	Option 1: VP50 = .006 VP60 = .0085

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Kenova : T202 - Vertical Fixed Roof Tank
Kenova, West Virginia

Annual Emission Calcaulations	
Standing Losses (lb):	191.9212
Vapor Space Volume (cu ft):	83,611.7521
Vapor Density (lb/cu ft):	0.0002
Vapor Space Expansion Factor:	0.0355
Vented Vapor Saturation Factor:	0.9902
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	83,611.7521
Tank Diameter (ft):	65.8300
Vapor Space Outage (ft):	24.5657
Tank Shell Height (ft):	41.4200
Average Liquid Height (ft):	17.5400
Roof Outage (ft):	0.6857
Roof Outage (Cone Roof)	
Roof Outage (ft):	0.6857
Roof Height (ft):	2.0572
Roof Slope (ft/ft):	0.0625
Shell Radius (ft):	32.9150
Vapor Density	
Vapor Density (lb/cu ft):	0.0002
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0076
Daily Avg. Liquid Surface Temp. (deg. R):	516.2007
Daily Average Ambient Temp. (deg. F):	54.8458
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	514.5358
Tank Paint Solar Absorptance (Shell):	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,246.2101
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0355
Daily Vapor Temperature Range (deg. R):	20.3740
Daily Vapor Pressure Range (psia):	0.0025
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0076
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0064
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0089
Daily Avg. Liquid Surface Temp. (deg R):	516.2007
Daily Min. Liquid Surface Temp. (deg R):	511.1072
Daily Max. Liquid Surface Temp. (deg R):	521.2942
Daily Ambient Temp. Range (deg. R):	20.0583
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9902
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.0076
Vapor Space Outage (ft):	24.5657
Working Losses (lb):	1,346.5370
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0076
Annual Net Throughput (gal/yr.):	181,091,988.0000

Annual Turnovers:	202.6059
Turnover Factor:	0.3147
Maximum Liquid Volume (gal):	893,814.0000
Maximum Liquid Height (ft):	35.0800
Tank Diameter (ft):	65.8300
Working Loss Product Factor:	1.0000

Total Losses (lb):	1,538.4582

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Kenova : T202 - Vertical Fixed Roof Tank
Kenova, West Virginia

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Jet kerosene	1,346.54	191.92	1,538.46

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Kenova : T253
City:	Kenova
State:	West Virginia
Company:	MPC
Type of Tank:	Internal Floating Roof Tank
Description:	550035 : 0T253 located at Tri-State

Tank Dimensions

Diameter (ft):	90.00
Volume (gallons):	1,832,376.00
Turnovers:	431.23
Self Supp. Roof? (y/n):	N
No. of Columns:	1.00
Eff. Col. Diam. (ft):	1.00

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
Vacuum Breaker (10 in. Diam.)/Weighted Mech. Actuation, Gask.	1
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1
Fixed Roof Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Gask.	1
Unslotted Guide Pole [8 in.] / Pole Well [21 in.]/Gasketed Sliding Cover	1
Floating Roof Pan Leg (3 in. Dia.) [48 in. Sleeve]/Adjustable, Double-Deck Roofs	12

Meterological Data used in Emissions Calculations: Huntington, West Virginia (Avg Atmospheric Pressure = 14.33 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Kenova : T253 - Internal Floating Roof Tank
Kenova, West Virginia

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)	Jan	45.61	41.73	49.50	54.87	6.2171	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Feb	47.34	43.06	51.62	54.87	6.4274	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Mar	52.54	47.36	57.72	54.87	7.0956	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 13.5)	Apr	57.08	51.15	63.02	54.87	6.8615	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 09)	May	61.18	54.96	67.40	54.87	4.7194	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jun	64.46	58.43	70.49	54.87	5.0302	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jul	66.04	60.38	71.71	54.87	5.1866	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Aug	65.29	59.86	70.72	54.87	5.1118	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 13.5)	Sep	62.29	56.89	67.68	54.87	7.5588	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 15)	Oct	56.81	51.57	62.05	54.87	7.6840	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Nov	52.07	47.86	56.28	54.87	7.0330	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Dec	47.64	43.98	51.31	54.87	6.4651	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)

Kenova : T253 - Internal Floating Roof Tank
Kenova, West Virginia

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	38.1577	39.8943	45.7106	45.0730	30.0221	32.4741	33.7375	33.1306	51.7072	51.2557	45.1455	40.2103
Seal Factor A (lb-mole/ft-yr):	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.2171	6.4274	7.0956	6.8615	4.7194	5.0302	5.1866	5.1118	7.5588	7.6840	7.0330	6.4651
Tank Diameter (ft):	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	139.5207	139.5207	139.5207	139.5207	139.5207	139.5207	139.5207	139.5207	139.5207	139.5207	139.5207	139.5207
Number of Columns:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Effective Column Diameter (ft):	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Net Throughput (gal/mo.):	65,847,705.0000	65,847,705.0000	65,847,705.0000	65,847,705.0000	65,847,705.0000	65,847,705.0000	65,847,705.0000	65,847,705.0000	65,847,705.0000	65,847,705.0000	65,847,705.0000	65,847,705.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000
Deck Fitting Losses (lb):	93.0200	97.2534	111.4323	109.8780	73.1871	79.1645	82.2445	80.7650	126.0507	124.9499	110.0548	98.0239
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	131.6400	131.6400	131.6400	131.6400	131.6400	131.6400	131.6400	131.6400	131.6400	131.6400	131.6400	131.6400
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tank Diameter (ft):	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	270.6984	276.6683	296.6637	294.4718	242.7299	251.1593	255.5027	253.4163	317.2787	315.7263	294.7210	277.7549

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	14.4054
Vacuum Breaker (10 in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	55.8207
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	504.1873
Fixed Roof Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Gask.	1	33.00	0.00	0.00	297.1104
Unslotted Guide Pole [8 in.] / Pole Well [21 in.]/Gasketed Sliding Cover	1	25.00	13.00	2.20	225.0836
Floating Roof Pan Leg (3 in. Dia.) [48 in. Sleeve]/Adjustable, Double-Deck Roofs	12	0.82	0.53	0.14	88.5929

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Kenova : T253 - Internal Floating Roof Tank
Kenova, West Virginia

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 15)	260.37	837.12	634.73	0.00	1,732.23
Gasoline (RVP 09)	129.36	558.08	315.36	0.00	1,002.81
Gasoline (RVP 13.5)	96.78	279.04	235.93	0.00	611.75

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Kenova : T255
City:	Kenova
State:	West Virginia
Company:	MPC
Type of Tank:	Vertical Fixed Roof Tank
Description:	550035:0T255 located at Tri-State

Tank Dimensions

Shell Height (ft):	48.00
Diameter (ft):	140.00
Liquid Height (ft) :	44.92
Avg. Liquid Height (ft):	22.46
Volume (gallons):	5,165,538.00
Turnovers:	220.70
Net Throughput(gal/yr):	1,140,014,736.00
Is Tank Heated (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Cone
Height (ft)	4.38
Slope (ft/ft) (Cone Roof)	0.06

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Huntington, West Virginia (Avg Atmospheric Pressure = 14.33 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Kenova : T255 - Vertical Fixed Roof Tank
Kenova, West Virginia

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
Jet kerosene	All	56.53	51.44	61.62	54.87	0.0076	0.0064	0.0089	130.0000			162.00	Option 1: VP50 = .006 VP60 = .0085

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Kenova : T255 - Vertical Fixed Roof Tank
Kenova, West Virginia

Annual Emission Calcaulations	
Standing Losses (lb):	953.0496
Vapor Space Volume (cu ft):	415,607.0513
Vapor Density (lb/cu ft):	0.0002
Vapor Space Expansion Factor:	0.0355
Vented Vapor Saturation Factor:	0.9892
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	415,607.0513
Tank Diameter (ft):	140.0000
Vapor Space Outage (ft):	26.9983
Tank Shell Height (ft):	48.0000
Average Liquid Height (ft):	22.4600
Roof Outage (ft):	1.4583
Roof Outage (Cone Roof)	
Roof Outage (ft):	1.4583
Roof Height (ft):	4.3750
Roof Slope (ft/ft):	0.0625
Shell Radius (ft):	70.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0002
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0076
Daily Avg. Liquid Surface Temp. (deg. R):	516.2007
Daily Average Ambient Temp. (deg. F):	54.8458
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	514.5358
Tank Paint Solar Absorptance (Shell):	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,246.2101
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0355
Daily Vapor Temperature Range (deg. R):	20.3740
Daily Vapor Pressure Range (psia):	0.0025
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0076
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0064
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0089
Daily Avg. Liquid Surface Temp. (deg R):	516.2007
Daily Min. Liquid Surface Temp. (deg R):	511.1072
Daily Max. Liquid Surface Temp. (deg R):	521.2942
Daily Ambient Temp. Range (deg. R):	20.0583
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9892
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.0076
Vapor Space Outage (ft):	26.9983
Working Losses (lb):	8,149.8629
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0076
Annual Net Throughput (gal/yr.):	1,140,014,736.0000

Annual Turnovers:	220.6962
Turnover Factor:	0.3026
Maximum Liquid Volume (gal):	5,165,538.0000
Maximum Liquid Height (ft):	44.9200
Tank Diameter (ft):	140.0000
Working Loss Product Factor:	1.0000

Total Losses (lb):	9,102.9125

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Kenova : T255 - Vertical Fixed Roof Tank
Kenova, West Virginia

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Jet kerosene	8,149.86	953.05	9,102.91

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Kenova : T256
City:	Huntington
State:	West Virginia
Company:	
Type of Tank:	External Floating Roof Tank
Description:	Wastewater EFR

Tank Dimensions

Diameter (ft):	90.00
Volume (gallons):	2,284,380.00
Turnovers:	0.63

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good

Roof Characteristics

Type:	Pontoon
Fitting Category	Detail

Tank Construction and Rim-Seal System

Construction:	Welded
Primary Seal:	Mechanical Shoe
Secondary Seal	Rim-mounted

Deck Fitting/Status	Quantity
Sample Pipe or Well (24-in. Diam.)/Gask. Sliding Cover, w. Float, Wiper	1
/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Bolted Cover, Gasketed	1
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Vacuum Breaker (10 in. Diam.)/Weighted Mech. Actuation, Gask.	1
Floating Roof Pan Leg (3 in. Dia.) [30 in. Sleeve]/Adjustable, Pontoon Area, Ungasketed	16
Floating Roof Pan Leg (3 in. Dia.) [48 in. Sleeve]/Adjustable, Center Area, Ungasketed	12
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Huntington, West Virginia (Avg Atmospheric Pressure = 14.33 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Kenova : T256 - External Floating Roof Tank
Huntington, West Virginia

