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DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Scheduled Inspection

B224734166

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: 03/29/2016
STAFF: C. Nazaret Sandoval	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Targeted Inspection for year 2016		
RESOLVED COMPLAINTS:		

**SOURCE:** SRN B2247 - BUCKEYE TERMINALS, LLC – Detroit  
**FACILITY ADDRESS:** 700 South Deacon Street, Detroit, Michigan 48217  
**INSPECTION DATE:** 3/29/2016  
**INSPECTOR:** Nazaret Sandoval - MDEQ, Air Quality Division  
**COMPLIANCE: PERSONNEL:**  
 Kimberly Trostel - Senior Specialist, Air Compliance  
 Lee Ann Beck – Specialist, HSSE Compliance  
**TERMINAL PERSONNEL:**  
 Dennis Coleman – Terminal Specialist.  
 Dave Vantryon Terminal Operator (Not present)  
**MAIN COMPLIANCE CONTACT:** Kimberly Trostel, [ktrostel@buckeye.com](mailto:ktrostel@buckeye.com)  
 Phone: 419 993-8003; Mobile Phone: 419 549-0054

**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.

**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.

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 an 8,000-gallon gasoline underground tank and a pressurized butane tank.

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 number of truck loadings per day at the facility varies with the market trends. In 2015, the facility loaded an average of about 1,500 trucks per month.

The original equipment listing submitted by Buckeye is on record. However, for this inspection AQD requested an update of their 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. The information was provided via email on 6/28/2016 with follow up additions submitted on 7/28/2016. Tables B1 and B2, in Appendix B show a summary of the information provided by Buckeye. AQD revised and complemented the tables by adding permit background historical data gathered from the AQD files.

On 7/28/2016, in response to AQD request, Buckeye also submitted a "Facility Diagram for the Detroit Terminal". The drawing is attached to this report as part of Appendix B. According to a label on the left side of the diagram the printout is dated 4/24/2014.

## **REGULATORY ANALYSIS**

The terminal is considered a major Title V source because potential emissions of VOC exceed 100 tons per year. The operations are regulated under a Renewable Operating Permit (ROP) number MI-ROP-B2247-2009, with expiration date 12/11/2014. The ROP renewal application is currently under review by the AQD Detroit District office. The company obtained an application shield and in accordance with Rule 217(1)(a) the existing ROP shall not expire until the renewal permit has been issued.

The facility is a minor source of hazardous air pollutant (HAP) emissions because the potential emissions of any single HAP regulated by the Clean Air Act, Section 112 is less than 10 tons per year and the potential emissions for all HAPs combined are less than 25 tons per year.

According to a recent update provided by Buckeye on 6/28/2016, most of the storage tanks regulated under the current ROP were installed and in operation before 7/1/1967. The installation dates go as far back as year 1920 for Tank No. 6, to year 1955 for Tank 12; with several of the tanks built in 1948 and in 1954. The tanks were installed to store organic compounds having true vapor pressures of more than 1.5 psia, but less than 11 psia at actual storage conditions in mostly fixed roof stationary vessels of more than 40,000-gallon. They are considered "existing" sources of VOCs and therefore subject to the requirements of Rule 604.

There are no records of Wayne County Air Use Permits or permit conditions for tanks No. 5, 6, 7, 8, 10, and 11. Therefore, since the tanks were installed prior to 7/1/1967, they are considered grandfathered with respect to Rule 201.

Table B2 lists the emission units that are exempt from the requirements of Rule 201 to obtain a

permit to install. The specific exemptions have been identified in the table. During this inspection AQD did not request demonstration of the applicability of the listed exemptions.

In the late eighties and mid-nineties, the Wayne County Air Pollution Control Division (WCAPCD) issued permits for Tanks 9 and 12. Permit No. C-7863 issued on 11/6/1987 (amended on 11/6/1995) was for Tank 9. Tank 9 was originally a fixed-roof tank and the WCAPCD permit was issued to retrofit it with an internal floating roof (IFR) and to store other types of fuels. Later on, AQD issued Permit to Install PTI 364-99 on 4/1/2000 to accommodate changes requested by the permittee. This PTI replaced the previous Wayne County permit. According to AQD records, Tank 12 was originally constructed with a fixed roof and the IFR was added to the tank around 1993. Permit C-11800 issued on 9/9/1998 for Tank 12 allowed for the increase in material throughput and VOC emission limits, as well as the storage of other fuels. Permit C-11800 was replaced with AQD Permit to Install (PTI) 314-98 issued on 8/20/1999.

