

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

B224763891

FACILITY: BUCKEYE TERMINALS, LLC-DETROIT TERMINAL		SRN / ID: B2247
LOCATION: 700 S DEACON ST, DETROIT		DISTRICT: Detroit
CITY: DETROIT		COUNTY: WAYNE
CONTACT: Kimberly Trostel, Senior Air Compliance 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 B2247 - BUCKEYE TERMINALS, LLC – Detroit

FACILITY ADDRESS: 700 South Deacon Street, Detroit, Michigan 48217

INSPECTION DATE: 7/13/2022

INSPECTOR: Nazaret Sandoval (EGLE-AQD)

TERMINAL PERSONNEL PRESENT:

Michael Barrett - Terminal Specialist II
Randle Green – Terminal Operator

MAIN COMPLIANCE CONTACT:

Kimberly Trostel, (ktrostel@buckeye.com)
Phone: 419 993-8003; Mobile Phone: 419 549-0054

1.- SAFETY EQUIPMENT/SAFETY TRAINING/SECURITY

Hardhat, safety glasses, and steel-toed boots are required throughout the plant. Flame-resistant garments/flame-resistant clothing is not required for a site visit. Buckeye plant staff will provide coveralls to the AQD inspector if at the time of the visit they are performing certain jobs that require special protection. Buckeye recommends caution and would rather keep visitors away from working areas that could potentially be a threat.

2.- FACILITY DESCRIPTION

Buckeye Terminals, LLC is located in southwest Detroit, between the Fisher Freeway (Interstate 75) and the Rouge River. The nearest residential area is approximately 150 yards to the south, on the south side of W. Pleasant St.

The facility is a petroleum hydrocarbon fuels distribution terminal. The products are received by pipeline and stored in fixed-roof storage vessels with internal floating roofs. There are several above-ground storage tanks ranging in sizes from about 30,000 gallons to 4.6 million gallons designated for either gasoline or distillate service. Gasoline and diesel additives are stored in fixed roof tanks. The facility also has a 10,000-gallon petroleum contact water (PCW) tank for wastewater storage, a 4,000-gallon PCW overflow tank, and a 54,600-gallon pressurized butane tank. Butane is used at the terminal as a blending element for gasoline to control the Reid Vapor Pressure (RVP).

Gasoline and distillate are bottom loaded into tank trucks for distribution to marketing stations. Gasoline additive is metered into gasoline during tank truck loading.

The terminal has a four-bay tank truck loading rack. Each rack is equipped with hoses and associated piping that hook up to a vapor control system. During loading operations, the vapors displaced from 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. There are 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.

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. Operators that fail to renew their vapor tightness certification for a given truck are not allowed to load product to that truck at the terminal.

The facility has an air stripper unit operation for the treatment of run-off wastewater containing dissolved concentrations of gasoline previous to the discharge to the sanitary sewer system.

The facility is capable of operating 24 hours per day, 365 days per year. The terminal operates with three people on site working in a 12 hrs. shift (8 hrs. on site and 4 hrs. on-call). The number of truck loadings per day at the facility varies with the market trends.

The original equipment listing submitted by Buckeye is on record. During the inspection of 2020, AQD requested an update of the equipment inventory to verify the following information: tank identification (IDs), description, capacities of the tanks, dates of installation/modifications, products and storage status (i.e. active, out of service, removed), list of exempt equipment and permitted emission units. From the information provided in 2020, it was determined that most of the information that had been collected during the inspection of 6/20/2018 was current in 2020, with a few updates recorded on 6/25/2020. The list of exempt equipment was revised to include three small fuel-additive tanks identified as tanks No. 22, No. 23, and No. 24, which were installed within five years before 2020 and are exempt from the requirement to obtain a permit to install. The former fuel-additive tanks, No.13, No.14, and No. 21, have been permanently removed from the terminal.

No changes/updates were provided during the inspection of 7/13/2022.

Except for the above cited additions/modifications, the Buckeye Detroit Terminal Plan View dated 4/24/2014 which was provided to AQD on 7/28/2016 is still current. A copy of that diagram is kept in the Detroit District Facility Files.

3.- REGULATORY ANALYSIS

The facility is considered a major Title V source for VOC. The potential emissions of VOC exceed 100 tons per year. The operations are regulated under a Renewable Operating Permit (ROP) number MI-ROP-B2247-2020, issued on 11/16/2020 to Buckeye Terminals, LLC – Detroit Terminal. The ROP expiration date is 11/16/2025.

For further analysis of the applicable regulations, a permit history of the source, and the list of the emission units that are exempt from the requirements of Rule 201 to obtain a Permit

to Install (PTI), please refer to the ROP Staff Report dated 8/24/2020 posted online under EGLE – AQD – Source Information – Sources Subject to ROP Program, SRN B2247 or refer to the previous inspection report dated 6/25/2020.

4.- COMPLAINTS/COMPLIANCE HISTORY

No citizen complaints attributed to Buckeye-Detroit Terminal have been received by the AQD's Detroit Office since the last inspection.

