

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

B298763890

FACILITY: Buckeye Terminals, LLC - River Rouge Terminal		SRN / ID: B2987
LOCATION: 205 MARION AVE, RIVER ROUGE		DISTRICT: Detroit
CITY: RIVER ROUGE		COUNTY: WAYNE
CONTACT: Kimberly Trostel , Air Compliance - Senior Specialist		ACTIVITY DATE: 07/13/2022
STAFF: C. Nazaret Sandoval	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: FY 2022 Targeted Inspection		
RESOLVED COMPLAINTS:		

SOURCE: SRN B2987 - BUCKEYE TERMINALS, LLC – River Rouge
FACILITY ADDRESS: 205 Marion Avenue, River Rouge, Michigan 48218

INSPECTION DATE: 7/13/2022

INSPECTOR: Nazaret Sandoval - EGLE, Air Quality Division (AQD)

BUCKEYE PERSONNEL AT THE INSPECTION MEETING:

Dennis Coleman, Terminal Specialist II

Mike Barret, Terminal Specialist II

Kevin Schulte, Assistant Operation Manager

MAIN CONTACT: Kimberly Trostel, Senior Specialist, Air Compliance

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1. SAFETY EQUIPMENT/SAFETY TRAINING/SECURITY

Hardhat, safety glasses, and steel-toed boots are required throughout the plant. Flame-resistant garments/flame-resistant clothing are not required for a routine site visit. The plant staff will provide coveralls to AQD inspectors at the time of the visit if special protection is required under unusual circumstances or special projects. Buckeye Terminals at River Rouge (Buckeye) recommends caution and would rather keep visitors away from working areas that could potentially be a threat.

2. FACILITY DESCRIPTION

Buckeye Terminals, LLC at River Rouge is located at 205 Marion Avenue in River Rouge, Michigan. The facility lies about one quarter mile to the east of West Jefferson Avenue in a primarily industrial area. The nearest residences are approximately 225 yards southwest of the facility's truck loading rack.

The facility is a petroleum hydrocarbon fuels distribution terminal. A variety of common petroleum products are received by pipeline and stored at the facility. The products include regular, midgrade, and premium unleaded gasoline and distillate fuel oil No. 1 and 2. The terminal has a seven-bay tank truck loading rack with lanes numbered from 1 to 7 from north to south. Lanes 1, 2, 3 and 4 are for gasoline-only; lane 5 is for gasoline and diesel loading, and lanes 6 and 7 are for diesel-only. Gasoline and distillate are bottom loaded into tank trucks for distribution to marketing stations. Each rack is equipped with hoses and associated piping that hook up to a vapor control system.

During loading operations, the vapors displaced by the liquid being loaded into the tank trucks are routed to a carbon adsorption/absorption vapor recovery unit (VRU). The VRU controls the loading rack operations by reducing volatile organic compounds (VOC) emissions. The facility is permitted to use a temporary/portable vapor combustion unit (VCU), which was not at the site at the time of the visit.

The facility can operate 24 hours per day, 365 days per year. The number of truck loadings per day varies with market trends.

The facility has a variety of tanks (small, medium, and large sizes) located in the north and south tank farms at each side of Marion Avenue. About half of the tanks are above-ground vertical tanks used for the storage of final products. The average tank shell-capacity is in the range of 3.5 million gallons. Gasoline additives and diesel additives are stored in small, fixed roof tanks. The additives are metered into the fuels during tank truck loading.

Tank designs include internal floating roof (IFR) and/or external floating roof (EFR) equipped with weather covers, fixed cone roof, and the horizontal cylindrical type.

Most of the large-size tanks at the facility are equipped with internal floating roof controls, except for the tanks used for diesel storage, the two 9,000-gallon tanks storing wastewater petroleum products, and the 15,000-gallon water reclamation tank; all of which are fixed-roof tanks.

The facility has a 117,905-gallon horizontal pressurized butane tank which was installed at the location in year 2012. Butane is used as a blending component added to the gasoline mixture when loading the trucks. Ethanol is also blended with gasoline, and it is used to reduce the carbon monoxide emissions. Denatured ethanol (gasoline-ethanol blend) is stored in a dedicated tank.

The facility has an air stripper unit operation for the treatment of run-off water. The unit operates in the "Water Remediation Building" located at the North Tank Farm near the Rouge River.

For specific details about the capacities and/or sizes of the tanks, the year of installation, type of service, as well as the location of the equipment and processes cited above; refer to the terminal layout drawing and to the facility's records.

The three main sources of VOC emissions at the terminal are a result of the operations at the truck loading rack, the storage tanks, and the equipment leaks. The loading rack is the primary source of evaporative emissions, and these emissions are controlled by the VRU. The second important source are the VOC emissions from organic liquids in storage due to evaporative loss of the liquid as a result of changes in the liquid level. The control of these emissions will depend on the type of tank (floating roof or fixed roof) and its configuration. Emissions from fixed roof tanks are classified as breathing or standing losses and working losses. The standing losses are evaporative losses during storage as a result of heat expansion due to cyclical (diurnal and seasonal) temperature variations. The working losses are evaporative losses during filling and emptying operations. External and internal floating roofs have standing storage losses through rim seals, deck fittings and/or deck seams; and withdrawal losses. Equipment leaks from various types of equipment (e.g., valves, pumps, flanges, pressure relief devices etc.) are another source of emissions. However, the emissions generated from equipment leaks are relatively small compared to the other listed sources of emissions.

3. REGULATORY ANALYSIS AND EMISSION UNITS

This stationary source is a Major Title V source subject to Title 40 of the Code of Federal Regulations (CFR), Part 70, because the potential to emit volatile organic compounds exceeds 100 tons per year. The operations are regulated under a Renewable Operating Permit (ROP) number MI-ROP-B2987-2016 with an effective date of March 1, 2016.

The stationary source is considered to be a minor source of HAP emissions because the potential to emit of any single HAP regulated by the federal Clean Air Act, Section 112, is less than 10 tons per year and the potential to emit of all HAPs combined are less than 25 tons per year.

No emissions units at the stationary source are currently subject to the Prevention of Significant Deterioration regulations of Part 18, Prevention of Significant Deterioration of Air Quality of Act 451, because at the time of New Source Review permitting the potential to emit of volatile organic compound was less than 250 tons per year.

The loading rack (EULOADRACK) at the stationary source is subject to the Standards of Performance for Bulk Gasoline Terminals promulgated in 40 CFR, Part 60, Subparts A and XX.

Additionally, the stationary source is subject to the National Emission Standard for Hazardous Air Pollutants for Gasoline Distribution Bulk Terminals, Bulk Plants and Pipeline facilities promulgated in 40 CFR 63, Subpart A and BBBBBB (MACT 6B).

Some of the storage tanks installed or modified after July 23, 1984 are subject to 40 CFR 60, Subpart Kb. A comparison of NSPS (Subpart Kb and XX) with MACT6B shows that the NSPS requirements are included in, or superseded by, the requirements of the MACT6B. The stationary source is not subject to 40 CFR Part 63, Subpart R because the facility demonstrated that it is a minor source of hazardous air pollutants (HAP). In addition, the facility has documented and recorded that the emission screening factor (ET) for bulk terminals is less than 0.5. The source is not required to submit annual calculations of ET to AQD but agreed to keep the demonstration on file and maintain the records to demonstrate that none of the facility parameters used to calculate ET have changed or been exceeded in any rolling 30-day period. Notification of expected HAP emission changes will be provided to AQD.

Part 6 (R336.1604, R336.1609 and R336.1627) of the AQD administrative rules are also applicable to this stationary source.

On March 15, 2013, the facility obtained permit to install (PTI) 189-12 to install two new control units: the Jordan VRU, which replaced the old VRU and a portable vapor combustion unit (PVCU) that was used during the installation of the permanent VRU. Both new units achieved the same level of VOC control achieved by the existing VRU, 10 mg/liter of gasoline loaded. In addition, the old VCU (a John Zink design VCU) was last used in January 2015 and was removed from the terminal. PTI 189-12 was incorporated into the ROP during the renewal process in 2016. Buckeye can operate the PVCU when the VRU is out of service for maintenance or during emergency situations.

The following description identifies the emission units (EU) regulated under the ROP:

EULOADRACK is a seven-bay petroleum truck loading rack.