Tanks 9 and No.12 are the only tanks that have material limits and VOC emission limits. Those limits were added to the permits based on the applicable requirements at the time of the New Source Review (NSR) analysis when the modifications cited on the previous paragraphs were requested by the permittee.

Permits C-11800 and PTI 364-99, applicable to Tank 12 and Tank 9 respectively, have been incorporated into MI-ROP-B2247-2009 but have not yet been voided.

The four-bay loading racks was permitted by WCAPCD on 9/16/1982 under permits C-6187 to C-6190. Permit C-6191 was issued by WCAPC on 9/16/1982 for the operation of the VRU. These permits have been incorporated into the ROP but according to AQD Permit Cards database the permits have not yet been voided.

The permit to install the Air-Stripper was issued by WCAPCD on 6/1/1995 under permit number C-10736. This permit was voided and it was incorporated into the ROP.

Permit PTI 149-15, issued on 9/15/2015, allows for the temporary installation and operation of a vapor combustion unit VCU during periods of time when the VRU is offline. This permit is active but has not yet been incorporated to the ROP.

The source is subject to the New Source Performance Standards (NSPS) for Bulk Gasoline Terminals promulgated in Title 40 of the Code of Federal Regulations, Part 60, Subparts A and XX. An affected facility is subject to the provisions of Subpart XX if the construction or modification commenced after 12/17/1980.

The facility is subject to the MACT Regulations for Gasoline Distribution Bulk Terminals, Bulk Plants and Pipeline Facilities (40 CFR Part 63 Subpart BBBBBB). The terminal loading racks handles more than 250,000 gallons per day and the storage tanks have capacities of more than 75 cubic meters (19,813 gallons). Buckeye submitted the initial Notification of Applicability to AQD Detroit District Office in a letter dated 5/2/2008. AQD has not accepted delegation to enforce this area source MACT standard.

Buckeye is not subject to the provisions of Subpart R – National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations). Pursuant to 63.420(2), Buckeye has documented that the facility is not a major source of HAP and it is not located within a contiguous area and under common control of a facility that is a major source of HAPs.

#### **COMPLAINTS/COMPLIANCE HISTORY**

The last inspection conducted by AQD at this facility was on 8/17/2015. No citizen complaints

have been received by the AQD's Detroit Office related to fallout or odors attributed to Buckeye-Detroit Terminal in the period since the last inspection.

### **OUTSTANDING CONSENT ORDERS**

None

### **OUTSTANDING VIOLATION NOTICES (VN)**

AQD issued a VN on 8/28/2015 for installing and operating a vapor combustion unit without first obtaining a Permit to Install (PTI). The facility applied for a PTI and the permit was issued by AQD on 9/25/2015. The cited violation is considered resolved.

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

### **INSPECTION DESCRIPTION**

On 3/29/2016 at 10:15 A.M I arrived at the Buckeye Terminal facility, along 700 S. Deacon, to conduct a facility inspection. I was received by Buckeye representatives, Kimberly Trostel - Air Compliance Senior Specialist, and Lee Ann Beck –HSSE Compliance Specialist. 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-B2247-2009.

Emission records and site operations and maintenance records were requested in a questionnaire form during the pre-inspection conference for the evaluation of compliance with permit conditions. Ms. Trostel indicated that most of the site operation and emission records are obtained from the central corporate system "BEST" (Buckeye Emission System) which supports all Buckeye's terminals.

Mr. Dennis Coleman, the Terminal's Specialist led us on the tour of the loading rack and the VRU premises. He 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 premises for presence of open containers that might be holding organic liquids that posed as source for odors. No open containers holding organic liquids were detected. There were no noticeable odors detected 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 conditions. In general, from the observations of the loading operations, the mechanical conditions of the tanks, and the equipment and accessories, the facility looked in good conditions and appeared to be working satisfactorily. The truck loading procedures seem to be followed by the tank truck operators using the loading rack.

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 the Buckeye's documentation. The air stripper unit was not in operation at the time of the visit; however, I inspected the area and asked the operator for a description of the process. I also 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 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 (PCW) 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.

After the walk around the plant we returned to the office building for the post inspection conference.

We examined the ROP special conditions for each one of the emission units. During our discussion, Ms. Trostel referred to the records on her laptop as we evaluated each condition.