5.- OUTSTANDING CONSENT ORDERS

None

6.- OUTSTANDING VIOLATION NOTICES (VN)

As of the date of this inspection report there are no outstanding VNs for this facility.

7.- INSPECTION DESCRIPTION

On 7/13/2022 at about 1:00 PM I arrived at the Buckeye Terminal at 700 S. Deacon, to conduct a facility inspection. I met with Michael Barret, Terminal Specialist and Randle Green, Terminal Operator.

After the introductions, I stated the purpose of the inspection, which 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), and the conditions of the ROP number MI-ROP-B2247-2020.

AQD requested facility records on 7/7/2022 to evaluate the facility's compliance with the ROP conditions and requirements. The records requested included: terminal loading rates, emission records, site operations and maintenance records. Most of the site operation and emission records were obtained from the central corporate system "BEST" (Buckeye Emission System) which supports all Buckeye's terminals. Most of the records were provided via email by Ms. Trostel on 7/12/2022. A few records were received on 7/13/2022.

At the opening meeting we examined the ROP's special conditions and the applicable requirements for each one of the permitted emission units. The information and records provided by Buckeye has been incorporated into the following listed Appendices:

A - Air Emissions Inventory. Emission Summary and Tanks Throughput Emissions for reporting period June 1, 2021, to May 31, 2022

This appendix also contains a) emissions breakdown details for roof landing, cleaning, and loading operations, b) product information and physical properties, c) monthly emission reports per tank and detail calculations, d) 12-month rolling records for tanks No. 9 and No.12

B - Annual In-Service Internal Floating Roof Seals "through-the hatch" inspections. Tank inspections schedule. Out of Service (OOS) tank inspections reports excerpts

C - ROP certification reports

D - Most recent VRU Relative Accuracy Test Audit (RATA) Report

E - VRU performance and preventive maintenance checklists

F - Loading rack header – Sample of pressure readings

G - Tank-Trucks Pressure/vacuum test certification forms

- H - Terminal loading standard operating procedures and rules
- I - Listing of leaks for reporting period & leak detection logs (LDAR)
- J - Example of CEMS Data for July 1, 2022
- K - Air Stripper emissions and lab sampling results

The information cited above has been printed out and it is attached to the inspection report in AQD files.

Mr. Green and Mr. Barret led the tour of the loading rack and the VRU premises. Ms. Trostel accompanied us in the tour. Mr. Green described the truck loading procedures and the VRU operations. 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 triggered alarms. The system is then manually shut down.

During the inspection of the facility, I examined the site looking for sources of odors/leakage/spills. There were no noticeable odors or evidence of spills at the facility premises. The above-ground piping connecting the VRU to the tank farm was examined for superficial corrosion. Each of the tanks and associated above-ground piping seemed to be in good condition.

In general, from the observations of the loading racks, the tanks, the equipment and accessories, the facility seemed to be in good condition and appeared to be working satisfactorily.

The terminal had truck loading activities occurring at the time we walked through the terminal area. I observed one truck operator while he was loading fuel in his tanker-truck. He seemed to be following the loading procedures which are clearly posted on the loading rack area.

Due to various operations associated with facilities activities, water containing dissolved concentrations of gasoline requires treatment prior to discharge to the sanitary sewer system. The facility uses an air stripper to remove organic volatile compounds from the liquid phase. This process is also named "remediation process" in some of Buckeye's documentation. The air stripper unit was not in operation at the time of the visit; however, I inspected the area. The facility collects water from tank bottoms, storm water runoff, and groundwater in a 4,000-gallon oil-water separator tank which they call petroleum contact water overflow (PCW). The treatment process is intermittent and operates when the water level in the above ground 10,000 gallon holding tank reaches the high-level set point. 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 operator indicated that the air stripper is generally operated after heavy rain periods. The treatment in the air stripper is manually started by the operator and the process takes a long time from start to finish due to low pumping rates. I asked about the sampling records that are collected from this process to determine compliance with the emission limits cited in the ROP for this unit. The laboratory sample records, and the emission calculations were provided via email on 7/13/2022.

During this visit I did not inspect the boiler house nor the natural gas furnace that is used for comfort heating. I was told that the 1.08 MMBTU/hour oil-fired boiler continues to be out of service and unhooked. Although it is still at the site, it remains in very poor condition. The

boiler has been removed from the ROP because it is not operable. I did not inspect the warehouse located adjacent to the boiler house where they have the 175,000 BTU/hour gas-fired radiant tube heater. That space heater is exempt from permitting under Rule 282(2)(b) (i). Apparently, there are two units with the same capacity in the warehouse. A list with the exempt equipment is included in the ROP Staff Report.

It appears as if there have not been any modifications at the terminal since the last inspection. After the walkaround we returned to the office building for the post inspection meeting.

During the closure meeting I indicated that I would examine the information collected during the inspection and prepare an inspection report with the results of the compliance evaluation. I added that additional questions or concern might come out during the preparation of the report, and I may need to contact Buckeye for answers and/or clarifications. I left the facility at about 3:30 PM.