EUTANK57 is a 3.2-million-gallon vertical tank with a fixed roof for the storage of distillate fuel oil with installation date of November 1993. Buckeye agreed to use this tank to only store organic materials that have a true vapor pressure of 0.5 psia (3.5 kPa) or less, so the provisions of NSPS, 40 CFR 60, Subpart Kb do not apply to EUTANK57.

EUTANK13 and EUTANK 21, covered under FGDISTTANKS, are fixed roof tanks for diesel storage. These two tanks have installation dates in the mid to late 1920s. Tank 21 has been out of service for more than 20 years.

EUTANK8, EUTANK52 and EUTANK53 are less than 10,000 gallons each. The tanks are grouped under FGFIXEDROOFTANKS and according to the ROP they were installed on 1/1/1979. The tanks are exempt from New Source Review (NSR) permitting requirements under R 336.1284(2)(i). Tank 8 (2,000 Gallons) is used for the storage of recoverable product and Tanks 52 and 53 (9,000 gallon/each) are oil/water storage tanks. All tanks store products with True Vapor Pressures less than 1.5 psia at actual storage conditions. EUTANK14, EUTANK15, EUTANK16, EUTANK17, EUTANK18, EUTANK20, EUTANK24 and EUTANK25 are eight (8) tanks mostly used for gasoline service which are grouped under FGGASTANKS in the current ROP. The emission units in FGGASTANKS are controlled by internal floating roofs and external floating roofs equipped with weather covers. Tanks 14, 24 and 25 have been out of service for more than 20 years. Most of the

above cited tanks were installed in the late 1920s, however, Tank 16 was modified in 2017. Permit PTI 100-17 issued on 8/15/2017 approved the installation of a new internal floating roof (IFR) which included an additional guide pole. This allowed the increase in emissions from the tank, which then was considered a modification under 40 CFR 60.14(a). Therefore, Tank No. 16 is now subject to 40 CFR 60, Subpart Kb and was added to the flexible group FGGASNSPS in PTI 100-17 (discussed later). In addition, Tank 16 is subject to AQD Part 7 Rules.

The facility operates FGAIRSTRIPPER, a water remediation system consisting of an air stripper that removes VOC from the water decanted at the oil/water separation tank. EUBUTANE is the emission unit for the Butane tank. Butane is used at the terminal as a blending element for gasoline to control the Reid Vapor Pressure (RVP). Butane can be blended into gasoline and its fractional contribution to the blend roughly determines its fractional contribution to the overall vapor pressure of the mixture.

EULOADRACK, and storage tanks EUTANK12, EUTANK15, EUTANK16, EUTANK17, EUTANK18, EUTANK20, EUTANK22, EUTANK23 and EUTANK56, are regulated under MACT 6B, and have been grouped under FGMACT6B in the ROP.

The emission units EUTANK12, EUTANK16, EUTANK22, and EUTANK56 are four (4) tanks controlled by internal floating roofs with installation and/ or modification dates post July 23, 1984, which makes them subject to the Standards of Performance for Volatile Organic Liquid Storage Vessels promulgated in 40 CFR 60, Subparts A and Kb. These tanks are grouped under FGGASNSPS.

Tanks 12, 22 and 56 may store a variety of petroleum products including gasoline, ethanol (or more likely gasoline/ethanol blends), or diesel. The ROP, as currently written, contains NSPS Subpart Kb requirements which are applicable to all the tanks grouped under FGGASNSPS, at all times, no matter the specific petroleum product stored in a particular tank. Buckeye indicated that Subpart Kb requirements should only apply to the tanks when they are storing liquids with a true vapor pressure of more than 0.75 psia, but less than 11 psia. Gasoline and gasoline blends fall within that vapor pressure range, but diesel has a vapor pressure lower than the cited range and many of the Subpart Kb requirements would not apply when storing diesel. Therefore, in 2018, Buckeye submitted a permit application requesting the evaluation of the implementation of the provision cited on 40 CFR 60, NSPS Subpart Kb to Tanks 12, 22 and 56 in accordance with the storing scenario. In other words, Buckeye wanted the permit conditions on PTI 6-18 (issued on 4/4/2018) to reflect that the NSPS Kb requirements only apply to the tanks when they are storing liquids with a true vapor pressure of more than 0.75 psia, but less than 11 psia.

Tank 16 was not included within PTI 6-18 and the revised language within PTI 6-18 does not apply to Tank 16, because special condition III.1 for FGGASNSPS in PTI 100-17 states that Tank 16 shall not store any petroleum product other than denatured ethanol; therefore the NSPS, Subpart Kb conditions continue to apply at all times to Tank 16, as expressed within the FGGASNSPS conditions within PTI 100-17. For this reason, as well as to retain the conditions within FGGASTANKS, PTI 100-17 was not voided upon issuance of PTI 6-18; both permits remain active. In retrospect, clarity would have been improved if the special conditions applicable to Tank 16 would have been carried over unchanged from PTI 100-17 and into PTI 6-18 within a new emission unit table (e.g. a hypothetical "EUTANK16"), in order to distinguish Tank 16 from the other three tanks and to emphasize that the conditions retained within FGGASNSPS of PTI 100-17 remained applicable to Tank 16, even while the conditions had been replaced for Tanks 12, 22, and 56 due to the issuance of PTI 6-18. It is recommended that this clarification be considered when both PTIs are incorporated into the ROP during its renewal.

The emission limitations for VOC from EULOADRACK at the stationary source are exempt from the federal Compliance Assurance Monitoring (CAM) regulation pursuant to 40 CFR

64.2(b)(1), because the control device monitoring requirements are addressed by 40 CFR 63, Subpart BBBB.

Ten of the tanks used for additive storage are relatively small and are exempt from NSR permit requirements under R 336.1284(2)(i). Three furnaces used for building heating are exempt under rule R 336.282(2)(b)(ii). All exempt equipment is identified in a separate document.

On August 28, 2020, AQD Detroit Office received an ROP renewal application by the submittal deadline. A letter dated 9/4/2020 was sent to the Buckeye River Rouge Operation Manager notifying him that the facility obtained an application shield and pursuant to Rule 217(1)(a) the existing renewable operating permit shall not expire until the renewal permit has been issued or denied.

4. COMPLAINTS HISTORY

The last inspection conducted by AQD at this facility was on 7/1/2020. During the period since the last inspection, the AQD's Detroit Office has not received any citizen complaints attributed to Buckeye River Rouge.

5. OUTSTANDING VIOLATION NOTICES (VN)

As of the date of the inspection, there are no outstanding VN for this facility.

6. INSPECTION NARRATIVE

The purpose of the inspection is to evaluate the facility's compliance with respect to the requirements of the federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), the conditions of PTI numbers 100-17 and 6-18, and the conditions of the ROP number MI-ROP-B2987-2016.

On July 13, 2022, I arrived at the facility at about 9:30 AM and met with Buckeye personnel, Kimberly Trostel, Dennis Coleman, and Mike Barret. During the opening meeting I discussed the ROP special conditions and requirements. I had asked Ms. Trostel for the appropriate records to evaluate the compliance status of the facility. The records were previously requested in an email I sent to Ms. Trostel on 6/16/2022. Ms. Trostel compiled the records and provided it to me on 7/12/2022. During the inspection of the Terminal, on 7/13/2022, Mr. Trostel provided copies of the remaining records from the list I submitted to her in my email.

After completing the record gathering and the general discussion, I asked if there had been any changes in the terminal since the last inspection, such as: tanks out of service, new products, and/or malfunctions, etc. I was informed that there have not been major modifications or changes in the operations, except for the recommended tanks repairs resulting from the routine tanks inspections in compliance with Buckeye's tank maintenance schedule. The portable VCU has not been used since 2020.

There are no emergency generators or boilers at the terminal.

Before the terminal tour I asked Mr. Coleman to let me know the products stored in each storage tank at the time of the inspection. His information coincided with the reported records provided by Ms. Trostel on 7/12/2022.

Please note that the shell storage capacity listed on the layout drawing is the rated design capacity of a petroleum storage tank which is always greater than or equal to the working/operational storage capacity cited in the ROP.

It was confirmed that last performance test for the Vapor Recovery Unit (VRU) which controls the VOC emissions from truck loading operations was conducted on 7/1/2020, the same day I conducted the inspection of year 2020.