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)	Jan	45.61	41.73	49.50	54.87	6.2171	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Feb	47.34	43.06	51.62	54.87	6.4274	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Mar	52.54	47.36	57.72	54.87	7.0956	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 13.5)	Apr	57.08	51.15	63.02	54.87	6.8615	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 09)	May	61.18	54.96	67.40	54.87	4.7194	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jun	64.46	58.43	70.49	54.87	5.0302	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jul	66.04	60.38	71.71	54.87	5.1866	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Aug	65.29	59.86	70.72	54.87	5.1118	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 13.5)	Sep	62.29	56.89	67.68	54.87	7.5588	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 15)	Oct	56.81	51.57	62.05	54.87	7.6840	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Nov	52.07	47.86	56.28	54.87	7.0330	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Dec	47.64	43.98	51.31	54.87	6.4651	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)

Kenova : T256 - External Floating Roof Tank
Huntington, West Virginia

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	231.4901	242.0252	289.5006	279.4528	156.1147	155.8755	152.9433	145.7745	234.4061	252.8613	255.8247	238.5814
Seal Factor A (lb-mole/ft-yr):	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
Average Wind Speed (mph):	7.6000	7.6000	8.0000	7.8000	6.3000	5.7000	5.3000	5.1000	5.3000	5.9000	7.0000	7.4000
Seal-related Wind Speed Exponent:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.2171	6.4274	7.0956	6.8615	4.7194	5.0302	5.1866	5.1118	7.5588	7.6840	7.0330	6.4651
Tank Diameter (ft):	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	0.2508	0.2508	0.2508	0.2508	0.2508	0.2508	0.2508	0.2508	0.2508	0.2508	0.2508	0.2508
Net Throughput (gal/mo.):	119,700.0000	119,700.0000	119,700.0000	119,700.0000	119,700.0000	119,700.0000	119,700.0000	119,700.0000	119,700.0000	119,700.0000	119,700.0000	119,700.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000	90.0000
Roof Fitting Losses (lb):	195.1803	204.0630	248.3334	237.6459	125.0060	122.3425	118.7024	112.5965	181.9273	199.7171	210.4013	199.4689
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	276.2152	276.2152	293.3674	284.7131	224.8454	203.4391	189.9942	183.5227	189.9942	210.4104	251.6676	267.8744
Average Wind Speed (mph):	7.6000	7.6000	8.0000	7.8000	6.3000	5.7000	5.3000	5.1000	5.3000	5.9000	7.0000	7.4000
Total Losses (lb):	426.9212	446.3391	538.0848	517.3496	281.3715	278.4688	271.8965	258.6218	416.5842	452.8293	466.4768	438.3011

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Sample Pipe or Well (24-in. Diam.)/Gask. Sliding Cover, w. Float, Wiper	1	21.00	7.90	1.80	1,332.8037
/Bolted Cover, Gasketed	1	1.60	0.00	0.00	14.4054
Automatic Gauge Float Well/Bolted Cover, Gasketed	1	2.80	0.00	0.00	25.2094
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1	0.47	0.02	0.97	5.0279
Vacuum Breaker (10 in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	101.4372
Floating Roof Pan Leg (3 in. Dia.) [30 in. Sleeve]/Adjustable, Pontoon Area, Ungasketed	16	2.00	0.37	0.91	502.9623
Floating Roof Pan Leg (3 in. Dia.) [48 in. Sleeve]/Adjustable, Center Area, Ungasketed	12	0.82	0.53	0.14	159.4514
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1	0.71	0.10	1.00	10.5630

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Kenova : T256 - External Floating Roof Tank
Huntington, West Virginia

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 09)	610.71	1.00	478.65	0.00	1,090.36
Gasoline (RVP 13.5)	513.86	0.50	419.57	0.00	933.93
Gasoline (RVP 15)	1,510.28	1.51	1,257.16	0.00	2,768.95

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Kenova : T257
City:	Kenova
State:	WV
Company:	MPC
Type of Tank:	Internal Floating Roof Tank
Description:	550035:T257

Tank Dimensions

Diameter (ft):	120.00
Volume (gallons):	3,803,478.00
Turnovers:	508.40
Self Supp. Roof? (y/n):	N
No. of Columns:	8.00
Eff. Col. Diam. (ft):	0.67

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	5
Automatic Gauge Float Well/Unbolted Cover, Gasketed	2
Fixed Roof Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	8
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1
Floating Roof Pan Leg (3 in. Dia.) [48 in. Sleeve]/Adjustable, Double-Deck Roofs	24
Vacuum Breaker (10 in. Diam.)/Weighted Mech. Actuation, Gask.	1
Slotted Guide-Pole [8 in.] / Sample Well [21 in.]/Gask Sliding Covr, w. Float,Sleeve,Wiper	1

Meterological Data used in Emissions Calculations: Huntington, West Virginia (Avg Atmospheric Pressure = 14.33 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Kenova : T257 - Internal Floating Roof Tank
Kenova, WV

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)	Jan	45.61	41.73	49.50	54.87	6.2171	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Feb	47.34	43.06	51.62	54.87	6.4274	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Mar	52.54	47.36	57.72	54.87	7.0956	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 13.5)	Apr	57.08	51.15	63.02	54.87	6.8615	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 09)	May	61.18	54.96	67.40	54.87	4.7194	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jun	64.46	58.43	70.49	54.87	5.0302	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jul	66.04	60.38	71.71	54.87	5.1866	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Aug	65.29	59.86	70.72	54.87	5.1118	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 13.5)	Sep	62.29	56.89	67.68	54.87	7.5588	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 15)	Oct	56.81	51.57	62.05	54.87	7.6840	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Nov	52.07	47.86	56.28	54.87	7.0330	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Dec	47.64	43.98	51.31	54.87	6.4651	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)

Kenova : T257 - Internal Floating Roof Tank
Kenova, WV

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	491.8105	514.1928	589.1591	580.9413	386.9510	418.5545	434.8388	427.0163	666.4487	660.6286	581.8758	518.2666
Seal Factor A (lb-mole/ft-yr):	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000
Seal Factor B (lb-mole/ft-yr (mph) ^n):	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.2171	6.4274	7.0956	6.8615	4.7194	5.0302	5.1866	5.1118	7.5588	7.6840	7.0330	6.4651
Tank Diameter (ft):	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	264.5741	264.5741	264.5741	264.5741	264.5741	264.5741	264.5741	264.5741	264.5741	264.5741	264.5741	264.5741
Number of Columns:	8.0000	8.0000	8.0000	8.0000	8.0000	8.0000	8.0000	8.0000	8.0000	8.0000	8.0000	8.0000
Effective Column Diameter (ft):	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700
Net Throughput (gal/mo.):	161,142,156.0000	161,142,156.0000	161,142,156.0000	161,142,156.0000	161,142,156.0000	161,142,156.0000	161,142,156.0000	161,142,156.0000	161,142,156.0000	161,142,156.0000	161,142,156.0000	161,142,156.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000
Deck Fitting Losses (lb):	218.6861	228.6385	261.9726	258.3186	172.0598	186.1124	193.3533	189.8750	296.3398	293.7519	258.7341	230.4499
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	309.4800	309.4800	309.4800	309.4800	309.4800	309.4800	309.4800	309.4800	309.4800	309.4800	309.4800	309.4800
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor (ft/sqft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tank Diameter (ft):	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	975.0706	1,007.4054	1,115.7058	1,103.8340	823.5848	869.2410	892.7662	881.4654	1,227.3626	1,218.9546	1,105.1840	1,013.2907

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	5	1.60	0.00	0.00	72.0268
Automatic Gauge Float Well/Unbolted Cover, Gasketed	2	4.30	17.00	0.38	77.4288
Fixed Roof Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	8	25.00	0.00	0.00	1,800.6689
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	504.1873
Floating Roof Pan Leg (3 in. Dia.) [48 in. Sleeve]/Adjustable, Double-Deck Roofs	24	0.82	0.53	0.14	177.1858
Vacuum Breaker (10 in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	55.8207
Slotted Guide-Pole [8 in.] / Sample Well [21 in.]/Gask Sliding Covr, w. Float,Sleeve,Wiper	1	11.00	9.90	0.89	99.0368

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Kenova : T257 - Internal Floating Roof Tank
Kenova, WV

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 13.5)	1,247.39	529.15	554.66	0.00	2,331.20
Gasoline (RVP 09)	1,667.36	1,058.30	741.40	0.00	3,467.06
Gasoline (RVP 15)	3,355.93	1,587.44	1,492.23	0.00	6,435.61

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Kenova : T258
City:	Kenova
State:	WV
Company:	MPC
Type of Tank:	Internal Floating Roof Tank
Description:	550035:T258

Tank Dimensions

Diameter (ft):	120.00
Volume (gallons):	3,546,889.00
Turnovers:	576.32
Self Supp. Roof? (y/n):	N
No. of Columns:	8.00
Eff. Col. Diam. (ft):	0.67

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	2
Automatic Gauge Float Well/Unbolted Cover, Gasketed	1
Fixed Roof Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Ungask.	8
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1
Floating Roof Pan Leg / Hanger Well [12 in.Sleeve]/Adjustable, Ungasketed	14
Floating Roof Pan Leg (3 in. Dia.) [30 in. Sleeve]/Adjustable, Pontoon Area, Ungasketed	16
Slotted Guide-Pole [8 in.] / Sample Well [21 in.]/Gask. Sliding Cover, w/o Float	1
Access Hatch (24-in. Diam.) with Vacuum Breaker/Unbolted Cover, Gasketed (MPC Defined)	1
Vacuum Breaker (10 in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Huntington, West Virginia (Avg Atmospheric Pressure = 14.33 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Kenova : T258 - Internal Floating Roof Tank
Kenova, WV