8.- COMPLIANCE EVALUATION

The determination of compliance with the special conditions (SC) cited on the ROP is based on; a) the observations made during the inspection of the facility, b) the review of the records for the period from June 1, 2021, to May 31, 2022, c) the evaluation of the information provided by Buckeye representatives during our meeting and follow-up emails.

For simplicity, the special conditions cited on the MI-ROP-B2247-2020 are paraphrased.

The requirements that are common to more than one emission unit are evaluated as a group.

8.1 - EUTANK#9 and EUTANK#12

EUTANK#9 - 2,352,000-gallon gasoline or distillate, internal floating roof storage tank.
EUTANK#12 - 4,905,600-gallon diesel, gasoline, or jet fuel, internal floating roof storage tank.

Flexible groups: FGGASTANKS and FGMACT6B.

Emission Controls: Floating Roof and Seals.

EUTANK#9

Emission Limit(s)

SC I.1 - In Compliance

The records for the evaluated period indicate that the VOC emission rate from Tank No.9 did not exceed the permit limit of 6.2 tons per year. Buckeye reported a VOC emission rate of 0.02 tons per year, based on a 12-month rolling time period, as determined at the end of each calendar month.

Material Limits

SC II.1 – In Compliance

According to the records, the material handled by Tank 9 during the evaluated period was Distillate. Gasoline was not stored in Tank 9 during that period.

SC II.2 - In Compliance

Buckeye demonstrated that material limit for EUTANK#9 did not exceed 212,284,800 gallons per year based on a 12-month rolling time period as determined at the end of each calendar month. Records showed the highest throughput for the 12-month period ending December 2021 was 7,903,384 gallons per year of Distillate.

EUTANK#12

Emission Limit(s)

SC I.1 - In Compliance

Buckeye demonstrated the VOC emissions rate from EUTANK 12 did not exceed 11.6 tons per year based on a 12-month rolling time period as determined at the end of each calendar month. For the analyzed period the highest emissions were recorded for the 12-month ending June 2021, with total VOC emission of 0.08 tons per year.

Material Limit(s)

SC II.1 - In Compliance

Buckeye demonstrated that material limit for EUTANK12 did not exceed 163,000,000 gallons per year based on a 12-month rolling time period as determined at the end of each calendar month. For the analyzed period, the maximum 12-month rolling was recorded for the 12-month ending June 2021. The material throughput was 75,551,199 gallons per year.

EUTANK#9 and EUTANK#12

Monitoring/Recordkeeping

SC VI.1, VI.2 and VI.3 – In Compliance

Buckeye keeps monthly records of throughput materials in gallons and annually on a 12-month rolling time-period basis. The monthly and 12-month rolling VOC emission rate are calculated in a satisfactory matter at the end of each calendar month. All required calculations are completed by the 30th day of the calendar month, for the previous calendar month.

Refer to the 12-month rolling summary records for Tanks 9 and 12 on Appendix A. Both tanks loaded distillate during the evaluated period.

Please note that although this condition is only a requirement cited for EUTANK#9 and EUTANK#12, Buckeye monitors and collects the cited records for all its tanks. All other special conditions applicable to EUTANK12 that have not been addressed in this section of the report were either evaluated earlier or are non-applicable.

Note: All other special conditions (i.e. SC IV and VII) applicable to EUTANK9 and EUTANK#12 that have not been addressed in this section of the report are evaluated later under FGGASTANKS.

Reporting

SC VII.1 to SC VII.3 – In Compliance

These conditions are applicable to all the EU permitted under the ROP. Refer to the end of Section 8 of this inspection report for compliance evaluation.

8.2 - EULOADING

Loading Rack containing four loading bays as described below:

Terminal: Buckeye Detroit
Product

Loading Rack Bay	
1	Denatured Ethanol (offload to tank only)
2	Gasoline
3	Gasoline, Distillate and Trans-mix (Trans-mix distribution will be discontinued from the loading rack)
4	Distillate

Flexible Group: FGMACT6B

Control Unit: Vapor Recovery Unit (VRU) and a backup Portable Vapor Combustion Unit (PVCU)

Emission Limits and Testing

SC I.1.1, SC I.1.2, SC I.2, SC V.2 - In Compliance

According to SC I.1.1 Buckeye must demonstrate that the VOC emissions from the EUNLOADING do not exceed 0.7 lbs. per 1000 gallons of gasoline loaded (80 mg/liter) by testing at owner's expense in accordance with the EPA Reference Test Method 25A or EPA Reference Test Method 25B, per AQD Supervisor's request. Stack testing procedures and location of stack testing ports shall be in accordance with the applicable federal Reference Methods, 40 CFR Part 60 Appendix A, per ROP condition SC V.2.