We started the walkthrough, and I observed that the terminal was busy with trucks loading fuel. I asked Mr. Coleman to bring me to the VRU area. He showed me the VRU CEMS control screen where the percentage of propane (by volume) in the exhaust outlet is verified as it relates to the VOC emissions in mg/L.

We continued the site inspection by walking to the loading racks. I asked Mr. Coleman to describe the truck loading procedures and the VRU operation. Trucks are loaded only when the VRU is operating in a satisfactory manner. The VRU has an interlocking system that will not allow tankers to load product if the vapor line is not connected. Each loading bay is equipped with an overflow detector level control system that shuts off product flow to the tanker when the tanker capacity reaches a specified level. In addition, a valid tanker truck vapor tightness certification is required to load product at the terminal. Drivers that fail to renew the vapor tightness certification for a given truck are not allowed to load product to that truck at the terminal. I observed a tank truck driver that was using the loading rack to fill his tank-truck. He seemed to be following the truck loading procedures.

The VRU controls VOC emissions with two carbon adsorption units that alternate between adsorption and regeneration at 15-minute intervals. The system also employs a liquid knockout tank and pressure/relief vent upstream from the VRU. The VRU system is equipped with a sensor that detects and controls VOC leakage. Any leakage detected in the loading system automatically results into a large pressure drop that triggers alarms. The system is then manually shut down.

During the visual inspection of the facility, I examined the premises for sources of odors or visible emissions. There were no noticeable odors and no visible emissions. The above-ground piping connecting the VRU to the tank farm was visually examined, as well as the mechanical conditions of the tanks, for the presence of corrosion. Each of the tanks and associated above-ground piping seemed to be in good condition. In general, from the observations of the loading equipment and accessories, the facility looked in good condition and appeared to be working satisfactorily.

The Remediation Building houses the air stripper and its ancillary equipment. Due to various operations associated with the facility's activities, water containing dissolved concentrations of organics requires treatment prior to discharge to the sanitary sewer system. The facility uses an air stripper to remove volatile organic compounds from the liquid phase. VOC is removed by bubbling air up through the water flowing countercurrent through aeration trays. The removal efficiency of the unit is primarily dependent on the air and water temperature, air to water flow ratio, the surface area available for mass transfer and the volatility of the dissolved compounds. The process starts when run-off water containing dissolved concentrations of petroleum products from all areas of the terminal is collected in an oil-water separator. From the oil-water separator, the oily portion - Petroleum Containing Water (PCW) – is sent to Tanks 52 and 53. The water portion is sent to the water collection Tank 3R (which was painted in 2018). From Tank 3R, the wastewater is pumped to the air stripper unit for treatment before discharging into the sanitary sewer system. The operation of the air stripper is controlled by the water level on Tank 3R. There are 9 feet of working volume, the pump starts sending water to the air stripper when the level in Tank 3R reaches 15 feet and stops at 6 feet of liquid level. A company is hired to haul and treat the oily portion collected in Tanks 52 and 53.

Mr. Coleman indicated that there have not been any changes at the Remediation Building since 2018. As he reported during my inspection of 2019, the old leaking equalization tank downstream from the air stripper was removed and replaced with a new tank in 2018. The

valve-meter that monitors the incoming water flow to the treatment system was also replaced in 2018.

We returned to the main office building and the inspection concluded at about 12:30 pm. During the closure meeting I indicated that AQD will examine the information collected at the inspection and will prepare an inspection report with the results of the compliance evaluation. I added that additional questions might come out during the preparation of the report and AQD may need to contact Buckeye for answers and/or clarifications.

The following list of appendices describes the records provided by Buckeye prior to the inspection and at the time of the site visit. The information is referred in the report and it is filed with the inspection report in AQD files:

Appendix A: Facility Layout, Tank List and Products Properties

Appendix B: VRU Performance Test Results and Preventive Maintenance Checklists

Appendix C: Production and Emission Records for period June 1, 2021 to May 31, 2022

Appendix D: Leak Detection and Repair Logs Examples (LDAR)

Appendix E: Trailer Vapor Tightness Certification Examples

Appendix F: Driver Agreement Loading Procedures and Terminal Posted Procedures

Appendix G: Spill Prevention Control and Countermeasure Plan (SPCCP) - Examples for Preventive Maintenance for Spill Prevention

Appendix H: Tanks Inspection Schedule and Annual "Through-The-Hatch" Inspection Forms for Non-NSPS Tanks

Appendix I: NSPS Tanks –Inspections Summaries for Tanks Nos.12, 22 and 56

Appendix J: Air Stripper Monthly Records and VOC Lab Sampling Results

Appendix K: Rule 290 Applicability – Butane Storage Tank

7. COMPLIANCE EVALUATION - PERMIT MI-ROP-B2987-2016 (ROP)

The inspection conducted on 7/13/2022 evaluates the emissions and production records from June 2021 to May 2022 and the ROP special conditions and other applicable federal and state requirements for the cited period. In some instances, it was pertinent to mention compliance activities that were completed out of that period.

The evaluation is conducted analyzing the special conditions applicable to each one of the emissions units (EUs) identified in the ROP, PTI 100-17, and PTI 6-18; except for common requirements that are applicable to all or various EUs:

ROP Common Requirements

Reporting [SC VII.1 to SC VII.3]

These special conditions refer to certification and reporting requirements that are applicable to all the FGs and/or EUs listed in the ROP. The reports and certifications must be submitted pursuant to Rule 213, sub-rules (3)(c) and/or (4)(c).

SC VII.1 - Pursuant to ROP general conditions 21 and 22 of Part A, Buckeye promptly reported deviations when they occurred.

SC VII.2 – Buckeye demonstrated compliance with the semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A.

SC VII.3 - Buckeye reported annual certification of compliance pursuant to General Conditions 19 and 20 of Part A.

In Compliance:

The semiannual deviation reports and annual certifications were timely submitted in accordance with the terms and conditions cited in the ROP. For details on deviations (if any), refer to the Full Compliance Evaluation (FCE) summary for the specific postmarked

dates when ADQ Detroit Office received the semiannual and annual reports. Semiannual and annual compliance certification and deviations reports are kept on file at the District Office.

Process/Operational Restrictions & Monitoring/Recordkeeping (Applicable to all storage tanks and the loading rack)

Several emission units have a permit condition based on Rule 604: after April 30, 1981, it is unlawful for a person to store any organic compound having a true vapor pressure of more than 1.5 psia, but less than 11 psia, at actual storage conditions in any existing fixed roof stationary vessel of more than 40,000-gallon capacity (e.g. SC III.1 for EUTANK57) unless the tank is pressurized, equipped with a floating cover, or is controlled. Several permit conditions, such as the ones cited below, require Buckeye to monitor and maintain daily records of the maximum true vapor pressure (TVP) of their stored petroleum products at actual storage conditions.

For FGFIXEDROOFTANKS and FGDISTTANKS, the monitoring and recordkeeping is utilized to demonstrate compliance with SC III.1, which limits the true vapor pressure of the materials stored to less than 1.5 psia at the actual storing conditions.

For EUTANK57 (a 3,208,000 gallon vertical fixed roof) Buckeye accepted permit condition SC III.2, which limits the storage of organic compounds which have vapor pressure not exceeding 0.5 psia to avoid becoming subject to 40 CFR 60, Subpart Kb; As explained below, the monitoring and recordkeeping specified under SC VI.1 and SC VI.2 are utilized to demonstrate compliance with SC III.1 and SC III.2. This tank stores distillate oil.

In Compliance:

According to information in AQD's files, Buckeye measures and records the maximum TVP of every batch of gasoline material entering the site. However, they do not directly measure the TVP of inbound distillate materials; instead, they use the point of entry vapor pressure evaluation with supplemental per-shipment specification validation. For details about distillate materials, please refer to the "ROP Certification for TVP of Distillate Materials" dated 11/11/2011.

The records show that the TVP are below the permit limits. The details identifying each tank and the physical characteristics, as well as the properties of the stored materials are maintained on Buckeye's databases as part of their corporate records for all their terminals. For the specific values of TVP of the material stored at each tank, refer to the tables labeled "Liquid Contents of Storage Tank" in the Buckeye's Tank Reports included in Appendix A. For emission calculations Buckeye uses the national RVP schedule for the region as well as the monthly average temperature.