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)	Jan	45.61	41.73	49.50	54.87	6.2171	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Feb	47.34	43.06	51.62	54.87	6.4274	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Mar	52.54	47.36	57.72	54.87	7.0956	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 13.5)	Apr	57.08	51.15	63.02	54.87	6.8615	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 09)	May	61.18	54.96	67.40	54.87	4.7194	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jun	64.46	58.43	70.49	54.87	5.0302	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jul	66.04	60.38	71.71	54.87	5.1866	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Aug	65.29	59.86	70.72	54.87	5.1118	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 13.5)	Sep	62.29	56.89	67.68	54.87	7.5588	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 15)	Oct	56.81	51.57	62.05	54.87	7.6840	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Nov	52.07	47.86	56.28	54.87	7.0330	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Dec	47.64	43.98	51.31	54.87	6.4651	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)

Kenova : T258 - Internal Floating Roof Tank
Kenova, WV

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	491.8105	514.1928	589.1591	580.9413	386.9510	418.5545	434.8388	427.0163	666.4487	660.6286	581.8758	518.2666
Seal Factor A (lb-mole/ft-yr):	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000
Seal Factor B (lb-mole/ft-yr (mph) ^n):	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.2171	6.4274	7.0956	6.8615	4.7194	5.0302	5.1866	5.1118	7.5588	7.6840	7.0330	6.4651
Tank Diameter (ft):	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	279.6839	279.6839	279.6839	279.6839	279.6839	279.6839	279.6839	279.6839	279.6839	279.6839	279.6839	279.6839
Number of Columns:	8.0000	8.0000	8.0000	8.0000	8.0000	8.0000	8.0000	8.0000	8.0000	8.0000	8.0000	8.0000
Effective Column Diameter (ft):	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700
Net Throughput (gal/mo.):	170,344,944.0000	170,344,944.0000	170,344,944.0000	170,344,944.0000	170,344,944.0000	170,344,944.0000	170,344,944.0000	170,344,944.0000	170,344,944.0000	170,344,944.0000	170,344,944.0000	170,344,944.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000
Deck Fitting Losses (lb):	377.5493	394.7316	452.2812	445.9726	297.0516	321.3127	333.8137	327.8086	511.6143	507.1464	446.6900	397.8590
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	534.3000	534.3000	534.3000	534.3000	534.3000	534.3000	534.3000	534.3000	534.3000	534.3000	534.3000	534.3000
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor (ft/sqft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tank Diameter (ft):	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	1,149.0437	1,188.6083	1,321.1241	1,306.5978	963.6864	1,019.5511	1,048.3364	1,034.5087	1,457.7468	1,447.4588	1,308.2497	1,195.8095

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	2	1.60	0.00	0.00	28.8107
Automatic Gauge Float Well/Unbolted Cover, Gasketed	1	4.30	17.00	0.38	38.7144
Fixed Roof Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Ungask.	8	31.00	0.00	0.00	2,232.8294
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	504.1873
Floating Roof Pan Leg / Hanger Well [12 in.Sleeve]/Adjustable, Ungasketed	14	7.90	0.00	0.00	995.7699
Floating Roof Pan Leg (3 in. Dia.) [30 in. Sleeve]/Adjustable, Pontoon Area, Ungasketed	16	2.00	0.37	0.91	288.1070
Slotted Guide-Pole [8 in.] / Sample Well [21 in.]/Gask. Sliding Cover, w/o Float	1	43.00	270.00	1.40	387.1438
Access Hatch (24-in. Diam.) with Vacuum Breaker/Unbolted Cover, Gasketed (MPC Defined)	1	31.00	5.20	1.30	279.1037
Vacuum Breaker (10 in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	55.8207

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Kenova : T258 - Internal Floating Roof Tank
Kenova, WV

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 15)	3,355.93	1,678.10	2,576.26	0.00	7,610.29
Gasoline (RVP 13.5)	1,247.39	559.37	957.59	0.00	2,764.34
Gasoline (RVP 09)	1,667.36	1,118.74	1,279.99	0.00	4,066.08

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Kenova : T259
City:	Kenova
State:	WV
Company:	MPC
Type of Tank:	Internal Floating Roof Tank
Description:	550035:T259

Tank Dimensions

Diameter (ft):	120.00
Volume (gallons):	3,731,517.00
Turnovers:	499.58
Self Supp. Roof? (y/n):	N
No. of Columns:	1.00
Eff. Col. Diam. (ft):	1.00

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	4
Automatic Gauge Float Well/Unbolted Cover, Gasketed	2
Fixed Roof Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	1
Floating Roof Pan Leg (3 in. Dia.) [48 in. Sleeve]/Adjustable, Center Area, Ungasketed	15
Floating Roof Pan Leg (3 in. Dia.) [30 in. Sleeve]/Adjustable, Pontoon Area, Ungasketed	8
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Roof Drain (3-in. Diameter)/90% Closed	1
Slotted Guide-Pole [8 in.] / Sample Well [21 in.]/Gask. Sliding Cover, w. Float, Wiper	1
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1
Vacuum Breaker (10 in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Huntington, West Virginia (Avg Atmospheric Pressure = 14.33 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Kenova : T259 - Internal Floating Roof Tank
Kenova, WV

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)	Jan	45.61	41.73	49.50	54.87	6.2171	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Feb	47.34	43.06	51.62	54.87	6.4274	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Mar	52.54	47.36	57.72	54.87	7.0956	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 13.5)	Apr	57.08	51.15	63.02	54.87	6.8615	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 09)	May	61.18	54.96	67.40	54.87	4.7194	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jun	64.46	58.43	70.49	54.87	5.0302	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jul	66.04	60.38	71.71	54.87	5.1866	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Aug	65.29	59.86	70.72	54.87	5.1118	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 13.5)	Sep	62.29	56.89	67.68	54.87	7.5588	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 15)	Oct	56.81	51.57	62.05	54.87	7.6840	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Nov	52.07	47.86	56.28	54.87	7.0330	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Dec	47.64	43.98	51.31	54.87	6.4651	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)

Kenova : T259 - Internal Floating Roof Tank
Kenova, WV

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	491.8105	514.1928	589.1591	580.9413	386.9510	418.5545	434.8388	427.0163	666.4487	660.6286	581.8758	518.2666
Seal Factor A (lb-mole/ft-yr):	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.2171	6.4274	7.0956	6.8615	4.7194	5.0302	5.1866	5.1118	7.5588	7.6840	7.0330	6.4651
Tank Diameter (ft):	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	246.1927	246.1927	246.1927	246.1927	246.1927	246.1927	246.1927	246.1927	246.1927	246.1927	246.1927	246.1927
Number of Columns:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Effective Column Diameter (ft):	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Net Throughput (gal/mo.):	155,349,747.0000	155,349,747.0000	155,349,747.0000	155,349,747.0000	155,349,747.0000	155,349,747.0000	155,349,747.0000	155,349,747.0000	155,349,747.0000	155,349,747.0000	155,349,747.0000	155,349,747.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000
Deck Fitting Losses (lb):	108.6576	113.6026	130.1652	128.3496	85.4906	92.4729	96.0706	94.3424	147.2411	145.9553	128.5561	114.5027
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	153.7700	153.7700	153.7700	153.7700	153.7700	153.7700	153.7700	153.7700	153.7700	153.7700	153.7700	153.7700
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor (ft/sqft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tank Diameter (ft):	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	846.6607	873.9881	965.5169	955.4836	718.6342	757.2200	777.1021	767.5513	1,059.8824	1,052.7765	956.6246	878.9619

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	4	1.60	0.00	0.00	57.6214
Automatic Gauge Float Well/Unbolted Cover, Gasketed	2	4.30	17.00	0.38	77.4288
Fixed Roof Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	1	25.00	0.00	0.00	225.0836
Floating Roof Pan Leg (3 in. Dia.) [48 in. Sleeve]/Adjustable, Center Area, Ungasketed	15	0.82	0.53	0.14	110.7411
Floating Roof Pan Leg (3 in. Dia.) [30 in. Sleeve]/Adjustable, Pontoon Area, Ungasketed	8	2.00	0.37	0.91	144.0535
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1	0.47	0.02	0.97	4.2316
Roof Drain (3-in. Diameter)/90% Closed	1	1.80	0.14	1.10	16.2060
Slotted Guide-Pole [8 in.] / Sample Well [21 in.]/Gask. Sliding Cover, w. Float, Wiper	1	21.00	7.90	1.80	189.0702
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	504.1873
Vacuum Breaker (10 in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	55.8207

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Kenova : T259 - Internal Floating Roof Tank
Kenova, WV

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 13.5)	1,247.39	492.39	275.59	0.00	2,015.37
Gasoline (RVP 09)	1,667.36	984.77	368.38	0.00	3,020.51
Gasoline (RVP 15)	3,355.93	1,477.16	741.44	0.00	5,574.53

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Kenova : T260
City:	Kenova
State:	WV
Company:	MPC
Type of Tank:	Internal Floating Roof Tank
Description:	550035:T260

Tank Dimensions

Diameter (ft):	120.00
Volume (gallons):	4,090,340.00
Turnovers:	445.26
Self Supp. Roof? (y/n):	N
No. of Columns:	1.00
Eff. Col. Diam. (ft):	0.70

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	5
Access Hatch (24-in. Diam.) with Vacuum Breaker/Unbolted Cover, Gasketed (MPC Defined)	1
Automatic Gauge Float Well/Unbolted Cover, Gasketed	2
Floating Roof Pan Leg (3 in. Dia.) [48 in. Sleeve]/Adjustable, Double-Deck Roofs	24
Fixed Roof Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	1
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Roof Drain (3-in. Diameter)/90% Closed	1
Slotted Guide-Pole [8 in.] / Sample Well [21 in.]/Gask. Sliding Cover, w. Float, Wiper	1
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1

Meterological Data used in Emissions Calculations: Huntington, West Virginia (Avg Atmospheric Pressure = 14.33 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Kenova : T260 - Internal Floating Roof Tank
Kenova, WV

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)	Jan	45.61	41.73	49.50	54.87	6.2171	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Feb	47.34	43.06	51.62	54.87	6.4274	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Mar	52.54	47.36	57.72	54.87	7.0956	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 13.5)	Apr	57.08	51.15	63.02	54.87	6.8615	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 09)	May	61.18	54.96	67.40	54.87	4.7194	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jun	64.46	58.43	70.49	54.87	5.0302	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jul	66.04	60.38	71.71	54.87	5.1866	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Aug	65.29	59.86	70.72	54.87	5.1118	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 13.5)	Sep	62.29	56.89	67.68	54.87	7.5588	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 15)	Oct	56.81	51.57	62.05	54.87	7.6840	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Nov	52.07	47.86	56.28	54.87	7.0330	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Dec	47.64	43.98	51.31	54.87	6.4651	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)