Buckeye demonstrated compliance with the above cited VOC emission limits by testing the VRU on April 1, 2010. The test was conducted following a stack test plan, submitted and approved by AQD prior to testing. The test results report was received by AQD within 60 days following the date of the test. The results indicated that the VOC emissions were 0.36 mg/liter based on 119,500 gallons of gasoline loaded. Refer to facility files for VRU testing procedures and test details. The testing results obtained in 2010 also comply with the more restrictive VOC limits established by Subpart XX- 40 CFR 60.502 (b), cited under condition SC I.2, which limits the VOC emission rate from EUNLOADING to 35 mg of VOC per liter of gasoline loaded. Please note that SC V.2 does not require VRU testing in a periodic basis, but it will be required at AQD's Detroit District request. The current ROP issued 11/16/2020 has maintained this condition.

Process/Operational Restriction(s) and Design/Equipment Parameters

SC III.1 - In Compliance

Buckeye had a throughput of more than 5,000,000 gallons of organic compound per year. Buckeye reported in their Michigan Air Emission Inventory (MAERS) a total of 207,756,990 gallons of fuel loaded for calendar year 2021 when all transfer rack operations are added. Buckeye did not allow the loading of any organic compound that had true vapor pressure of more than 1.5 psia at actual conditions from any stationary vessel into any delivery vessel located at the loading facility unless the delivery vessel is filled by a submerged fill pipe. Buckeye indicated that all loading processes at the facility are conducted using submerged filled pipes. (Refer to Appendix H for Loading Rules and Procedures)

SC III.2 - In Compliance

Buckeye demonstrated that any delivery vessel located at the gasoline racks are controlled by a vapor recovery system that capture all displaced organic vapor and air by means of a vapor tight collection line before loading can be activated. As indicated earlier, the emissions to the atmosphere do not exceed 0.7 pounds of organic vapor per 1000 gallons of organic compounds loaded.

Buckeye has a Terminal Management System that does not allow the loading of products to the tank trucks unless the trucks are “properly” connected to the VRU and a valid “vapor tightness” certification is used. According to the loading procedures in Appendix H, 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 of 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. Appendix G has examples of certification test results for tank trucks.

SC III.3a to 3e - In Compliance

Buckeye demonstrated that all delivery vessels located at the gasoline loading racks are equipped, maintained, or controlled with all the following:

a. An interlocking system or procedure to ensure that the vapor-tight collection line is connected before any organic vapor could be loaded.

Buckeye indicated that they provide a coupling on the vapor recovery hoses that depresses the interlocking system on tanker trucks.

b. A device to ensure that vapor tight collection line shall close upon disconnection so as to prevent the release of organic vapor.

Buckeye indicated that each vapor hose has a one-way check valve to prevent the release of vapors upon disconnection.

c. A device to accomplish complete drainage before the loading device is disconnected or a device to prevent liquid drainage from the loading device when not in use.

Buckeye indicated that each loading arm had a dry-break coupler.

d. Pressure vacuum relief valves that are vapor-tight and set to prevent the emission of displaced organic vapor during the loading of delivery vessel except under emergency conditions.

e. Hatch openings that are kept closed and vapor tight during the loading of the delivery vessel.

The records located in Appendix F for the header pressure test and the tank truck certification located in Appendix G, demonstrate compliance with conditions III.3d and III.3e cited above.

SC III.4 - In Compliance

Buckeye demonstrated they developed written procedures for the operation of all emissions control measures. The more important measures are posted in an accessible conspicuous location near the loading device.

As part of the driver training program, Buckeye requires all drivers to go through their Terminal Loading Procedures. Copies of the procedures are in Appendix H.

SC III.5 - In Compliance

Buckeye demonstrated that the VRU has been maintained and operated in a satisfactory manner over the last 12 months. In addition to the operator’s daily routine checklist, an

outside contractor performs quarterly preventive maintenance (PM) on the VRU and an annual comprehensive performance assessment. I requested examples of the most recent quarterly evaluations. The checklists with findings and recommendations for the inspections conducted on the 4th quarter of 2021 and the 1st and 2nd quarter of 2022 were provided. Copies of the checklists are in Appendix E. Overall, the VRU is operating satisfactorily; however, Zeeco, the service company that conducts the quarterly PM, recommended running both vacuum pumps together (as designed) to help control emissions and clean up carbon beds better. Operating the two pumps together will help a much faster and stronger vacuum. In addition, the company recommended to analyze carbon samples.

SC III.6 - In Compliance

The facility is permitted to operate a PVCU in a temporary basis to control the emissions from the terminal loading rack during all periods of loading gasoline or transmix when the VRU is offline. Loading of gasoline or transmix is not allowed unless the emissions are being controlled by the VRU or the PVCU.

I was informed that the PVCU has not been used in recent years, but it will be brought to the site if needed.