EULOADRACK

Seven bay petroleum products truck loading rack

Pollution Control Equipment: Permanent Vapor Recovery Unit (VRU) or temporary Portable Vapor Combustion System (PVCU) that is not kept at the site.

I - Emission Limits

[SC I.1] - In compliance

Buckeye demonstrated the VOC emissions from EULOADRACK did not exceed 10 mg/liter of gasoline loaded based on a 6-hour test average. The most recent test of the VRU was conducted on July 1, 2020. The test results showed emissions of 0.24 mg/liter. Appendix B includes a summary of the test results. For testing details refer to SC V -Testing/Sampling for EULOADRACK in the following paragraphs.

II - Material Limits

[SC II.1] - In compliance

Buckeye demonstrated the gasoline throughput in EULOADRACK did not exceed 850,000,000 gallons/year based on 12-month rolling-time period as determined at the end of each calendar month. Records covering the 12-month evaluated period, from June 2021 to May 2022, showed a maximum throughput of 517,373,101 gallons/year at the end of June 2021, which is below the permitted amount [Refer to Appendix C].

[SC II.2] - In compliance

Buckeye demonstrated the distillate throughput in EULOADRACK did not exceed 300,000,000 gallons/year based on 12-month rolling time period as determined at the end of each calendar month. Records submitted covering a 12-month period from May June 2021 to May 2022, showed a maximum throughput of 68,830,905 gallons/year at the end of June 2021, which is below the permitted amount [Refer to Appendix C].

III - Process/Operational Restriction

[SC III.1] - In compliance

Buckeye demonstrated compliance with the provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and XX, as they apply to EULOADRACK. Records showed compliance with the best demonstrated technologies to minimize VOC emissions, the test methods and procedures and the reporting and recordkeeping procedures. Refer to various documents in appendices (i.e. Trailer Vapor Tightness and the Driver Agreement Loading Procedures in Appendices E and F).

[SC III.2, 3, 4.a to 4.d, 6, 9 and 10] – In Compliance

Buckeye does not operate the petroleum product truck loading rack unless the vapor recovery system or vapor combustion unit is installed and operating properly. Daily readings of the VRU actual operational parameters are recorded by the terminal operator in preventive maintenance checklists. To assure proper operation of the VRU, the daily readings recorded on the form should be within the listed manufacturer recommended ranges. Any out of the range reading will require notification to the Operator Manager, Service Provider and Vapor Program. An example of a checklist for the week ending on 1/30/2022 is included in Appendix B. According to the records it appears as if the VRU has been operated within the specified operational restrictions. Buckeye hires outside contractors for quarterly, semiannual, and annual preventive maintenance inspections to the VRU and its components (i.e. Vacuum Pumps, Vacuum Assistance Vapor Collection System, Vapor Collection and Piping System, CEMS, etc.). An example of a Dry Vacuum Pump quarterly inspection conducted on 4/26/2022 is included in Appendix B. The contractor included a summary of the elements inspected and its recommendations.

Buckeye demonstrated that loading of liquid product into gasoline tank trucks is limited to vapor-tight gasoline tank trucks using the procedures cited on 40 CFR 60.502(e). Buckeye utilizes a terminal automatic system (via card lock-out) that prevents cargo tanks that do not have valid cargo tank vapor tightness documentation from loading at the loading rack. In addition, the trucks shall be properly connected to the VRU. According to the "Driver Agreement Loading Procedures, in Appendix F, to gain access to the terminal all drivers must use a card reader that identifies the truck with a unique ID. The ID is linked to the vapor tightness certification issued to the tank-truck. Trucks that fail to renew their vapor tightness certification are not allowed to load at the terminal and are automatically locked out. Appendix E "Trailer Vapor Tightness Certification" has various examples of certification

test results for tank trucks. Appendix E and Appendix F contain documentations and/or records demonstrating compliance with the listed SCs.

[SC III.5] - In compliance

Buckeye updated the Malfunction Abatement Plan (MAP) and submitted it to AQD in January 2015 after the installation of a new VRU in 2014. The MAP is in the facility file at the Detroit District Office. The MAP is consistent with Rule 911(2). The plan includes procedures for maintaining and operating the VRU in a satisfactory manner during malfunction events. The MAP has a program for corrective action for malfunction events.

[SC III.7, 8 and 11] - In compliance

Buckeye demonstrated that each calendar month the vapor collection system, the vapor processing system, and the loading rack are inspected to check for vapor and/or liquid leaks during the loading of gasoline tank trucks. The facility implements a monthly equipment leak inspection program (once per calendar month, no less than 28 days and no more than 35 days following the prior inspection) that uses detection methods such as sight, sound or smell to detect fugitive leaks. A few drops are permitted during disconnection of bottom loading dry breaks and from raising top loading vapor heads. Buckeye keeps electronic records of each detected leak and the source of the leak. Repairs are done promptly and no later than fifteen (15) calendar days after the leak is detected. Leaks inspection results are recorded using Leak Detection and Repair Logs (LDAR) forms. There is a LDAR group at a corporate level in Buckeye that evaluates trends to determine if more frequent maintenance is needed when leaks are detected. Minor problems are identified and promptly repaired. Appendix D includes examples of the "abbreviated" monthly forms from May 2021 to June 2022 that served as documentation of the routine monthly leak inspection required by the regulations.

[SC III.12] - In compliance

Buckeye demonstrated they did not allow gasoline to be handled in a manner that would result in vapor release to the atmosphere for extended periods of time by implementing the measures cited under SC III.12.a. to III.12.d. (i.e. minimize gasoline spills, expeditious spill cleaning, use gasket-seals to cover all open containers when not in use, and minimize the amount of gasoline sent to oil/water separators). Each loading bay is equipped with an overflow detector level control system that shuts off product flow to the tanker when the tanker capacity reaches a specified level. The cited measures and additional controls are part of Buckeye's "Spill Prevention Control and Countermeasure Plan" (SPCCP). The SPCCP was last revised on May 23, 2019. The table of content is in AQD files. The full SPCCP is available to AQD upon request. Appendix G includes samples of the checklists used by the operators when conducting SPCC inspections. The operators conduct a visual inspection around the terminal once a shift, at least twice a day.

[SC III.13] - In compliance

Buckeye demonstrated they have developed written procedures (SPCCP) for the implementation of the control measures cited in SC III.12. In addition, the standard loading procedures at the terminal (which are posted and accessible in conspicuous location near the loading rack) include some of the cited measure dealing with spill prevention. Buckeye indicated that the procedures are also taught as part of the driver training program, all drivers are required to go through the procedures. The Loading Procedures are included in Appendix F.

[SC III.14] - In compliance

If Buckeye needs to use the permitted portable VCU (PVCU) temporarily (i.e. for emergency situations or maintenance operations), Buckeye will operate EULOADRACK installing the PVCU within the location specified by the ROP (shaded area on the site plan, Appendix 9 of the ROP). At the time of the inspection Buckeye was not using a PVCU but they are aware of the approved location for the portable unit. The PVCU was last used in year 2014.

[SC III.15] - Refer to discussion under FGMACT6B.

IV – Design/Equipment Parameter(s)

[SC IV.1, 2] - In compliance

According to SC IV.1 (and pursuant to Rule 609(1), after June 30, 1981, it is unlawful for a person to load, or allow the loading of, any organic compound that has a true vapor pressure (TVP) of more than 1.5 psia (at actual conditions) from any stationary vessel into any delivery vessel located at an existing loading facility which has a throughput of 5,000,000 or more gallons of such compounds per year, unless such delivery vessel is filled by a submerged fill pipe.

Buckeye handles more than 5,000,000 gallons of organic compounds with TVP above 1.5 psia. Buckeye uses the bottom-loading method for the loading of organic compounds with the cited vapor pressure condition. In the bottom loading method, a permanent fill pipe is attached to the cargo tank bottom. During most of submerged loading the fill pipe opening is below the liquid surface level. Liquid turbulence is controlled significantly during submerged loading, resulting in much lower vapor generation than encountered during splash loading. Buckeye demonstrated that the vapor collection system was designed to prevent any total organic compounds vapor collected at one loading rack from passing to another loading rack. Refer to the Loading Procedures in Appendix F.