Kenova : T260 - Internal Floating Roof Tank
Kenova, WV

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	491.8105	514.1928	589.1591	580.9413	386.9510	418.5545	434.8388	427.0163	666.4487	660.6286	581.8758	518.2666
Seal Factor A (lb-mole/ft-yr):	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.2171	6.4274	7.0956	6.8615	4.7194	5.0302	5.1866	5.1118	7.5588	7.6840	7.0330	6.4651
Tank Diameter (ft):	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	239.9249	239.9249	239.9249	239.9249	239.9249	239.9249	239.9249	239.9249	239.9249	239.9249	239.9249	239.9249
Number of Columns:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Effective Column Diameter (ft):	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000
Net Throughput (gal/mo.):	151,771,011.0000	151,771,011.0000	151,771,011.0000	151,771,011.0000	151,771,011.0000	151,771,011.0000	151,771,011.0000	151,771,011.0000	151,771,011.0000	151,771,011.0000	151,771,011.0000	151,771,011.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000
Deck Fitting Losses (lb):	121.2214	126.7382	145.2159	143.1903	95.3756	103.1653	107.1790	105.2509	164.2662	162.8317	143.4207	127.7423
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	171.5500	171.5500	171.5500	171.5500	171.5500	171.5500	171.5500	171.5500	171.5500	171.5500	171.5500	171.5500
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor (ft/sqft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tank Diameter (ft):	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	852.9567	880.8559	974.2998	964.0565	722.2515	761.6446	781.9427	772.1921	1,070.6397	1,063.3851	965.2214	885.9338

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	5	1.60	0.00	0.00	72.0268
Access Hatch (24-in. Diam.) with Vacuum Breaker/Unbolted Cover, Gasketed (MPC Defined)	1	31.00	5.20	1.30	279.1037
Automatic Gauge Float Well/Unbolted Cover, Gasketed	2	4.30	17.00	0.38	77.4288
Floating Roof Pan Leg (3 in. Dia.) [48 in. Sleeve]/Adjustable, Double-Deck Roofs	24	0.82	0.53	0.14	177.1858
Fixed Roof Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	1	25.00	0.00	0.00	225.0836
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1	0.47	0.02	0.97	4.2316
Roof Drain (3-in. Diameter)/90% Closed	1	1.80	0.14	1.10	16.2060
Slotted Guide-Pole [8 in.] / Sample Well [21 in.]/Gask. Sliding Cover, w. Float, Wiper	1	21.00	7.90	1.80	189.0702
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	504.1873

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Kenova : T260 - Internal Floating Roof Tank
Kenova, WV

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 15)	3,355.93	1,439.55	827.17	0.00	5,622.65
Gasoline (RVP 09)	1,667.36	959.70	410.97	0.00	3,038.03
Gasoline (RVP 13.5)	1,247.39	479.85	307.46	0.00	2,034.70

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Kenova : T261
City:	Kenova
State:	WV
Company:	MPC
Type of Tank:	Vertical Fixed Roof Tank
Description:	550035:T261

Tank Dimensions

Shell Height (ft):	50.17
Diameter (ft):	150.00
Liquid Height (ft) :	47.41
Avg. Liquid Height (ft):	23.70
Volume (gallons):	6,223,602.00
Turnovers:	348.72
Net Throughput(gal/yr):	2,170,264,878.00
Is Tank Heated (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Cone
Height (ft)	4.69
Slope (ft/ft) (Cone Roof)	0.06

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Huntington, West Virginia (Avg Atmospheric Pressure = 14.33 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Kenova : T261 - Vertical Fixed Roof Tank
Kenova, WV

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
Jet kerosene	All	56.53	51.44	61.62	54.87	0.0076	0.0064	0.0089	130.0000			162.00	Option 1: VP50 = .006 VP60 = .0085

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Kenova : T261 - Vertical Fixed Roof Tank
Kenova, WV

Annual Emission Calcaulations	
Standing Losses (lb):	1,135.5000
Vapor Space Volume (cu ft):	495,375.1648
Vapor Density (lb/cu ft):	0.0002
Vapor Space Expansion Factor:	0.0355
Vented Vapor Saturation Factor:	0.9888
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	495,375.1648
Tank Diameter (ft):	150.0000
Vapor Space Outage (ft):	28.0325
Tank Shell Height (ft):	50.1700
Average Liquid Height (ft):	23.7000
Roof Outage (ft):	1.5625
Roof Outage (Cone Roof)	
Roof Outage (ft):	1.5625
Roof Height (ft):	4.6875
Roof Slope (ft/ft):	0.0625
Shell Radius (ft):	75.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0002
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0076
Daily Avg. Liquid Surface Temp. (deg. R):	516.2007
Daily Average Ambient Temp. (deg. F):	54.8458
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	514.5358
Tank Paint Solar Absorptance (Shell):	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,246.2101
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0355
Daily Vapor Temperature Range (deg. R):	20.3740
Daily Vapor Pressure Range (psia):	0.0025
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0076
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0064
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0089
Daily Avg. Liquid Surface Temp. (deg R):	516.2007
Daily Min. Liquid Surface Temp. (deg R):	511.1072
Daily Max. Liquid Surface Temp. (deg R):	521.2942
Daily Ambient Temp. Range (deg. R):	20.0583
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9888
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.0076
Vapor Space Outage (ft):	28.0325
Working Losses (lb):	12,956.3637
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0076
Annual Net Throughput (gal/yr.):	2,170,264,878.0000

Annual Turnovers:	348.7152
Turnover Factor:	0.2527
Maximum Liquid Volume (gal):	6,223,602.0000
Maximum Liquid Height (ft):	47.4100
Tank Diameter (ft):	150.0000
Working Loss Product Factor:	1.0000

Total Losses (lb):	14,091.8638

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Kenova : T261 - Vertical Fixed Roof Tank
Kenova, WV

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Jet kerosene	12,956.36	1,135.50	14,091.86

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Kenova : T262
City:	Kenova
State:	WV
Company:	MPC
Type of Tank:	Vertical Fixed Roof Tank
Description:	550035:T262

Tank Dimensions

Shell Height (ft):	50.17
Diameter (ft):	150.00
Liquid Height (ft) :	47.74
Avg. Liquid Height (ft):	23.87
Volume (gallons):	6,288,746.00
Turnovers:	351.99
Net Throughput(gal/yr):	2,213,571,528.00
Is Tank Heated (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Cone
Height (ft)	4.69
Slope (ft/ft) (Cone Roof)	0.06

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Huntington, West Virginia (Avg Atmospheric Pressure = 14.33 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Kenova : T262 - Vertical Fixed Roof Tank
Kenova, WV

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
Jet kerosene	All	56.53	51.44	61.62	54.87	0.0076	0.0064	0.0089	130.0000			162.00	Option 1: VP50 = .006 VP60 = .0085

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Kenova : T262 - Vertical Fixed Roof Tank
Kenova, WV

Annual Emission Calcaulations	
Standing Losses (lb):	1,128.6907
Vapor Space Volume (cu ft):	492,371.0168
Vapor Density (lb/cu ft):	0.0002
Vapor Space Expansion Factor:	0.0355
Vented Vapor Saturation Factor:	0.9889
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	492,371.0168
Tank Diameter (ft):	150.0000
Vapor Space Outage (ft):	27.8625
Tank Shell Height (ft):	50.1700
Average Liquid Height (ft):	23.8700
Roof Outage (ft):	1.5625
Roof Outage (Cone Roof)	
Roof Outage (ft):	1.5625
Roof Height (ft):	4.6875
Roof Slope (ft/ft):	0.0625
Shell Radius (ft):	75.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0002
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0076
Daily Avg. Liquid Surface Temp. (deg. R):	516.2007
Daily Average Ambient Temp. (deg. F):	54.8458
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	514.5358
Tank Paint Solar Absorptance (Shell):	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,246.2101
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0355
Daily Vapor Temperature Range (deg. R):	20.3740
Daily Vapor Pressure Range (psia):	0.0025
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0076
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0064
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0089
Daily Avg. Liquid Surface Temp. (deg R):	516.2007
Daily Min. Liquid Surface Temp. (deg R):	511.1072
Daily Max. Liquid Surface Temp. (deg R):	521.2942
Daily Ambient Temp. Range (deg. R):	20.0583
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9889
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.0076
Vapor Space Outage (ft):	27.8625
Working Losses (lb):	13,173.0540
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0076
Annual Net Throughput (gal/yr.):	2,213,571,528.0000

Annual Turnovers:	351.9893
Turnover Factor:	0.2519
Maximum Liquid Volume (gal):	6,288,746.0000
Maximum Liquid Height (ft):	47.7400
Tank Diameter (ft):	150.0000
Working Loss Product Factor:	1.0000

Total Losses (lb):	14,301.7446

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Kenova : T262 - Vertical Fixed Roof Tank
Kenova, WV

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Jet kerosene	13,173.05	1,128.69	14,301.74

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Kenova : T264
City:	Kenova
State:	West Virgina
Company:	MPC
Type of Tank:	Internal Floating Roof Tank
Description:	550035:0T264 located at Tri-State

Tank Dimensions

Diameter (ft):	110.00
Volume (gallons):	2,961,882.00
Turnovers:	299.37
Self Supp. Roof? (y/n):	N
No. of Columns:	7.00
Eff. Col. Diam. (ft):	1.00

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
Fixed Roof Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	7
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1
Floating Roof Pan Leg (3 in. Dia.) [30 in. Sleeve]/Adjustable, Pontoon Area, Ungasketed	36
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Vacuum Breaker (10 in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Huntington, West Virginia (Avg Atmospheric Pressure = 14.33 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Kenova : T264 - Internal Floating Roof Tank
Kenova, West Virgina