SC III.7 - In Compliance

The vapor collection system shall not be operated unless all the provisions of the following are met:

- a. There shall be no gas detector reading greater than or equal to 100% of the lower explosive limit at a distance of 1 inch from the location of the potential leak in the vapor collection system. (R336.1627(7))
- b. There shall be no visible leaks, except from the disconnection of bottom loading dry breaks and from raising top loading vapor heads, where a few drops are permitted. (R336.1627(8))
- c. The vapor collection system shall be designed and operated to prevent gauge pressure in the delivery vessel from exceeding 0.6 pounds per square inch and to prevent vacuum from exceeding -0.2 pounds per square inch gauge. (R336.1627(9))
- d. Any delivery vessel or component of a vapor collection system that fails to meet any provision of Rule 627 shall not be operated until the necessary repairs have been made, the vessel or collection system has been retested, and the test results have been submitted to the AQD. (R336.1627(10))

SC III. 8 - In Compliance

Permittee shall not allow gasoline to be handled in a manner that would result in vapor release to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to the following:

- a. Minimize the gasoline spills
- b. Clean up the spills as expeditiously as practicable
- c. Cover all open gasoline containers with a gasketed seal when not in use
- d. Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators. (R 336.1213 (2))

Design/Equipment Parameter(s)

SC IV.1 - 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 (17.7 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. Appendix F shows an example of the Truck Rack Vapor Pressure Readings (in inches of water) for Bays 2, 3 and 4 at specific dates. The records show values from 7 to 14 inches of water.

SC IV.2 - In Compliance

Buckeye demonstrated that no pressure vacuum-vent in the bulk gasoline terminal's vapor collection system will start opening at a system pressure less than 450 mm of water (17.7 inches). The information in Appendix G demonstrates compliance with this condition. It includes pressure/vacuum test results.

Testing/Sampling and Monitoring/Recordkeeping

SC V.1, and SC VI.1 to SC VI.5 - In Compliance

Buckeye demonstrated, in each calendar month, the vapor collection system, the vapor processing system, and each loading rack handling gasoline was inspected during the loading of gasoline tanks trucks for the organic loading compounds liquid or vapor leaks. 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. Inspection of the handling of gasoline during loading is performed using Leak Detection Logs (LDAR) forms. The LDAR inspection forms are maintained in their computer system. After detecting a leak and the source of a leak, they are repaired as soon as practicable (within fifteen calendar days after the leak was detected). Records of all replacements or additions of components performed on existing vapor processing system are documented through the preventive maintenance inspections and work orders. In past inspections AQD have checked detected leaks and work orders to verify the repair time by viewing selected Buckeye LDAR Log forms on their computer screen. The repairs are generally completed within the required timeframe and if not, there are justified explanations.

For the evaluated period, from June 2021 to May 2022 the monthly inspection forms reported no leaks detected. Records of the inspection are kept and maintained in accordance with EULODGING SC VI.1 through SC VI.5. Appendix I includes copies of monthly leak detection results for the above cited period. However, those records do not show the information that Buckeye collects in the inspection forms as they are logged into the system. In past inspections I have checked some of the log forms and I have verified that the logged forms did include all the information required by the applicable regulations [40 CFR 60.502(j) per 40 CFR 60.505(c)(1) to (5)]; such as: a) Date of inspection, b) Findings, c) Leak Determination Method, d) Corrective Action, e) Inspector Name and Signature.

SC V.3, SC V.4 and SC VI.6 to SC VI.16 - In Compliance

Buckeye requires the reduction of VOC emissions to less than or equal to 80 mg/l of gasoline loaded; subsequently Buckeye is also subject to specific applicable testing and monitoring requirements set forth in 40 CFR Part 63, Subpart BBBBBB (SC V.3).

If EULODGING is operating in compliance with the enforceable state emission limit of 80 mg per liter of gasoline loaded or less, Buckeye is allowed under SC V.4 to submit a

statement certifying the compliance status of EULODGING in lieu of the testing requirements. It appears as if Buckeye has not submitted such statement. In the past, they have demonstrated compliance with the cited standard by conducting performance test on the carbon adsorption VRU (using approved testing procedures).

Per SC VI.6, and in compliance with 63.11092(b)(1)(i)(A) of 40 CFR 63 Subpart BBBBBB, Buckeye uses a Continuous Monitoring Emission System (CEMS) that is capable of measuring organic compound concentration and it is calibrated, certified, operated and maintained according to the manufacturer's specifications.

The CEMS analyzes the concentration of volatile hydrocarbons being emitted from the VRU exhaust stacks. The system is designed for 24-hour operation. The CEMS's Programmable Logic Controller (PLC) continuously monitors the outlet VOC concentration from the VRU stack and imports the data to a Human-Machine Interface (HMI) / PLC, where it is saved. According to Buckeye Notification of Compliance (NOC) which was effective on 10/31/2017, the exhaust is monitored by the CEMS to ensure it does not exceed a six-hour rolling average limit of 0.78 vol % propane, which corresponds to 10 mg per liter of gasoline loaded. If the outlet VOC concentration is exceeded, an alarm is sounded to alert terminal personnel and fuel loading at the truck rack is automatically stopped. This prevents the terminal from exceeding the mg/L emission limit.

The CEMS employs a vacuum pump and associated sampling apparatus (tubing, filters, pressure relief valve, flow and pressure regulators, etc.) to obtain a representative exhaust sample. The sample is introduced to a Non-Dispersive Infrared Gas Analyzer (NDIR) for concentration determination and the signal output from the NDIR is connected to the HMI/PLC.