[SC IV.3 and IV.4] - In compliance

Buckeye demonstrated that the vapor collection and liquid loading equipment are designed and operated to prevent gauge pressure in the delivery tank from exceeding 450 mm of water (18 inches of water) during product loading. Compliance with this requirement is obtained by monitoring pressure using a calibrated pressure measurement device which is installed on the terminal's vapor collection system at the nearest location to the connection with the gasoline tank truck. Buckeye monitors the header pressures at the vapor collection system and obtains performance records using the "Rack Management System" data collection.

[SC IV.5] - In compliance

Buckeye demonstrated that the delivery vessels located at the facility are equipped, maintained, or controlled with a device to achieve complete drainage before loading disconnection, or to prevent liquid drainage from the loading device when not in use. Buckeye indicated that each loading arm is equipped with a dry-break coupler that is connected to the truck to minimize liquid loss during loading and unloading operations.

[SC VI. 6] - In compliance

Buckeye demonstrated that any delivery vessel located at the facility is equipped, maintained or controlled with pressure vacuum relief valves that are vapor tight and set to prevent the emission of displaced organic vapor during the loading of the delivery vessel. The pressure vacuum relief valves on delivery vessels are vapor tight. This is documented through the Trailer Vapor Tightness Certifications and Loading Procedures [Appendix E and Appendix F].

[SC IV. 7] - In compliance

Buckeye demonstrated any delivery vessel located at the facility is equipped, maintained, or controlled with hatch openings that are kept closed and vapor-tight during the loading of the delivery vessel. Refer to the Trailer Vapor Tightness Certifications and Loading Procedures [Appendix E and Appendix F].

[SC IV. 8] - Not Applicable: Buckeye does not have a flare control system.

V - Testing/Sampling

[SC V.1, 4, 5] – In compliance: According to the language in the ROP, Buckeye shall verify the VOC emission rate from EULOADRACK by testing in accordance with Department requirements within 365 days of issue date of the permit and once every 5 consecutive years thereafter.

On 1/30/2020 the AQD Detroit District Office received a test protocol for VRU testing. The test protocol was approved by AQD Technical Program Unit (TPU) on 2/26/2020. To comply with the five-year testing cycle the projected test date was 3/19/2020, but due to COVID -19 pandemic the test was rescheduled for 7/1/2020. On 7/1/2020 AQD -TPU staff witnessed the test, which was completed in accordance with the AQD approved protocol and following the accepted procedures and test methods. For details about AQD test observations refer to the TPU report in AQD database.

A hard copy of the test results was mailed to the AQD Detroit District Office on 7/30/2020 and Ms. Rachel Farnum, Buckeye's consultant engineers (Envirospec, Engineering, PLLC) forwarded the report to AQD Detroit District staff via email on 8/3/2020. The results of the performance test demonstrated that the source is in compliance with the applicable requirements and the VOC emissions did not exceed the emission limits established in the ROP. The summary of the performance test results is presented in Appendix B. The results showed VOC emissions equal to 0.24 mg/L which are below the permit limits of 10 mg/L of gasoline loaded. The previous test conducted on 4/22/2015 had VOC emissions of 1.15 mg/L.

The portable unit (PVCU), that unit was last tested on 4/23/2014 with resulting VOC emissions of 0.24 mg/L. After the installation of the new VRU, which became operational on 12/16/2014, the PVCU has not been brought to the site and has not been used. therefore, the testing requirements are not applicable to the PVCU.

In conclusion, during the last five-year testing cycle Buckeye has submitted tests protocol for AQD approval within the required timeframes. After AQD approved the test plans, Buckeye has tested both control units (VRU and the PVCU) and the reports with the test results have been timely submitted to AQD. For both control units, the testing results have shown VOC emission rates from EULOADRACK in compliance with the VOC permit limits of 10 mg/L.

[SC V.2] - In compliance

In conducting the performance test required by condition SC V.1, Buckeye used the methods and procedures cited in 40 CFR 60, Section 60.8, except that the three-run requirement of Section 60.8(f) does not apply. The final reports, with the details of performance test methods, was submitted to AQD and are available in AQD files.

[SC V.3] - In compliance

Before conducting the performance test cited in SC V.1 and SC V.2, the facility used Method 21 to monitor for leakage of vapor at all potential sources in the terminal's vapor collection system equipment while a gasoline tank truck was being loaded. Buckeye stated that no leakages in excess of 500 ppm (as methane) were detected.

[SC V.6 and V.7] - These conditions will be addressed under FGMACT6B.

VI. Monitoring/Recordkeeping

[SC VI.1] - In compliance

Buckeye keeps records of the EULOADRACK throughput volume of each specific petroleum product for each calendar month and each 12-month rolling time period. All records are kept on file for a period of at least five years and are available to the Department upon request. Buckeye keeps electronic records of their production and emissions under "BEST- Buckeye's tank emissions and management system". A copy of records requested for the period from June 1, 2021, to May 31, 2022 are attached in Appendix C.

[SC VI.2, 3, 4, 5, 6, 8, 9] - In compliance

Buckeye keeps records of "Truck Vapor Tightness Inspections/Certification" for all the trucks that load product at the terminal. Electronic and hard copies are maintained for at least five years. The vapor tightness documentation includes the information described in 60.505(b). The records are updated at least once per year to reflect current test results as determined by EPA Method 27. Notification to the owner of a non-vapor-tight tank truck is automatic since those tank trucks cannot load via the card lock-out system. AQD requested recent Truck Vapor Tightness Certification records. They were available for inspection. A few examples of the tests conducted in year 2022 were collected during the inspection and the forms are attached in Appendix E. The copies of each record are an exact duplicate image of the original paper record with certifying signatures.

[SC VI. 7] - In compliance

Buckeye keeps records of each monthly leak inspections required under Section 60.502(j). The records are kept electronically and are available for inspection. As indicated earlier in this report, leaks inspection results are recorded using Leak Detection and Repair Logs (LDAR) forms. The forms include the information required by 60.505(c): date of the inspection, the findings, leak determination method, the corrective action & date, and the inspector's name. I collected a simplified version of the of LDAR log forms. A few examples of LDAR logs have been included in Appendix D.

VII. Reporting – These conditions were evaluated under ROP common requirements, with the exception of VII.4 and 5, which are requirements of 40 CFR 63 Subpart BBBBBB and addressed later in this report.

VIII. Stack/Vent Restriction (s) - In compliance

There have not been changes to the dimensions of the VRU stack identified in the ROP. No visible emissions were observed.

FGMACT6B

Area source gasoline distribution bulk terminal with gasoline storage tanks and gasoline loading racks emitting hazardous air pollutants (HAP) subject to 40 CFR 63 Subpart BBBBBB (MACT6B).

Emission Units: EULOADRACK, EUTANK12, EUTANK14, EUTANK15, EUTANK16, EUTANK17, EUTANK18, EUTANK20, EUTANK22, EUTANK23 & EUTANK56

Pollution Control Equipment: Internal floating roofs, VRU, or a PVCU whose location is restricted to the area shaded on the site plan in Appendix 9 of the ROP.

The U.S. EPA has not delegated authority to the State of Michigan to implement and enforce the requirements of MACT6B as they apply to the Gasoline Distribution Bulk Terminals. However, the applicable requirements from MACT6B have been incorporated into the ROP. Buckeye is under the obligation to demonstrate to the U.S. EPA that they are in compliance with the emission limitations and management practices, which include fulfilling the design and operational parameters, monitoring/recordkeeping and reporting requirements cited in the ROP.

As part of this inspection, the AQD examined MACT6B requirements and the ROP special conditions for FGMACT6B as they apply to Buckeye. Here are some observations:

- Buckeye Terminal started its operations before January 10, 2008; therefore, it is an existing affected source that needed to show compliance with the requirements of MACT6B by January 10, 2011 by submitting a "Notification of Compliance Status" (NOCS) to the U.S EPA.
- AQD received copies of the applicable notifications submitted to the US EPA as required under 40 CFR 63.11093. The following notifications were submitted by BP Products North America, the terminal's previous owners:
- Initial Notification dated May 8, 2008; received by AQD on May 14, 2008.

The Initial Notification included the elements dictated by 63.9 (b) (2)(i) through (v). A summary table listed the emission units (EUs) subject to MACT6B with details of the size, design, and method of pollution control.

- NOCS with signed certification by the Responsible Official dated January 6, 2011, was received by AQD on January 10, 2011. A modified NOCS was submitted in 2017 amending the 2011 submittal. The NOCS modification is explained in the last paragraph of this section.