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)	Jan	45.61	41.73	49.50	54.87	6.2171	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Feb	47.34	43.06	51.62	54.87	6.4274	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Mar	52.54	47.36	57.72	54.87	7.0956	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 13.5)	Apr	57.08	51.15	63.02	54.87	6.8615	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 09)	May	61.18	54.96	67.40	54.87	4.7194	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jun	64.46	58.43	70.49	54.87	5.0302	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jul	66.04	60.38	71.71	54.87	5.1866	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Aug	65.29	59.86	70.72	54.87	5.1118	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 13.5)	Sep	62.29	56.89	67.68	54.87	7.5588	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 15)	Oct	56.81	51.57	62.05	54.87	7.6840	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Nov	52.07	47.86	56.28	54.87	7.0330	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Dec	47.64	43.98	51.31	54.87	6.4651	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)

Kenova : T264 - Internal Floating Roof Tank
Kenova, West Virgina

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	171.0031	178.7854	204.8513	201.9940	134.5433	145.5319	151.1939	148.4740	231.7250	229.7013	202.3189	180.2019
Seal Factor A (lb-mole/ft-yr):	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.2171	6.4274	7.0956	6.8615	4.7194	5.0302	5.1866	5.1118	7.5588	7.6840	7.0330	6.4651
Tank Diameter (ft):	110.0000	110.0000	110.0000	110.0000	110.0000	110.0000	110.0000	110.0000	110.0000	110.0000	110.0000	110.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	134.7516	134.7516	134.7516	134.7516	134.7516	134.7516	134.7516	134.7516	134.7516	134.7516	134.7516	134.7516
Number of Columns:	7.0000	7.0000	7.0000	7.0000	7.0000	7.0000	7.0000	7.0000	7.0000	7.0000	7.0000	7.0000
Effective Column Diameter (ft):	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Net Throughput (gal/mo.):	73,891,020.0000	73,891,020.0000	73,891,020.0000	73,891,020.0000	73,891,020.0000	73,891,020.0000	73,891,020.0000	73,891,020.0000	73,891,020.0000	73,891,020.0000	73,891,020.0000	73,891,020.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	110.0000	110.0000	110.0000	110.0000	110.0000	110.0000	110.0000	110.0000	110.0000	110.0000	110.0000	110.0000
Deck Fitting Losses (lb):	221.9295	232.0295	265.8580	262.1498	174.6116	188.8727	196.2210	192.6911	300.7350	298.1087	262.5715	233.8678
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	314.0700	314.0700	314.0700	314.0700	314.0700	314.0700	314.0700	314.0700	314.0700	314.0700	314.0700	314.0700
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tank Diameter (ft):	110.0000	110.0000	110.0000	110.0000	110.0000	110.0000	110.0000	110.0000	110.0000	110.0000	110.0000	110.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	527.6841	545.5665	605.4609	598.8953	443.9065	469.1562	482.1665	475.9167	667.2115	662.5616	599.6419	548.8213

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	14.4054
Automatic Gauge Float Well/Bolted Cover, Gasketed	1	2.80	0.00	0.00	25.2094
Fixed Roof Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	7	25.00	0.00	0.00	1,575.5853
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	504.1873
Floating Roof Pan Leg (3 in. Dia.) [30 in. Sleeve]/Adjustable, Pontoon Area, Ungasketed	36	2.00	0.37	0.91	648.2408
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1	0.47	0.02	0.97	4.2316
Vacuum Breaker (10 in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	55.8207

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Kenova : T264 - Internal Floating Roof Tank
Kenova, West Virgina

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 15)	1,166.86	808.51	1,514.36	0.00	3,489.74
Gasoline (RVP 09)	579.74	539.01	752.40	0.00	1,871.15
Gasoline (RVP 13.5)	433.72	269.50	562.88	0.00	1,266.11

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Kenova : T265
City:	Kenova
State:	West Virginia
Company:	MPC
Type of Tank:	Internal Floating Roof Tank
Description:	550035:0T265 located at Tri-State

Tank Dimensions

Diameter (ft):	70.00
Volume (gallons):	1,038,786.00
Turnovers:	1,091.66
Self Supp. Roof? (y/n):	N
No. of Columns:	1.00
Eff. Col. Diam. (ft):	1.00

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
Fixed Roof Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	1
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1
Floating Roof Pan Leg (3 in. Dia.) [30 in. Sleeve]/Adjustable, Pontoon Area, Ungasketed	20
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Vacuum Breaker (10 in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Huntington, West Virginia (Avg Atmospheric Pressure = 14.33 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Kenova : T265 - Internal Floating Roof Tank
Kenova, West Virginia

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)	Jan	45.61	41.73	49.50	54.87	6.2171	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Feb	47.34	43.06	51.62	54.87	6.4274	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Mar	52.54	47.36	57.72	54.87	7.0956	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 13.5)	Apr	57.08	51.15	63.02	54.87	6.8615	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 09)	May	61.18	54.96	67.40	54.87	4.7194	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jun	64.46	58.43	70.49	54.87	5.0302	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jul	66.04	60.38	71.71	54.87	5.1866	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Aug	65.29	59.86	70.72	54.87	5.1118	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 13.5)	Sep	62.29	56.89	67.68	54.87	7.5588	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 15)	Oct	56.81	51.57	62.05	54.87	7.6840	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Nov	52.07	47.86	56.28	54.87	7.0330	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Dec	47.64	43.98	51.31	54.87	6.4651	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)

Kenova : T265 - Internal Floating Roof Tank
Kenova, West Virginia

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	108.8201	113.7725	130.3599	128.5416	85.6185	92.6112	96.2143	94.4835	147.4613	146.1736	128.7484	114.6739
Seal Factor A (lb-mole/ft-yr):	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.2171	6.4274	7.0956	6.8615	4.7194	5.0302	5.1866	5.1118	7.5588	7.6840	7.0330	6.4651
Tank Diameter (ft):	70.0000	70.0000	70.0000	70.0000	70.0000	70.0000	70.0000	70.0000	70.0000	70.0000	70.0000	70.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	258.2473	258.2473	258.2473	258.2473	258.2473	258.2473	258.2473	258.2473	258.2473	258.2473	258.2473	258.2473
Number of Columns:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Effective Column Diameter (ft):	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Net Throughput (gal/mo.):	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	70.0000	70.0000	70.0000	70.0000	70.0000	70.0000	70.0000	70.0000	70.0000	70.0000	70.0000	70.0000
Deck Fitting Losses (lb):	93.3239	97.5710	111.7963	110.2370	73.4262	79.4231	82.5132	81.0288	126.4625	125.3581	110.4143	98.3441
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	132.0700	132.0700	132.0700	132.0700	132.0700	132.0700	132.0700	132.0700	132.0700	132.0700	132.0700	132.0700
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tank Diameter (ft):	70.0000	70.0000	70.0000	70.0000	70.0000	70.0000	70.0000	70.0000	70.0000	70.0000	70.0000	70.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	460.3913	469.5909	500.4035	497.0258	417.2919	430.2816	436.9748	433.7596	532.1711	529.7789	497.4099	471.2653

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	14.4054
Automatic Gauge Float Well/Bolted Cover, Gasketed	1	2.80	0.00	0.00	25.2094
Fixed Roof Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	1	25.00	0.00	0.00	225.0836
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	504.1873
Floating Roof Pan Leg (3 in. Dia.) [30 in. Sleeve]/Adjustable, Pontoon Area, Ungasketed	20	2.00	0.37	0.91	360.1338
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1	0.47	0.02	0.97	4.2316
Vacuum Breaker (10 in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	55.8207

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Kenova : T265 - Internal Floating Roof Tank
Kenova, West Virginia

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 15)	742.55	1,549.48	636.81	0.00	2,928.84
Gasoline (RVP 09)	368.93	1,032.99	316.39	0.00	1,718.31
Gasoline (RVP 13.5)	276.00	516.49	236.70	0.00	1,029.20

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Kenova : T266
City:	Kenova
State:	West Virginia
Company:	MPC
Type of Tank:	Internal Floating Roof Tank
Description:	550035:0T266 located at Tri-State

Tank Dimensions

Diameter (ft):	80.00
Volume (gallons):	1,337,280.00
Turnovers:	847.99
Self Supp. Roof? (y/n):	N
No. of Columns:	1.00
Eff. Col. Diam. (ft):	1.00

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
Fixed Roof Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	1
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1
Floating Roof Pan Leg (3 in. Dia.) [30 in. Sleeve]/Adjustable, Pontoon Area, Ungasketed	24
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Vacuum Breaker (10 in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Huntington, West Virginia (Avg Atmospheric Pressure = 14.33 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Kenova : T266 - Internal Floating Roof Tank
Kenova, West Virginia

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)	Jan	45.61	41.73	49.50	54.87	6.2171	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Feb	47.34	43.06	51.62	54.87	6.4274	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Mar	52.54	47.36	57.72	54.87	7.0956	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 13.5)	Apr	57.08	51.15	63.02	54.87	6.8615	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 09)	May	61.18	54.96	67.40	54.87	4.7194	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jun	64.46	58.43	70.49	54.87	5.0302	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jul	66.04	60.38	71.71	54.87	5.1866	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Aug	65.29	59.86	70.72	54.87	5.1118	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 13.5)	Sep	62.29	56.89	67.68	54.87	7.5588	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 15)	Oct	56.81	51.57	62.05	54.87	7.6840	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Nov	52.07	47.86	56.28	54.87	7.0330	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Dec	47.64	43.98	51.31	54.87	6.4651	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)

Kenova : T266 - Internal Floating Roof Tank
Kenova, West Virginia

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	124.3659	130.0258	148.9827	146.9047	97.8497	105.8414	109.9592	107.9811	168.5272	167.0555	147.1410	131.0559
Seal Factor A (lb-mole/ft-yr):	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000	2.2000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.2171	6.4274	7.0956	6.8615	4.7194	5.0302	5.1866	5.1118	7.5588	7.6840	7.0330	6.4651
Tank Diameter (ft):	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	225.5685	225.5685	225.5685	225.5685	225.5685	225.5685	225.5685	225.5685	225.5685	225.5685	225.5685	225.5685
Number of Columns:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Effective Column Diameter (ft):	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Net Throughput (gal/mo.):	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000
Deck Fitting Losses (lb):	98.9769	103.4813	118.5683	116.9144	77.8739	84.2341	87.5113	85.9370	134.1228	132.9515	117.1025	104.3012
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	140.0700	140.0700	140.0700	140.0700	140.0700	140.0700	140.0700	140.0700	140.0700	140.0700	140.0700	140.0700
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tank Diameter (ft):	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	448.9113	459.0756	493.1196	489.3877	401.2921	415.6440	423.0391	419.4867	528.2186	525.5756	489.8121	460.9256