In the event of a CEMS downtime, the facility would use an alternative monitoring parameter in accordance with 63.11092(b)(1)(i)(B). Additionally, in the event of VRU downtime, a portable vapor combustion unit will be brought on site. Buckeye would need to test the PVCU unit and meet the mg / liter emission limit imposed by the ROP. When using the PVCU, the facility will monitor the pilot flame with an ultraviolet beam sensor in accordance with 63.11092(b)(1)(iii)(B)(1). The heat-sensing device will send a positive parameter value to indicate that the pilot flame is on.

Examples of the calibration procedures, daily CEMS reports and CEMS operation are available in the facility files under the MACT notification of compliance. The Relative Accuracy (RA) testing compares the reference method testing data to the CEMS data. For reference purposes, Appendix D of this report includes copies of a most recent "Relative Accuracy Test Audit" (RATA) on the CEMS. The test results showed $RA_{AS} = 0.667 \%$, for a test conducted 6/9/2021 and $RA_{AS} = 0.286 \%$ on 6/1/2022. Both results were $< 10\%$ of the applicable standard limit (VOC CEMS in Stationary Sources Specification 8).

Reporting

SC VII.1 to SC VII.3 - In Compliance

These conditions are applicable to all EU permitted under the ROP. Refer to the end of Section 8 of this inspection report for compliance evaluation.

SC. VII.4 and SC VII.5 - N/A

These conditions relate to semiannual reports of deviations and monitoring downtime. Buckeye has not used the backup PVCU to control load rack emissions since August 2015. Therefore, since the portable unit has not been used during the evaluated period covered by the inspection of FY 2022, the conditions couldn't be evaluated.

SC VII.6 - In Compliance

When the backup PVCU was used to control load rack emissions in August 2015, AQD was notified of the startup date and the date that the PVCU was removed from the site.

SC VII.7 - In Compliance

In compliance with this condition and pursuant to 40 CFR Part 63, Subpart A and BBBBBB; Buckeye submits to AQD the following reports that apply to EULODGING.

Semi-annual reporting of emissions and CEMS performance records are submitted as part of the MACT semiannual reports. The reports show if no excess emissions or parameter exceedances have occurred and whether the CEMS has been inoperative, out of control, repaired or adjusted. AQD did not review these reports to evaluate compliance with the cited requirements because the Division has not accepted delegation to enforce this MACT regulation.

Just as a reference, an example of a CEMS record for July 1, 2022, is in Appendix J.

Other Requirement (s)

SC IX.1 and IX.2 - In Compliance

Buckeye is subject to 40 CFR 60, Subpart A and Subpart XX (NSPS standards), and they are also subject to 40 CFR Part 63, Subpart A and BBBBBB (MACT standards).

Compliance with the applicable NSPS standards have been evaluated throughout the report. However, AQD has not delegation to implement and enforce the cited MACT standards. AQD receives copies of Buckeye's Subpart BBBBBB semi-annual certification of compliance reports, but AQD does not determine compliance status.

SC IX.3 and SC IX.4 - N/A

The PVCU was not used during the evaluated period

8.3 - EUAIRSTRIPPER

Treatment of storm water run-off water, tank bottoms and groundwater.

For compliance analysis AQD is using the records provided by Buckeye for the period January 2022 to July 2022. Records pertaining to EUAIRSTRIPPER are located in Appendix K.

Emission Limits

SC I.1 - In Compliance

Buckeye demonstrated VOC emissions from EUAIRSTRIPPER did not exceed 0.52 pounds per hour based on a calendar month. Records showed VOC calculated values of 0.00 pounds per hour. The equation in Appendix 7 of the ROP is used by Buckeye to determine VOC emissions.

SC I.2 - In Compliance

Buckeye demonstrated the Benzene emissions from EUSTRIPPER did not exceed 0.02 pounds per hour based on a calendar month. Records indicated calculated emissions of 0.00 pounds per hour.

Material Limit(s)

SC II.1 - In compliance

Buckeye demonstrated that the material limit on water flow rate to the Air Stripper did not exceed 168 gallons per hour based on a calendar month. For the evaluated period the highest average inflow rate was 10.1 gallons per hour.

Testing/Sampling

SC V.1 - In Compliance

The permit requires annual determination of VOC and benzene emission rates from the EUAIRSTRIPPER. Buckeye verifies the emissions of the cited pollutants in a quarterly basis by sampling the wastewater influent and the effluent at the Air Stripper. The samples are analyzed by an external laboratory. The VOC and benzene concentrations (in ug/mL) determined from the sampling lab results are used to calculate the emission rates of each pollutant in accordance with the equation cited on Appendix 7 of the ROP. Examples of sampling results are included in Appendix K.

SC V.2 - N/A

Upon request from the AQD, Buckeye shall provide verification of VOC and benzene emission rates from EUAIRSTRIPPER, by testing at owner's expense, in accordance with Department requirements.

AQD has not requested testing of the cited pollutants.

Monitoring/Recording

SC VI.1 - In Compliance

Buckeye uses a flow-totalizer to monitor the influent feed rate to EUAIRSTRIPPER. Monthly gallons are recorded and kept on file. Monthly monitoring data were provided for the analyzed period. Refer to Appendix K.