Among other things, in the NOCS the company selected the method they would be using to demonstrate compliance with the reduction of TOC emissions to the limits established by the regulation. The company selected to conduct "performance test" on the vapor processing and collection system using the test methods and procedures identified in 60.503 (NSPS – Subpart XX). A performance test on the VRU was conducted on 7/1/2020. This was evaluated as part of EULOADRACK.

A facility conducting a performance test shall also comply with the provisions cited under 63.11092(b) which requires the installation of a Continuous Monitoring System (CMS) by January 10, 2011. In the NOCS the company selected an alternative monitoring allowed by the provisions in 63.11092 (b)(1)(i)(B). Instead of installing a Continuous Emission Monitoring System (CEMS) capable of measuring organic compound concentration in the exhaust air, they selected monitoring the vacuum level of the carbon adsorption device using a pressure transmitter installed in the vacuum pump suction line. An operating parameter of 26 inches of mercury (as the lowest value) was set by the VRU manufacturer. The monitoring and inspection plan, which is a requirement under this option, was also submitted with the NOCS. The plan included site-specific operating parameter conditions that would be considered malfunctions of the carbon adsorption system.

An updated table with the list of storage vessels, capacity, type of roof, and a citation of the regulatory standards for tank management practices (i.e. Part 63, Subpart WW) was included as part of the NOCS, and three tanks (Tanks 12,22 and 56) were identified as to be regulated under NSPS, Subpart Kb.

Amendment to the 2011 NOC submittal: Per the original NOCS, Buckeye operated the loading rack using the alternative parameter monitoring (i.e. monitoring the vacuum level of the carbon adsorption device) to monitor VRU operations. However, with the installation of the new VRU in 2014 they also installed a CEMS capable of measuring organic compound concentration per 63.11092(b)(1)(i)(A). On November 8, 2017, AQD received a Change in Information Notification per 63.9(j), dated October 31, 2017. The modified NOCS indicated that a CEMS is used to demonstrate compliance under Subpart 6B. The average hydrocarbon outlet percent is monitored to ensure it does not exceed a six-hour average limit of 0.78 vol. % propane, which correspond to the ROP EULOADRACK VOC emission limit of 10 mg/L of gasoline loaded. The averaging time is a six-hour rolling average. In the event of CEMS downtime, alternative monitoring parameters will be observed in accordance with the original NOCS.

ROP Special Conditions for FGMACT6B

Compliance status not assessed. Michigan does not have delegation for Subpart 6B. However, as a reference, AQD inspector have included various comments regarding the applicable requirements

I. Emission Limits - Refer to EULOADRACK

II. Material Limits - Not Applicable

III. Process and Operational Restrictions – The ROP does not list any special conditions under this section.

IV. Design/Equipment Parameters

[SC IV.1a and b] – These conditions refer to the management practices, design features and operational conditions to control VOCs in tanks with capacities greater than or equal to 75 cubic meters storing VOL. The applicable requirements are cited under Part 63 Subpart 6B by referencing Part 60, Subpart Kb requirements.

All tanks in this flexible group are equipped with a fixed roof and an IFR and/or EFR. The floating roof design configurations, seals, vents, openings, operation, and inspection frequency requirements are dictated by the applicable regulations. In the semiannual reports submitted in compliance with Subpart 6B, Buckeye certified compliance with Part 63, Subpart WW (Standard for Storage Vessel –Control Level 2). Subpart 6B references the use of Subpart WW for the air emission controls of the storage tanks subject to option 2(d) in Table 1 of Subpart 6B. A cursory review of Subpart WW was conducted, and it looks like the floating roof design, the operational restrictions and the inspections requirements cited in Subpart WW are similar to the ones cited in the Subpart Kb regulations. The exceptions seem to be the additional reporting requirements under Subpart WW.

[SC IV.2] – This condition relates to requirements under 63.11087 which refer to the control requirements of Part 60, Subpart Kb, which have been already evaluated.

V. Testing/Sampling

[SC V. 6] - Buckeye terminal is subject to the emission standards cited in item 1(b) of Table 2 of Subpart 6B which requires VOC emissions less than or equal to 80 mg/L loaded from the vapor processing unit. As indicated earlier, Buckeye had demonstrated compliance with this limit by performance testing of the VRU exhaust stack, according to paragraph (a)(1) of

63.11092 and using test methods and procedures in 60.503; except that reading of 500 ppm is used to determine level of leaks to be repaired.

[SCV.7] – According to Subpart 6B, under 63.11092(a)(2), Buckeye may submit a statement by a responsible official certifying the compliance status of EULOADRACK in lieu of the test required under paragraph (a)(1) of 63.11092. However, the request to use this alternative must be submitted to the U.S. EPA for approval.

VI. Monitoring/Recordkeeping

[SC VI.1 to 5] - These special conditions refer to the equipment leak inspections requirements under Subpart 6B, specified in section 63.11089 (a) to (d) for bulk gasoline terminals. These requirements are equivalent to the monthly leak inspections and reporting listed under 60.502(e) and 60.505(b) of Part 60, Subpart XX. Compliance has been evaluated under EUOADRACK.

VII. Reporting

AQD receives copies of the semiannual reporting of monitoring and deviations, as well as semiannual excess emission reports that are sent to EPA. The reports are submitted in compliance with 63.11095 and are received by the March 15 deadline for reporting period July 1 to December 31 and by September 15 for reporting period January 1 to June 30.

The semiannual and annual reports for the evaluated period indicated that there were no instances during which a cargo tank loaded via the loading rack failed to have the proper vapor tightness documentation. The facility did not report equipment leaks or malfunctions. CMS downtime was reported for both periods, but the total CMS downtime was always less than 5% of the total operating time for the reporting periods. There were no excess emissions reported.

Only summary reports as required per 63.10(e)(3)(vii) were submitted with the semiannual reports. The full excess emissions and CMS performance reports need not be submitted if the total duration of the excess emissions for the reporting period is less than 1% and CMS downtime for the reporting period is less than 5% of the total operating time for the reporting period.

FGASNPS, PTI 100-17, and PTI 6-18

The FGASNPS provisions within the ROP have been superseded by the FGASNPS provisions within PTI 100-17 and PTI 6-18.

Emissions from four petroleum products storage tanks, each equipped with an internal floating roof including landing (3 events /year /tank) and cleanings.

Emission Units: EUTANK12, EUTANK16, EUTANK22, & EUTANK56

Pollution Control Equipment: Internal floating Roof (IFR)

I. Emission Limits - Not applicable

II. Material Limits - Not applicable

III. Process/Operational Restrictions

[SC III.1] – In compliance

Buckeye seems to comply with the provisions specified in 40 CFR Part 60 Subparts A and Kb, as they apply to FGGASNPS. The aspects evaluated during this inspection included those cited under 60.112b (standards of roof configurations and roof fitting for VOC emission controls); 60.113b (testing and procedures); 60.115b (reporting and recordkeeping requirements) and 60.116b (monitoring). Buckeye's compliance with the cited sections of Subpart Kb is detailed in the following sections.

[SC III.2] from PTI 100-17 - In compliance

According to this condition Buckeye shall not store any petroleum product in EUTANK16 other than denatured ethanol. Records show that for the evaluated period Tank 16 was storing denatured ethanol.

IV. Design and Equipment Parameters

[SC IV.1] – In compliance

All the above listed storage vessels are equipped and maintained with a floating roof which rests upon, and is supported, by the liquid being contained, and has seals to reduce the space between the cover roof and the vessel wall.

Buckeye keeps electronic records listing the design features for each tank installed at the terminal. All four (4) IFR tanks have a primary seal and a secondary seal. For tank details, refer to “Tank Identification and Physical Characteristics” in Appendix A. Also, a separate summary table identifying the type of seals for all IFR tanks prepared by Paul Ransom (Operation Manager) for the inspection of June 12, 2019, is in AQD files.

[SC IV.2] – In compliance

The routine annual in-service IFR seal “Through-the Hatch” inspections were performed by the terminal operators. I collected samples of the inspection forms completed by the operators for Tanks 12, 16, 22 and 56, for year 2022. All records are in Appendix I. They showed that there were no seals detached, no holes, tears, or other openings visible in the seal fabric; and there were no “nonfunctional” openings in the inspected tanks. Please refer to section SC VI.1a for details about the procedure followed by the operators during this type of inspections.