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	14.4054
Automatic Gauge Float Well/Bolted Cover, Gasketed	1	2.80	0.00	0.00	25.2094
Fixed Roof Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	1	25.00	0.00	0.00	225.0836
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	504.1873
Floating Roof Pan Leg (3 in. Dia.) [30 in. Sleeve]/Adjustable, Pontoon Area, Ungasketed	24	2.00	0.37	0.91	432.1605
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1	0.47	0.02	0.97	4.2316
Vacuum Breaker (10 in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	55.8207

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Kenova : T266 - Internal Floating Roof Tank
Kenova, West Virginia

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 15)	848.63	1,353.41	675.38	0.00	2,877.42
Gasoline (RVP 09)	421.63	902.27	335.56	0.00	1,659.46
Gasoline (RVP 13.5)	315.43	451.14	251.04	0.00	1,017.61

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Kenova : T267
City:	Kenova
State:	West Virginia
Company:	MPC
Type of Tank:	Internal Floating Roof Tank
Description:	550035:0T267 located at Tri-State

Tank Dimensions

Diameter (ft):	80.00
Volume (gallons):	1,324,890.00
Turnovers:	855.92
Self Supp. Roof? (y/n):	N
No. of Columns:	1.00
Eff. Col. Diam. (ft):	1.00

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
Fixed Roof Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	1
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1
Floating Roof Pan Leg (3 in. Dia.) [30 in. Sleeve]/Adjustable, Pontoon Area, Ungasketed	24
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Vacuum Breaker (10 in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Huntington, West Virginia (Avg Atmospheric Pressure = 14.33 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Kenova : T267 - Internal Floating Roof Tank
Kenova, West Virginia

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)	Jan	45.61	41.73	49.50	54.87	6.2171	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Feb	47.34	43.06	51.62	54.87	6.4274	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Mar	52.54	47.36	57.72	54.87	7.0956	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 13.5)	Apr	57.08	51.15	63.02	54.87	6.8615	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 09)	May	61.18	54.96	67.40	54.87	4.7194	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jun	64.46	58.43	70.49	54.87	5.0302	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jul	66.04	60.38	71.71	54.87	5.1866	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Aug	65.29	59.86	70.72	54.87	5.1118	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 13.5)	Sep	62.29	56.89	67.68	54.87	7.5588	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 15)	Oct	56.81	51.57	62.05	54.87	7.6840	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Nov	52.07	47.86	56.28	54.87	7.0330	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Dec	47.64	43.98	51.31	54.87	6.4651	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)

Kenova : T267 - Internal Floating Roof Tank
Kenova, West Virginia

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	33.9180	35.4616	40.6317	40.0649	26.6863	28.8658	29.9889	29.4494	45.9620	45.5606	40.1294	35.7425
Seal Factor A (lb-mole/ft-yr):	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.2171	6.4274	7.0956	6.8615	4.7194	5.0302	5.1866	5.1118	7.5588	7.6840	7.0330	6.4651
Tank Diameter (ft):	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	225.5685	225.5685	225.5685	225.5685	225.5685	225.5685	225.5685	225.5685	225.5685	225.5685	225.5685	225.5685
Number of Columns:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Effective Column Diameter (ft):	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Net Throughput (gal/mo.):	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000
Deck Fitting Losses (lb):	98.9769	103.4813	118.5683	116.9144	77.8739	84.2341	87.5113	85.9370	134.1228	132.9515	117.1025	104.3012
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	140.0700	140.0700	140.0700	140.0700	140.0700	140.0700	140.0700	140.0700	140.0700	140.0700	140.0700	140.0700
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tank Diameter (ft):	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	358.4634	364.5114	384.7685	382.5479	330.1287	338.6685	343.0687	340.9550	405.6533	404.0806	382.8004	365.6122

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	14.4054
Automatic Gauge Float Well/Bolted Cover, Gasketed	1	2.80	0.00	0.00	25.2094
Fixed Roof Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	1	25.00	0.00	0.00	225.0836
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	504.1873
Floating Roof Pan Leg (3 in. Dia.) [30 in. Sleeve]/Adjustable, Pontoon Area, Ungasketed	24	2.00	0.37	0.91	432.1605
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1	0.47	0.02	0.97	4.2316
Vacuum Breaker (10 in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	55.8207

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Kenova : T267 - Internal Floating Roof Tank
Kenova, West Virginia

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 15)	231.44	1,353.41	675.38	0.00	2,260.24
Gasoline (RVP 09)	114.99	902.27	335.56	0.00	1,352.82
Gasoline (RVP 13.5)	86.03	451.14	251.04	0.00	788.20

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Kenova : T268
City:	Kenova
State:	West Virginia
Company:	MPC
Type of Tank:	Internal Floating Roof Tank
Description:	550035:0T268 located at Tri-State

Tank Dimensions

Diameter (ft):	80.00
Volume (gallons):	1,324,890.00
Turnovers:	855.92
Self Supp. Roof? (y/n):	N
No. of Columns:	1.00
Eff. Col. Diam. (ft):	1.00

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
Fixed Roof Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	1
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1
Floating Roof Pan Leg (3 in. Dia.) [30 in. Sleeve]/Adjustable, Pontoon Area, Ungasketed	24
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Vacuum Breaker (10 in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Huntington, West Virginia (Avg Atmospheric Pressure = 14.33 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Kenova : T268 - Internal Floating Roof Tank
Kenova, West Virginia

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)	Jan	45.61	41.73	49.50	54.87	6.2171	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Feb	47.34	43.06	51.62	54.87	6.4274	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Mar	52.54	47.36	57.72	54.87	7.0956	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 13.5)	Apr	57.08	51.15	63.02	54.87	6.8615	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 09)	May	61.18	54.96	67.40	54.87	4.7194	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jun	64.46	58.43	70.49	54.87	5.0302	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jul	66.04	60.38	71.71	54.87	5.1866	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Aug	65.29	59.86	70.72	54.87	5.1118	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 13.5)	Sep	62.29	56.89	67.68	54.87	7.5588	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 15)	Oct	56.81	51.57	62.05	54.87	7.6840	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Nov	52.07	47.86	56.28	54.87	7.0330	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Dec	47.64	43.98	51.31	54.87	6.4651	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)

Kenova : T268 - Internal Floating Roof Tank
Kenova, West Virginia

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	33.9180	35.4616	40.6317	40.0649	26.6863	28.8658	29.9889	29.4494	45.9620	45.5606	40.1294	35.7425
Seal Factor A (lb-mole/ft-yr):	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.2171	6.4274	7.0956	6.8615	4.7194	5.0302	5.1866	5.1118	7.5588	7.6840	7.0330	6.4651
Tank Diameter (ft):	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	225.5685	225.5685	225.5685	225.5685	225.5685	225.5685	225.5685	225.5685	225.5685	225.5685	225.5685	225.5685
Number of Columns:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Effective Column Diameter (ft):	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Net Throughput (gal/mo.):	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000	94,500,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000
Deck Fitting Losses (lb):	98.9769	103.4813	118.5683	116.9144	77.8739	84.2341	87.5113	85.9370	134.1228	132.9515	117.1025	104.3012
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	140.0700	140.0700	140.0700	140.0700	140.0700	140.0700	140.0700	140.0700	140.0700	140.0700	140.0700	140.0700
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tank Diameter (ft):	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000	80.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	358.4634	364.5114	384.7685	382.5479	330.1287	338.6685	343.0687	340.9550	405.6533	404.0806	382.8004	365.6122

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	14.4054
Automatic Gauge Float Well/Bolted Cover, Gasketed	1	2.80	0.00	0.00	25.2094
Fixed Roof Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	1	25.00	0.00	0.00	225.0836
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	504.1873
Floating Roof Pan Leg (3 in. Dia.) [30 in. Sleeve]/Adjustable, Pontoon Area, Ungasketed	24	2.00	0.37	0.91	432.1605
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1	0.47	0.02	0.97	4.2316
Vacuum Breaker (10 in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	55.8207

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Kenova : T268 - Internal Floating Roof Tank
Kenova, West Virginia

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 15)	231.44	1,353.41	675.38	0.00	2,260.24
Gasoline (RVP 13.5)	86.03	451.14	251.04	0.00	788.20
Gasoline (RVP 09)	114.99	902.27	335.56	0.00	1,352.82

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Kenova : T270
City:	Kenova
State:	WV
Company:	MPC
Type of Tank:	Internal Floating Roof Tank
Description:	550035:T270

Tank Dimensions

Diameter (ft):	85.00
Volume (gallons):	1,956,497.00
Turnovers:	783.54
Self Supp. Roof? (y/n):	N
No. of Columns:	1.00
Eff. Col. Diam. (ft):	0.70

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/Unbolted Cover, Gasketed	2
Fixed Roof Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	1
Floating Roof Pan Leg (3 in. Dia.) [30 in. Sleeve]/Adjustable, Pontoon Area, Ungasketed	14
Floating Roof Pan Leg (3 in. Dia.) [48 in. Sleeve]/Adjustable, Center Area, Ungasketed	12
Vacuum Breaker (10 in. Diam.)/Spring Bolted Plate (MPC Defined)	1
Combo Ladder Well / Slotted Guide Pole-Sample Well/Without Float, Vaporless Sleeve (MPC Defined)	1

Meterological Data used in Emissions Calculations: Huntington, West Virginia (Avg Atmospheric Pressure = 14.33 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Kenova : T270 - Internal Floating Roof Tank
Kenova, WV

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)	Jan	45.61	41.73	49.50	54.87	6.2171	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Feb	47.34	43.06	51.62	54.87	6.4274	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Mar	52.54	47.36	57.72	54.87	7.0956	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 13.5)	Apr	57.08	51.15	63.02	54.87	6.8615	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 09)	May	61.18	54.96	67.40	54.87	4.7194	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jun	64.46	58.43	70.49	54.87	5.0302	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jul	66.04	60.38	71.71	54.87	5.1866	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Aug	65.29	59.86	70.72	54.87	5.1118	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 13.5)	Sep	62.29	56.89	67.68	54.87	7.5588	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 15)	Oct	56.81	51.57	62.05	54.87	7.6840	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Nov	52.07	47.86	56.28	54.87	7.0330	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Dec	47.64	43.98	51.31	54.87	6.4651	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)