SC VI.2 - In Compliance

The wastewater influent rates are used in combination with the sampling results to demonstrate compliance with the VOC and benzene emission limits. Buckeye calculated the VOC and benzene emission rates from EUAIRSTRIPPER on a monthly basis as specified in Appendix 7.

SCVI.3 and 4. - In Compliance

Buckeye calculates the hourly average influent water flowrate to EUAIRSTRIPPER and the hourly average VOC and benzene emission rates on a calendar month using the AQD accepted procedures cited in ROP Appendix 7. The calculations are completed by the 30th day of the calendar month.

SC VII.1 to SC VII.3 - In Compliance

These conditions are applicable to all EU permitted under the ROP. Refer to the end of Section 8 of this inspection report for compliance evaluation.

Stack/Vent Restriction(s)

SC VIII.1 - In Compliance

The exhaust vapors from stack SV007 are discharged unobstructed vertically upwards to the ambient air. The dimensions of SV007 were not verified during the site visit; however, Buckeye indicated that the stack has not been modified since its initial installation.

8.4 - FGGASTANKS

This flexile group includes the following Internal Floating Roof (IFR) tanks: EUTANK#5, EUTANK#6, EUTANK#7, EUTANK#8, EUTANK#9, EUTANK#10, EUTANK#11 and EUTANK#12

The IFR functions as the control system for the uncontrolled organic vapor that would otherwise be emitted into the atmosphere.

Process/Operational Restrictions(s) - In Compliance

SC III.1 - Buckeye demonstrated that each storage vessel holding organic liquid having true vapor pressure of more than 1.2 psia but less than 11 psia is equipped and maintained with an internal floating roof (IFR). The IFR rests upon and is supported by liquid being contained and has a closure seal or seals. In addition, the seal or seal fabric had no holes, tears, or other non-functional openings. Compliance with these requirements was evaluated by reviewing the tanks' annual IFR Seal and "Through-the Hatch" inspections forms (checklists). Buckeye demonstrated that they conduct annual in-service inspections through hatches. The last in-service visual seal inspection was in December 2021. Appendix B include copies of the inspection forms used by the facility to inspect the seals of all tanks that are equipped with internal floating roofs. The records did not report any problems or concerns for any of the tanks.

SC III.2 - Buckeye demonstrated that all openings except stub drains were equipped with covers, lids, or seals that met the following conditions:

- (a) Covers, lids, or seals were in closed position at all times, except when in actual use.
- (b) Automatic bleeder vents were closed at all times, except when the roof was floated off, or landed on, the roof leg supports.
- (c) Rim vents, if provided, were set at the manufacture's recommended setting or were set to open when the roof was being floated off the leg supports.

Most of the cited conditions are evaluated by the facility operators during the monthly routine inspections and during the annual visual inspections of the tanks. In addition, contractor's inspections are used to perform major tanks repairs identified in the routine inspections. Refer to Appendix B.

Monitoring /Recordkeeping – In Compliance

Records are maintained for a period of five years.

SC VI.1 – For each storage tank Buckeye keeps records of true maximum vapor pressure of the material stored in all tanks. The true vapor pressures (TVP) at the actual storage temperatures are estimated by Buckeye based on the physical properties of each stored product (i.e. temperature, molecular weight, liquid density) and the specific RVP. This type of information is maintained in databases for all the products that are handled in each terminal and is part of their corporate records at all their terminals. The calculated TVP are listed on the BEST reports in the section titled "Liquid Content of Storage Tanks". For each tank there is a list with the liquid storage properties. The records show that all liquid stored

in the tanks have true vapor pressure below 11 psia at the actual storage temperature conditions.

SC VI.2 and VI.3 – As indicated in SC III.1, for each storage tank, the facility visually inspects 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 on an annual basis. The facility keeps records of the tanks' s annual inspections and all the requirements cited in this ROP permit condition are identified in the inspection form, which is completed during the inspection. The records show the inspection date, tank number, product stored, and any defects and repairs needed.

Besides the above cited annual "Through-The Hatch" inspections, Buckeye hires external contractors to conduct various levels of tank inspections; each one with different scopes and objectives. A summary table in Appendix B shows the tanks inspections schedule provided by Buckeye.

To access the serviceability of the tanks a more comprehensive inspection is conducted when the tanks are emptied and degassed. Buckeye follows API 653 to determine the routine/frequency of tank inspections, which seem to require an in-service inspection by external contractors every five years, and the OOS inspection every 20 years. The OOS inspection includes the evaluation of the following: foundation, bottom, shell, nozzles and appurtenances, fixed roof and floating roof.

Based on the inspection schedule, the most recent up-close floating roof and seal inspection was conducted on 7/6/2021 (i.e "Modification Inspection"), on Tank 7. Buckeye provided copies of excerpts from the inspection report describing the repairs and modifications made to the tank and fitting, which were based on the recommendations listed in the 5/14/2021 OOS inspection report. The OOS inspection had identified the IFR tank problems that needed to be addressed to maintain an adequate operation. Maintenance and repair were completed to the defective components of the tanks and its fittings. The repairs and modifications included simple to more complex tasks, from vacuum breakers installations and metal shoe seals, replacement of wiper seals to the replacement of existing floating roof with newly installed cable suspended aluminum pontoon floating roof. For the specific details and repairs, please refer to Tank 7 inspection report in Appendix B in the facility files.