According to the tank inspection schedule provided by Buckeye, which has been included in Appendix H, the most recent external in-service tank inspections conducted by outside contractors for IFR tanks were completed on 6/9/2022, for Tank 17 (blend stocks storage tank) and on 4/22/2021, on Tank 16, the denatured ethanol storage tank.

Out-of-Service Inspections are a more comprehensive inspection conducted with the tank empty. External and internal tank elements are evaluated from top to bottom; (i.e. the foundation, shell, paint, nozzles, seals, roof, IFR, seals, etc.). Among other things, the inspectors recommend sealing cracks if they are found in the concrete-ring wall foundation and repairing or replacing seals when they are found defective. For details refer to previous inspection reports.

In this inspection I did not ask for the tanks’ inspection reports and/or information to verify the implementation of any repairs and/or recommendations given by the contractors, but this should be followed-up with the facility in future inspections.

[SC IV.3] – In Compliance

All tanks grouped under FGGASNSPS are equipped with covers fitted with gaskets that completely cover all openings (refer to Appendix A) except for those which are no larger than necessary to allow safe clearance for the floating roof. Buckeye indicated that the openings are always covered except when in actual use.

V. Testing/Sampling

Not Applicable

VI. Monitoring/Recordkeeping

Monitoring records and inspection reports demonstrating compliance with Special Conditions VI and VII cited below, include: annual in-service IFR seal “Through-the Hatch” inspection forms, and “OOS Tank Inspection Reports”. After the installation of the of the control equipment (fixed roof and internal floating roof) in the tanks, Buckeye has

demonstrated compliance with the following conditions, by monitoring and keeping inspection records for a period of five years:

[SC VI.1a] - In compliance

The procedure for the in-service routine annual IFR seals inspection is as follows: After opening the access hatch on the fixed roof, using an intrinsically safe flashlight the operators inspect the floating roof, control fittings, primary seal, and secondary seal prior to filling the storage vessel. They check for corrosion, detached seals, product on floating roof, or holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or any defects in the internal floating roof, or both. If necessary, the defects are repaired before filling the storage vessel.

[SC VI.1b] – In compliance

Buckeye's operators conduct "Through-the Hatch" inspections at least once every 12 months and every five years the inspection is conducted by a contractor. They visually inspect the IFR, the primary seal, and the secondary seal through manholes and roof hatches on the fixed roof. If the IFR 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 items are repaired, or the tank is emptied and removed from service within 45 days. If a failure detected during inspections cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, Buckeye is aware that they must ask AQD for a 30-day extension in the inspection report required in 60.115b(a)(3).

[SC VI.1c and d] –In Compliance

Tanks 12, 16, 22, and 56 are equipped with a double-seal system: a primary seal and a rim mounted wiper seal (secondary seal). The requirements of 60.113b(a)(3) cited under NSPS, Subpart Kb dictate the inspection frequency applicable to storage tanks equipped with double-seal systems. Under Subpart Kb, there are two different schemes dictating the frequencies of visual inspections for those tanks. Buckeye seems to have selected the option of inspecting the tanks once every twelve months when the tanks are in-service. The final rule approved by EPA in 2021 allows operators of tanks regulated under the New Source Performance Standards of Subpart Kb to use the in-service inspection requirements of Subpart WW to conduct periodic inspections of internal floating roof rim seals. This rule would eliminate the need for tank operators to empty their Subpart Kb tanks and remove them from service to conduct these inspections. Under this option they are required to conduct a more detailed inspection with the tanks out-of-service (OOS) at intervals no greater than 10 years. During the OOS the tanks are emptied and degassed.

After examining the tank schedule in Appendix H, it appears as if Buckeye is following the frequency of inspections dictated by 60.113b(a)(2) and 60.113b(a)(3)(ii) for Tanks 12,16, and 22. See next paragraphs for Tank 56.

[SC VI.1e] – In compliance

This condition requires Buckeye to adhere to the following procedure: Buckeye shall notify AQD in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by their planned schedule to offer AQD the opportunity of having an observer present. If the OOS inspection is not planned, and Buckeye could not have known about the inspection 30 days in advance or refilling the tank, then Buckeye shall notify AQD at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation, or by express mail so that it is received by AQD at least 7 days prior to the refilling.

According to the tank maintenance schedule provided by Buckeye, there has not been any OOS inspection for Tanks 12, 16, 22, and 56 within the last year. Consequently, AQD has not received recent notifications of planned/scheduled OOS tanks inspections for the cited tanks. The next OOS inspections for Tank 12 and Tank 22 are planned for year 2024. Tank 16 is scheduled for year 2027. Tank 56 was storing diesel in year 2019 until October 2019 and it was switched to gasoline blends storage in November 2019. The current schedule shows that the next OOS inspection for Tank 56 is in year 2034. If this tank continues to hold organic liquid having true vapor pressure of more than 0.75 psia, but less than 11 psia, the AQD will revisit the OOS inspection period and discuss it with Buckeye to make sure it does not exceed the required 10-year period.

[SC VI.2] – In compliance

Buckeye keeps electronic records that show the dimensions and the capacities of each storage vessel. The records are submitted annually as back up information with the Michigan Emission Report System (MAERS) reports. The records are kept as long as the storage vessel remains in operation. Refer to Appendix A.

[SC VI.3] – In compliance

Buckeye maintains a record of the volatile organic liquid (VOL) stored, the period of storage, and the maximum true vapor pressure (TVP) of the VOL during the respective storage period. Records are kept in their electronic database. Refer to Appendix A

[SC VI.4] – In compliance

According to this condition, Buckeye shall notify AQD within 30 days when the maximum TVP of the liquid exceeds the respective maximum TVP values for each volume range, as follows: 0.75 psia maximum for vessels equal to or greater than 950 barrels (bbl.) The notification of a TVP change helps AQD to determine if the change in the liquid stored in the tanks triggers the application of NSPS, Subpart Kb requirements.

All the tanks grouped under FGGASNSPS have volumes above 950 bbl. According to the records submitted by Buckeye, for the evaluated period from June 2021 to May 2022, there have not been changes in the liquids stored in Tanks 12, 16, and 22 since the inspection conducted on 7/1/2020. The blend stocks in Tank 56 shows TVP ranging from 5 to 6 psia. Starting November 2019, Tank 56 is subject to the Subpart Kb requirements. AQD was notified of this change within the required timeframe. The plans to store gasoline blend stocks in Tank 56 continues to be the case.

VII. Reporting

[SC VII.1.a.(1)] – In compliance:

AQD records indicate that Tanks 12, 22 and 56 were installed at the terminal in 1994, 1992 and 1993, respectively. The tanks have always been identified by Buckeye as regulated under NSPS, Subpart Kb. As such, it is assumed that after the installation of the control equipment in the tanks (fixed roof and internal floating roof), Buckeye provided a notification to AQD indicating the date of initial startup of the tanks within 15 days after the startup, including a report describing the control equipment and a certification that the control equipment met the applicable requirements under 60.112b(a)(1) and 60.113b(a)(1)] of Subpart Kb. However, AQD's files do not appear to contain documentation of Buckeye's initial notification, except for the one submitted as part of MACT, Subpart BBBB. The MACT notification is used here for compliance purposes with this condition. Tank 16 was modified in year 2017 and a written notification meeting the applicable reporting requirements was provided to AQD within 15 days after the startup.

[SC VII.1.a.(2)] - In compliance

Buckeye keeps records of each annual inspection performed as required by the applicable requirements of Subpart Kb. Each record identifies the storage vessel on which the inspection was performed and contains the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings). Refer to Appendix H.

[SC VII.1.a.(3)] - In compliance: According to the records, after completing the annual visual inspections of Tanks 12, 16, 22 and 56 in 2022, Buckeye did not find any defects or imperfections in the tank control system that they deemed necessary to report to AQD.

[SC VII.1.a.(4)] - Not applicable for the evaluated period
According to this condition Buckeye shall provide a report to AQD within 30 days of an out-of-service (OOS) inspection if a defective condition as described in SC VI.1.b has been detected on any of the component of the control equipment (seals, internal floating roof, and fittings) in the inspected tank. The report must identify the storage vessel, the nature and suspected reasons of the defects, the list of each repair made and the dates of the repairs. As cited under SC IV.2 and SC IV.3, and according to the tank's inspection schedule included in Appendix H, there have not been recent OOS inspections for the listed tanks.