Kenova : T270 - Internal Floating Roof Tank
Kenova, WV

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	348.3657	364.2199	417.3210	411.5001	274.0903	296.4761	308.0108	302.4698	472.0678	467.9453	412.1620	367.1055
Seal Factor A (lb-mole/ft-yr):	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.2171	6.4274	7.0956	6.8615	4.7194	5.0302	5.1866	5.1118	7.5588	7.6840	7.0330	6.4651
Tank Diameter (ft):	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	285.7890	285.7890	285.7890	285.7890	285.7890	285.7890	285.7890	285.7890	285.7890	285.7890	285.7890	285.7890
Number of Columns:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Effective Column Diameter (ft):	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000
Net Throughput (gal/mo.):	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000
Deck Fitting Losses (lb):	70.5494	73.7601	84.5139	83.3350	55.5075	60.0409	62.3769	61.2547	95.6009	94.7660	83.4691	74.3445
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	99.8400	99.8400	99.8400	99.8400	99.8400	99.8400	99.8400	99.8400	99.8400	99.8400	99.8400	99.8400
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor (ft/sqft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tank Diameter (ft):	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	704.7041	723.7690	787.6239	780.6242	615.3868	642.3061	656.1767	649.5136	853.4578	848.5003	781.4201	727.2390

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	14.4054
Automatic Gauge Float Well/Unbolted Cover, Gasketed	2	4.30	17.00	0.38	77.4288
Fixed Roof Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	1	25.00	0.00	0.00	225.0836
Floating Roof Pan Leg (3 in. Dia.) [30 in. Sleeve]/Adjustable, Pontoon Area, Ungasketed	14	2.00	0.37	0.91	252.0936
Floating Roof Pan Leg (3 in. Dia.) [48 in. Sleeve]/Adjustable, Center Area, Ungasketed	12	0.82	0.53	0.14	88.5929
Vacuum Breaker (10 in. Diam.)/Spring Bolted Plate (MPC Defined)	1	7.80	0.01	4.00	70.2261
Combo Ladder Well / Slotted Guide Pole-Sample Well/Without Float, Vaporless Sleeve (MPC Defined)	1	19.00	0.00	0.00	171.0635

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Kenova : T270 - Internal Floating Roof Tank
Kenova, WV

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 15)	2,377.12	1,714.73	481.40	0.00	4,573.26
Gasoline (RVP 13.5)	883.57	571.58	178.94	0.00	1,634.08
Gasoline (RVP 09)	1,181.05	1,143.16	239.18	0.00	2,563.38

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Kenova : T271
City:	Kenova
State:	WV
Company:	MPC
Type of Tank:	Internal Floating Roof Tank
Description:	550035:T271

Tank Dimensions

Diameter (ft):	85.00
Volume (gallons):	1,952,628.00
Turnovers:	785.10
Self Supp. Roof? (y/n):	N
No. of Columns:	1.00
Eff. Col. Diam. (ft):	0.70

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
Combo Ladder Well / Slotted Guide Pole-Sample Well/Without Float, Vaporless Sleeve (MPC Defined)	1
Automatic Gauge Float Well/Unbolted Cover, Gasketed	2
Fixed Roof Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	1
Floating Roof Pan Leg (3 in. Dia.) [30 in. Sleeve]/Adjustable, Pontoon Area, Ungasketed	14
Floating Roof Pan Leg (3 in. Dia.) [48 in. Sleeve]/Adjustable, Center Area, Ungasketed	12
Vacuum Breaker (10 in. Diam.)/Weighted Mech. Actuation, Gask.	2

Meterological Data used in Emissions Calculations: Huntington, West Virginia (Avg Atmospheric Pressure = 14.33 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Kenova : T271 - Internal Floating Roof Tank
Kenova, WV

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)	Jan	45.61	41.73	49.50	54.87	6.2171	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Feb	47.34	43.06	51.62	54.87	6.4274	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Mar	52.54	47.36	57.72	54.87	7.0956	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 13.5)	Apr	57.08	51.15	63.02	54.87	6.8615	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 09)	May	61.18	54.96	67.40	54.87	4.7194	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jun	64.46	58.43	70.49	54.87	5.0302	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jul	66.04	60.38	71.71	54.87	5.1866	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Aug	65.29	59.86	70.72	54.87	5.1118	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 13.5)	Sep	62.29	56.89	67.68	54.87	7.5588	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 15)	Oct	56.81	51.57	62.05	54.87	7.6840	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Nov	52.07	47.86	56.28	54.87	7.0330	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Dec	47.64	43.98	51.31	54.87	6.4651	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)

Kenova : T271 - Internal Floating Roof Tank
Kenova, WV

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	348.3657	364.2199	417.3210	411.5001	274.0903	296.4761	308.0108	302.4698	472.0678	467.9453	412.1620	367.1055
Seal Factor A (lb-mole/ft-yr):	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.2171	6.4274	7.0956	6.8615	4.7194	5.0302	5.1866	5.1118	7.5588	7.6840	7.0330	6.4651
Tank Diameter (ft):	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	285.7890	285.7890	285.7890	285.7890	285.7890	285.7890	285.7890	285.7890	285.7890	285.7890	285.7890	285.7890
Number of Columns:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Effective Column Diameter (ft):	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000
Net Throughput (gal/mo.):	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000
Deck Fitting Losses (lb):	73.7998	77.1585	88.4077	87.1746	58.0649	62.8072	65.2508	64.0770	100.0056	99.1323	87.3148	77.7698
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	104.4400	104.4400	104.4400	104.4400	104.4400	104.4400	104.4400	104.4400	104.4400	104.4400	104.4400	104.4400
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor (ft/sqft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tank Diameter (ft):	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	707.9546	727.1674	791.5178	784.4637	617.9442	645.0724	659.0507	652.3359	857.8624	852.8666	785.2659	730.6643

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	14.4054
Combo Ladder Well / Slotted Guide Pole-Sample Well/Without Float, Vaporless Sleeve (MPC Defined)	1	19.00	0.00	0.00	171.0635
Automatic Gauge Float Well/Unbolted Cover, Gasketed	2	4.30	17.00	0.38	77.4288
Fixed Roof Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	1	25.00	0.00	0.00	225.0836
Floating Roof Pan Leg (3 in. Dia.) [30 in. Sleeve]/Adjustable, Pontoon Area, Ungasketed	14	2.00	0.37	0.91	252.0936
Floating Roof Pan Leg (3 in. Dia.) [48 in. Sleeve]/Adjustable, Center Area, Ungasketed	12	0.82	0.53	0.14	88.5929
Vacuum Breaker (10 in. Diam.)/Weighted Mech. Actuation, Gask.	2	6.20	1.20	0.94	111.6415

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Kenova : T271 - Internal Floating Roof Tank
Kenova, WV

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 15)	2,377.12	1,714.73	503.58	0.00	4,595.44
Gasoline (RVP 13.5)	883.57	571.58	187.18	0.00	1,642.33
Gasoline (RVP 09)	1,181.05	1,143.16	250.20	0.00	2,574.40

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Kenova : T272
City:	Kenova
State:	WV
Company:	MPC
Type of Tank:	Internal Floating Roof Tank
Description:	550035:T272

Tank Dimensions

Diameter (ft):	85.00
Volume (gallons):	2,065,595.00
Turnovers:	742.16
Self Supp. Roof? (y/n):	N
No. of Columns:	1.00
Eff. Col. Diam. (ft):	0.67

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/Unbolted Cover, Gasketed	2
Fixed Roof Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	1
Combo Ladder Well / Slotted Guide Pole-Sample Well/Without Float, Vaporless Sleeve (MPC Defined)	1
Floating Roof Pan Leg (3 in. Dia.) [30 in. Sleeve]/Adjustable, Pontoon Area, Ungasketed	14
Floating Roof Pan Leg (3 in. Dia.) [48 in. Sleeve]/Adjustable, Center Area, Ungasketed	12
Vacuum Breaker (10 in. Diam.)/Weighted Mech. Actuation, Gask.	2

Meterological Data used in Emissions Calculations: Huntington, West Virginia (Avg Atmospheric Pressure = 14.33 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Kenova : T272 - Internal Floating Roof Tank
Kenova, WV

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)	Jan	45.61	41.73	49.50	54.87	6.2171	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Feb	47.34	43.06	51.62	54.87	6.4274	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Mar	52.54	47.36	57.72	54.87	7.0956	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 13.5)	Apr	57.08	51.15	63.02	54.87	6.8615	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 09)	May	61.18	54.96	67.40	54.87	4.7194	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jun	64.46	58.43	70.49	54.87	5.0302	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Jul	66.04	60.38	71.71	54.87	5.1866	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 09)	Aug	65.29	59.86	70.72	54.87	5.1118	N/A	N/A	67.0000			92.00	Option 4: RVP=9, ASTM Slope=3
Gasoline (RVP 13.5)	Sep	62.29	56.89	67.68	54.87	7.5588	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
Gasoline (RVP 15)	Oct	56.81	51.57	62.05	54.87	7.6840	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Nov	52.07	47.86	56.28	54.87	7.0330	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
Gasoline (RVP 15)	Dec	47.64	43.98	51.31	54.87	6.4651	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)

Kenova : T272 - Internal Floating Roof Tank
Kenova, WV

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	348.3657	364.2199	417.3210	411.5001	274.0903	296.4761	308.0108	302.4698	472.0678	467.9453	412.1620	367.1055
Seal Factor A (lb-mole/ft-yr):	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000	5.8000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.2171	6.4274	7.0956	6.8615	4.7194	5.0302	5.1866	5.1118	7.5588	7.6840	7.0330	6.4651
Tank Diameter (ft):	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	285.6890	285.6890	285.6890	285.6890	285.6890	285.6890	285.6890	285.6890	285.6890	285.6890	285.6890	285.6890
Number of Columns:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Effective Column Diameter (ft):	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700	0.6700
Net Throughput (gal/mo.):	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000
Deck Fitting Losses (lb):	73.7998	77.1585	88.4077	87.1746	58.0649	62.8072	65.2508	64.0770	100.0056	99.1323	87.3148	77.7698
Value of Vapor Pressure Function:	0.1413	0.1478	0.1693	0.1616	0.0996	0.1077	0.1119	0.1099	0.1853	0.1898	0.1672	0.1489
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	104.4400	104.4400	104.4400	104.4400	104.4400	104.4400	104.4400	104.4400	104.4400	104.4400	104.4400	104.4400
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor (ft/sqft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tank Diameter (ft):	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	60.0000	60.0000	62.0000	67.0000	67.0000	67.0000	67.0000	62.0000	60.0000	60.0000	60.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	707.8546	727.0674	791.4177	784.3637	617.8442	644.9723	658.9506	652.2358	857.7624	852.7665	785.1658	730.5643