It appears as if most of the recommended actions/repair pertaining tank 7 cited in the OOS of May 2021 were implemented.

Reporting Requirements – In Compliance.

Applicable to the EUs cited in Section 8.1, 8.2, 8.3 and 8.4

SC VII.1, SC VII.2 and VII.3

There are certification reporting requirements listed under Section VII of the ROP that must be submitted pursuant to Rule 213, sub-rules (3)(c) and/or (4)(c).

Pursuant to General Conditions 21 and 22 of Part A, Buckeye promptly reports deviations when they occurred (SC VII.1). They also demonstrate compliance with the semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A (SC VII.2). Buckeye reports annual certification of compliance pursuant to General Conditions 19 and 20 of Part A (SC VII.3).

For the reporting period 1/1/2021 to 6/30/2021, the certification report was timely submitted by Buckeye and postmarked by AQD Detroit Field Office on 9/15/2021. The semiannual report for the reporting period from 7/1/2021 to 12/31/2021 and the annual certification report for calendar year 2021, were also timely submitted and postmarked by AQD Detroit Field Office by 3/14/2022. For year 2021, all reports stated that the monitoring and associated recordkeeping requirements in the ROP were met with no deviations.

Semiannual and annual compliance certification and deviations reports are kept on file at the Detroit District Office. Copies of the ROP certification reports were also submitted as part of the records for this inspection. They are included in Appendix C.

8.5 – FGMACT6B - Compliance status not assessed.

Michigan does not have delegation for Subpart 6B.

Area source gasoline distribution bulk terminal with gasoline storage tanks and gasoline loading rack subject to 40 CFR Subpart BBBB.

Control Unit: Floating roofs, VRU and a backup PVCU

Emission Units: EUTANK#5, EUTANK#6, EUTANK#7, EUTANK#8, EUTANK#9, EUTANK#10, EUTANK#11, EUTANK#12, EULOADRACK

Although compliance status with the applicable requirements for the EUs in the flexible group FGMACT6b was not assessed during this inspection, a brief discussion of each ROP special condition is presented below.

Emission Limits

SC I. - Refer to EUTANK#9, EUTANK#12 and EULOADRACK

Material Limits

SC II. - Refer to EUTANK#9 and EUTANK#12

Process and Operational Restrictions

SC III. -The ROP does not list any special conditions under this section.

Design/Equipment Parameters

SC IV.1a to SC IV.1c

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. 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 Kb regulations. The exceptions seem to be the additional reporting requirements under Subpart WW.

SC IV.2

This condition relates to the requirements of 63.11087 which refer to the control requirements of Part 60, Subpart Kb, which have been already evaluated earlier in this report.

Testing/Sampling

SC V. - Refer to EULOADRACK

Monitoring/Recordkeeping

SC VI.1 to VI.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.

Reporting

SC VII.6 to SC VII.7 - 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 reports for periods 1/1/2021 to 12/30/2021 and 1/1/2022 to 6/30/2022 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 period 1/1/2021 to 6/30/2021, but the total CMS downtime was less than 5% of the total operating time for the reporting period. 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.

SC VII.8 to SC VII.11 - On August 16, 2019, Buckeye Terminal provided documentation that E_T equals 0.82. Therefore, according to Section 63.420(c), the stationary source is exempt from the requirements of Part 63, Subpart R; except that they still shall: (1) Operate the facility such that none of the facility parameters used to calculate results under paragraph (a)(1) or (b)(1) of this section is exceeded in any rolling 30-day period; and (2) Maintain records and provide reports in accordance with the provisions of §63.428(i).

8.6 - FGRULE290 – In Compliance

Pressurized horizontal tank (EUTANK#16)

Buckeye operates a 54,600-gallon horizontal pressurized butane storage tank which seem to have been installed in year 2000. The butane storage tank is exempt from the requirements to obtain a Permit to Install (PTI) under Michigan Air Pollution Control 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 in this report, 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 the butane tank substantiating compliance with the cited conditions was submitted by Buckeye during the most recent ROP renewal. AQD accepted the demonstration. A copy of the document is saved in AQD files.

9.- MAERS (Michigan Air Emissions Report System)

The 2021 MAERS report was submitted electronically on 3/11/2022. The report was reviewed and audited. The facility passed the audit. For audit details, please refer to the compliance activity report CA_B224762401 in the facility file.

10.- COMPLIANCE STATUS

Based on the inspection conducted on 7/13/2022, and the evaluations of the records provided by Buckeye Terminal at Detroit, the facility appears to be operating in compliance with the applicable state and federal air regulations and the conditions of MI-ROP-B2247-2020.

NAME

Handoral

DATE

12/12/2022

SUPERVISOR

JK