FGGASTANKS and PTI 100-17

The FGGASTANKS provisions within the ROP have been superseded by the FGGASTANKS provisions within PTI 100-17

Description:

Emissions from nine petroleum products storage tanks each equipped with an internal floating roof including landing emissions (3/year/tank) and cleanings.

Emission Units: EUTANK14, EUTANK15, EUTANK17, EUTANK18, EUTANK20, EUTANK23, EUTANK24 & EUTANK25 (Tanks 14, 24 and 25 have not been use for more than 20 years)

Pollution Control Equipment: Internal floating roof

[SC I, II, III] – Not applicable

IV. Design/Equipment Parameter(s)

[SC IV.1 to IV.3] - In compliance

All tanks grouped into FGASTANKS are equipped and maintained with floating roof which rests upon, and are supported, by the liquid being contained and has a closure seal or seals to reduce the space between the cover roof and the vessel wall. For demonstration of compliance with these conditions refer to the "Physical Characteristics - Tanks Summary" in Appendix A and the examples of annual in-service internal floating roof seal "through-the-hatch inspections" for year 2022 collected in Appendix H.

According to the inspection reports in Appendix H, the seal or any seal fabric did not have visible holes, tears, or other malfunction openings.

Buckeye indicated that all emission units within FGGASTANKS have covers that completely cover all openings except for those which are no larger than necessary to allow safe clearance for the floating roof. The openings are always covered except when in actual use.

V. Testing/Sampling – Not applicable

VI. Monitoring/Recordkeeping

[SC VI.1 and 2] - In compliance

Buckeye monitors and keeps records of true vapor pressure of all organic compounds stored at actual storage conditions. The records are kept for a period of 5 years or more.

Buckeye keeps readily accessible records that show the dimensions and the storage capacity of each storage vessel. The records are kept electronically in the terminal's database Buckeye Emission Inventory (BETHY) and are provided as background information with the yearly submittal of the emission report (MAERS). See Appendix A.

VII. Reporting

[SC VII. 1, 2 and 3] – In compliance: These conditions have been evaluated earlier in this report under “ROP Common Requirements”

EUAIRSTRIPPER

Run-off water treatment system consisting of an air stripper.

Pollution Control Equipment: No controls and no exhaust stacks

I. Emission Limits - In Compliance

The VOC limit for EUAIRSTRIPPER is 20 lbs. per month (in a calendar month). See section III and VI below for compliance analysis.

II. Material Limits - Not applicable

III. Process/Operational Restrictions

[SC III.1] Buckeye is in compliance with the provisions of Rule 290 as they apply to EUAIRSTRIPPER. The total pounds of emissions for all listed pollutants were reported as zeros.

[IV and IV] - Design/Equipment Parameters and Testing/Sampling - Not applicable

VI. Monitoring/Recordkeeping

[SC VI.1] – In compliance

Buckeye maintains for a period of five years the monthly records of total VOC concentration determined using the standard EGLE groundwater analytical scans for VOCs.

AQD requested the analytical results for sampling conducted during the most recent months of 2022. Buckeye provided the results for the analysis of the samples collected at the stripper influent, post stripper, between carbons and discharge, for the months of April, May and June of 2022. The records were acceptable, and the lab certified that the results conform to the most current standards and Quality Assurance and Quality Control (QA/QC) procedures. According to the analytical results the water influent and water discharge samples, in/out of the Air Stripper System, showed non-detectable (ND) concentration for the VOCs listed pollutants.

Buckeye has not requested changes in the sampling frequency since the renewal of the ROP in 2016. Any request for a change shall be submitted to the AQD District Supervisor for review and approval.

[SC VI.2 and VI.3] – In compliance

As required by the ROP, Buckeye monitors and records in a satisfactory manner, the flow rate, the total VOC concentration, and the calculated HAPs concentration of the air stripper influent and effluent water streams monthly.

The monthly form is filled out by the operator to show the daily rate of treated water. All required calculations are completed electronically in accordance with the ROP - Appendix 7; and using the results of the lab analysis and the water flowrate.

Buckeye provided a summary table showing the monthly record for year 2022 and the calculated HAPs concentration at the discharge. Since all the analytical results showed non-detectable (ND) concentration for the VOCs and HAPs listed pollutants, it was expected that the actual calculations show “zero” emissions for the evaluated period.

VII. Reporting

[SC VII. 1, 2 and 3] – In compliance: These conditions have been evaluated earlier in this report under “ROP Common Requirements”

FGRULE290 - EUBUTANE

In Compliance

Buckeye operates a 117,905-gallon horizontal pressurized butane storage tank which was installed in 2012. The butane storage tank is exempt from the requirements to obtain a Permit to Install (PTI) under Michigan Air Pollution Control Rule 290 (Rule 290), which exempts an emission unit with limited emissions.

The probabilities of having vapor emissions from the Butane system during withdrawal operations are unlikely. As indicated earlier, Butane is used at the terminal as a blending element for gasoline. Butane has a Reid Vapor Pressure (RVP) of 52 psi, which means pure butane is a gas at normal pressures and temperatures. However, it is maintained in its liquid phase in a low pressurized tank. The blending protocols and operational variables are maintained to keep the system safe and under the specified pressures so that the pressurized system remains as a closed system.

The Butane tank is subject to the emission limits and monitoring and recordkeeping conditions cited under Sections I and Section VI of ROP for FGRULE290. A document demonstrating the applicability of Rule 290 to EUBUTANE substantiating compliance with the cited conditions, was submitted by Buckeye via email on 8/9/2017. AQD accepted the demonstration. A copy of the document is saved in AQD files.

EXEMPT EQUIPMENT

AQD keeps a list of the exempt equipment that Buckeye claimed to be exempt from Rule 201 permitting. An updated list was submitted in 2015 during the last ROP renewal. Ten out of the thirteen exempt storage tanks listed on the ROP Staff Report of 2015 are still at the facility. However, there are three vertical fix-roof wastewater storage tanks identified with the numbers 54A, 54B and 54C that are not currently in the facility. An email from Kimberly Trostel dated 8/8/2017 indicated that the cited tanks were old tanks used in conjunction with an old oil water separator system. The tanks have since, and before Buckeye's ownership, been dismantled and removed.

The three furnaces (exempt under Rule 282(b)(ii)) are still part of the building heating system. Two 4-hp gasoline IC engines (EUICE1 and 2) are part of the “trash pumps”. However, the 15-hp gasoline ICE engine identified as EUICE is no longer at the terminal. Tank 55, with a shell capacity of 573,000 gallons, is known by the facility operators as the “vapor holding tank”. This tank is not listed in the ROP and it is not identified as exempt equipment. According to Mr. Coleman, this tank is used during maintenance operations of the VRU to hold vapors. In an email dated 8/16/2017, Ms. Trostel said that Tank 55 is a “bladder tank,” or vapor holding tank for the VRU. She added that the tank is a closed system and does not emit VOCs due to the internal bladder. From her observations, it is inferred that this tank has been permitted as part of the VRU.

All the clarifications cited above for the exempt equipment shall be noted for future ROP updates. Buckeye shall submit a revised/updated list of the exempt equipment with the applicability of Rule 201 exemptions as required per Rule 278a during the ROP renewal process.

8. MAERS AUDIT

MAERS for emission year 2021 was timely submitted by Buckeye on 3/11/2022. The report was evaluated by AQD during the month of May. The submittal appeared to be accurate with no apparent errors and the reported emissions correlate with the change in throughputs. AQD staff accepted/passed the report without modifications to the original report.

For details of the emissions and MAERS report evaluation, please refer to the compliance activity report CA_ B2298744527 in our records files.

9. FINAL COMPLIANCE DETERMINATION

As a result of the inspection and compliance evaluation conducted for Buckeye Terminals, LLC at River Rouge, the facility was found to be operating in substantial compliance with the applicable state and federal air regulations.

Follow-up issues:

- PTI 100-17 issued on 8/15/2017, and PTI 6-18 issued on 4/4/2018, should be incorporated into the ROP during the renewal process.
- During the ROP renewal process AQD will remind the facility to submit a revised/updated list of the exempt equipment with the applicability of Rule 201 exemptions as required per Rule 278a.

NAME

Handoral

DATE

12/15/2022

SUPERVISOR

JK