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	14.4054
Automatic Gauge Float Well/Unbolted Cover, Gasketed	2	4.30	17.00	0.38	77.4288
Fixed Roof Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	1	25.00	0.00	0.00	225.0836
Combo Ladder Well / Slotted Guide Pole-Sample Well/Without Float, Vaporless Sleeve (MPC Defined)	1	19.00	0.00	0.00	171.0635
Floating Roof Pan Leg (3 in. Dia.) [30 in. Sleeve]/Adjustable, Pontoon Area, Ungasketed	14	2.00	0.37	0.91	252.0936
Floating Roof Pan Leg (3 in. Dia.) [48 in. Sleeve]/Adjustable, Center Area, Ungasketed	12	0.82	0.53	0.14	88.5929
Vacuum Breaker (10 in. Diam.)/Weighted Mech. Actuation, Gask.	2	6.20	1.20	0.94	111.6415

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Kenova : T272 - Internal Floating Roof Tank
Kenova, WV

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 15)	2,377.12	1,714.13	503.58	0.00	4,594.84
Gasoline (RVP 13.5)	883.57	571.38	187.18	0.00	1,642.13
Gasoline (RVP 09)	1,181.05	1,142.76	250.20	0.00	2,574.00

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Kenova : T273
City:	Kenova
State:	WV
Company:	MPC
Type of Tank:	Vertical Fixed Roof Tank
Description:	550035:T273

Tank Dimensions

Shell Height (ft):	56.00
Diameter (ft):	54.00
Liquid Height (ft) :	53.83
Avg. Liquid Height (ft):	26.92
Volume (gallons):	943,343.00
Turnovers:	69.08
Net Throughput(gal/yr):	65,167,019.00
Is Tank Heated (y/n):	Y

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Cone
Height (ft)	1.69
Slope (ft/ft) (Cone Roof)	0.06

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig)	0.00

Meterological Data used in Emissions Calculations: Huntington, West Virginia (Avg Atmospheric Pressure = 14.33 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Kenova : T273 - Vertical Fixed Roof Tank
Kenova, WV

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
BioDiesel (B100) Virgin Soybean Oil	All	0.00	0.00	0.00	0.00	0.0061	0.0061	0.0061	292.2000			292.20	Option 2: A=5.51, B=1038.25, C=190.57

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Kenova : T273 - Vertical Fixed Roof Tank
Kenova, WV

Annual Emission Calcaulations	
Standing Losses (lb):	0.0000
Vapor Space Volume (cu ft):	67,887.8772
Vapor Density (lb/cu ft):	0.0004
Vapor Space Expansion Factor:	0.0000
Vented Vapor Saturation Factor:	0.9905
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	67,887.8772
Tank Diameter (ft):	54.0000
Vapor Space Outage (ft):	29.6425
Tank Shell Height (ft):	56.0000
Average Liquid Height (ft):	26.9200
Roof Outage (ft):	0.5625
Roof Outage (Cone Roof)	
Roof Outage (ft):	0.5625
Roof Height (ft):	1.6875
Roof Slope (ft/ft):	0.0625
Shell Radius (ft):	27.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0004
Vapor Molecular Weight (lb/lb-mole):	292.2000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0061
Daily Avg. Liquid Surface Temp. (deg. R):	459.6700
Daily Average Ambient Temp. (deg. F):	54.8458
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	459.6700
Tank Paint Solar Absorptance (Shell):	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,246.2101
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0000
Daily Vapor Temperature Range (deg. R):	0.0000
Daily Vapor Pressure Range (psia):	0.0000
Breather Vent Press. Setting Range(psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0061
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0061
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0061
Daily Avg. Liquid Surface Temp. (deg R):	459.6700
Daily Min. Liquid Surface Temp. (deg R):	459.6700
Daily Max. Liquid Surface Temp. (deg R):	459.6700
Daily Ambient Temp. Range (deg. R):	20.0583
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9905
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.0061
Vapor Space Outage (ft):	29.6425
Working Losses (lb):	1,671.1433
Vapor Molecular Weight (lb/lb-mole):	292.2000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0061
Annual Net Throughput (gal/yr.):	65,167,019.0000

Annual Turnovers:	69.0809
Turnover Factor:	0.6009
Maximum Liquid Volume (gal):	943,343.0000
Maximum Liquid Height (ft):	53.8300
Tank Diameter (ft):	54.0000
Working Loss Product Factor:	1.0000

Total Losses (lb):	1,671.1433

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Kenova : T273 - Vertical Fixed Roof Tank
Kenova, WV

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
BioDiesel (B100) Virgin Soybean Oil	1,671.14	0.00	1,671.14

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Kenova : K2
City:	Huntington
State:	West Virginia
Company:	MPC
Type of Tank:	Horizontal Tank
Description:	

Tank Dimensions

Shell Length (ft):		10.67
Diameter (ft):		4.00
Volume (gallons):		851.00
Turnovers:		365.00
Net Throughput(gal/yr):		310,615.00
Is Tank Heated (y/n):	N	
Is Tank Underground (y/n):	N	

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Huntington, West Virginia (Avg Atmospheric Pressure = 14.33 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Kenova : K2 - Horizontal Tank
Huntington, West Virginia

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 10)	All	56.53	51.44	61.62	54.87	4.8461	4.3801	5.3511	66.0000			92.00	Option 4: RVP=10, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Kenova : K2 - Horizontal Tank
Huntington, West Virginia

Annual Emission Calcaulations

Standing Losses (lb):	161.1560
Vapor Space Volume (cu ft):	85.3761
Vapor Density (lb/cu ft):	0.0577
Vapor Space Expansion Factor:	0.1356
Vented Vapor Saturation Factor:	0.6606
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	85.3761
Tank Diameter (ft):	4.0000
Effective Diameter (ft):	7.3724
Vapor Space Outage (ft):	2.0000
Tank Shell Length (ft):	10.6666
Vapor Density	
Vapor Density (lb/cu ft):	0.0577
Vapor Molecular Weight (lb/lb-mole):	66.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	4.8461
Daily Avg. Liquid Surface Temp. (deg. R):	516.2007
Daily Average Ambient Temp. (deg. F):	54.8458
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	514.5358
Tank Paint Solar Absorptance (Shell):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,246.2101
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.1356
Daily Vapor Temperature Range (deg. R):	20.3740
Daily Vapor Pressure Range (psia):	0.9711
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	4.8461
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	4.3801
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	5.3511
Daily Avg. Liquid Surface Temp. (deg R):	516.2007
Daily Min. Liquid Surface Temp. (deg R):	511.1072
Daily Max. Liquid Surface Temp. (deg R):	521.2942
Daily Ambient Temp. Range (deg. R):	20.0583
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.6606
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	4.8461
Vapor Space Outage (ft):	2.0000
Working Losses (lb):	588.6581
Vapor Molecular Weight (lb/lb-mole):	66.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	4.8461
Annual Net Throughput (gal/yr.):	310,615.0000
Annual Turnovers:	365.0000
Turnover Factor:	0.2489
Tank Diameter (ft):	4.0000
Working Loss Product Factor:	1.0000

Total Losses (lb):	749.8140

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Kenova : K2 - Horizontal Tank
Huntington, West Virginia

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Gasoline (RVP 10)	588.66	161.16	749.81

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Kenova : K3
City:	Huntington
State:	West Virginia
Company:	MPC
Type of Tank:	Horizontal Tank
Description:	

Tank Dimensions

Shell Length (ft):		10.67
Diameter (ft):		4.00
Volume (gallons):		830.00
Turnovers:		365.00
Net Throughput(gal/yr):		310,615.00
Is Tank Heated (y/n):	N	
Is Tank Underground (y/n):	N	

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Huntington, West Virginia (Avg Atmospheric Pressure = 14.33 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Kenova : K3 - Horizontal Tank
Huntington, West Virginia

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 10)	All	56.53	51.44	61.62	54.87	4.8461	4.3801	5.3511	66.0000			92.00	Option 4: RVP=10, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Kenova : K3 - Horizontal Tank
Huntington, West Virginia

Annual Emission Calcaulations

Standing Losses (lb):	161.1560
Vapor Space Volume (cu ft):	85.3761
Vapor Density (lb/cu ft):	0.0577
Vapor Space Expansion Factor:	0.1356
Vented Vapor Saturation Factor:	0.6606
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	85.3761
Tank Diameter (ft):	4.0000
Effective Diameter (ft):	7.3724
Vapor Space Outage (ft):	2.0000
Tank Shell Length (ft):	10.6666
Vapor Density	
Vapor Density (lb/cu ft):	0.0577
Vapor Molecular Weight (lb/lb-mole):	66.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	4.8461
Daily Avg. Liquid Surface Temp. (deg. R):	516.2007
Daily Average Ambient Temp. (deg. F):	54.8458
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	514.5358
Tank Paint Solar Absorptance (Shell):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,246.2101
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.1356
Daily Vapor Temperature Range (deg. R):	20.3740
Daily Vapor Pressure Range (psia):	0.9711
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	4.8461
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	4.3801
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	5.3511
Daily Avg. Liquid Surface Temp. (deg R):	516.2007
Daily Min. Liquid Surface Temp. (deg R):	511.1072
Daily Max. Liquid Surface Temp. (deg R):	521.2942
Daily Ambient Temp. Range (deg. R):	20.0583
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.6606
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	4.8461
Vapor Space Outage (ft):	2.0000
Working Losses (lb):	588.6581
Vapor Molecular Weight (lb/lb-mole):	66.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	4.8461
Annual Net Throughput (gal/yr.):	310,615.0000
Annual Turnovers:	365.0000
Turnover Factor:	0.2489
Tank Diameter (ft):	4.0000
Working Loss Product Factor:	1.0000

Total Losses (lb):	749.8140

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Kenova : K3 - Horizontal Tank
Huntington, West Virginia

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Gasoline (RVP 10)	588.66	161.16	749.81