The following list of appendices describes the information provided by Buckeye. All records were saved on a USB Flash Drive that was handed out to AQD during the site visit:

- A - Tanks and truck loading rack throughputs and emission records for VOC and HAPs for calendar year 2015 ( January 2015 to December 2015).
- A2 - Tanks and truck loading rack throughputs and emission records for VOC and HAPs for 12 month rolling (February 2015 to February 2016),
- B - Maintenance records for seals on tanks.
- C - Tank 9 – In-service inspection.
- D - Compliance certification reports.
- G - Tank 12 - Out of service inspection.
- H - VRU testing results.
- I - VRU performance and preventive maintenance checklists.
- J - Loading rack header –Sample of vapor pressure readings.
- K - Pressure/vacuum test certification form – Samples
- L - Terminal loading standard operating procedures and rules.
- M - Leak detection logs samples
- N - MACT semiannual report per 40 CFR Part 63 Subpart BBBBBB

For reference, some of the information cited above has been printed out and it is attached to this report. The USB Flash Drive is located in the facility file at the AQD Detroit District office.

During the closure meeting I indicated that AQD will examine the information collected during the meeting and will 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 AQD may need to contact Buckeye for answers and/or clarifications.

I left the facility at about 3:00 PM.

### **COMPLIANCE EVALUATION**

The determination of compliance with the special conditions (SC) cited on the MI-ROP-B2247-2009 is based on: a) the observations made during the 2016 annual compliance inspection, b) the review of the records, c) the evaluation of the information provided by Buckeye's Air Quality Specialist during our meeting and via follow-up emails.

With the exception of the usage of the temporary VCU during the month of August 2015, there have not been any modifications to the equipment and/or loading rack since the last inspection. The boiler continues to be out of service, unhooked, but it is still at the site.

For simplicity, the special conditions cited on the MI-ROP-B2247-2009 are paraphrased.

The requirements that are common to more than one emission unit or those that are applicable to the source (as a whole) are grouped and evaluated first.

- **SPECIAL CONDITIONS APPLICABLE TO EUTANK#9, EUTANK#12, and FGGASTANKS**

Please note that SC III.1 for FGGASTANKS has an error. The applicable condition should have been written as stated on the initial paragraph of SC IV.1 for EUTANK#9 and EUTANK#12. Therefore, the language cited on SC IV.1 has been applied to all tanks in this evaluation of compliance.

### **Design/Equipment Parameter(s)**

#### **SC IV.1 – In Compliance**

Buckeye demonstrated that the storage vessel holding organic liquid having true vapor pressure of more than 1.2 psia but less than 11 psia are 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 inspections reports. The last annual in-service visual tank inspection was conducted on 9/18/2015. Refer to Appendix B. The records include "Through-The Hatch" inspection forms (checklists) used by the facility to inspect the seals of all tanks that are equipped with internal floating roofs. Inspection records for tanks No. 5 and 21 are not in Appendix B because tank No. 5 was not in use in 2015, and tank No. 21 has been permanently removed from the site. The records did not report any problems or concerns for any of the tanks. Appendices C and G includes an example of the last "Out of Service" inspections for tanks 9 and 12.

#### **SC IV.2 (EUTANK#9 and EUTANK#12) - NA**

This condition is not applicable. As indicated in the previous analysis, all the tanks are equipped and maintained with IFR and seals which function as the control system for the uncontrolled organic vapor that would otherwise be emitted into the atmosphere.

#### **SC IV.3 (EUTANK#9 and EUTANK#12) & SC IV.2 (FGGASTANK) - In Compliance**

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 inspections and also during the annual visual inspections of the tanks. Refer to Appendix B and Appendices C and G. No major issues were identified.

### **Monitoring/Recordkeeping**

Records are maintained for a period of five years.

#### **SC VI.1 - In Compliance**

Buckeye keeps records of monthly and annual throughput of the material stored in all tanks. Records for a 12-month calendar year from January 2015 to December 2015 are in Appendix A. The 12-month rolling records from February 2015 to February 2016 are in Appendix A2. Please note that this condition is only a requirement cited for EUTANK#9 and EUTANK#12 but Buckeye monitors and collects the cited records for all tanks.

### **SC VI.2 - In Compliance**

Buckeye demonstrated that they conduct annual in-service inspections through hatches. The last "Through-the Hatch" inspection was conducted on 9/19/2015 -see Appendix B. The records did not report any problems or concerns for any of the tanks.

To access the serviceability of the tanks a more comprehensive "Out of Service" (OOS) 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 outside contractors every five years, and the OOS inspection every 20 years. A summary table with an updated list of the tank descriptions and capacities has been included in Appendix B. The table shows the date of the last OOS inspection for each tank and the expected future inspection dates. According to additional records provided for Tank 9, the tank was not emptied and cleaned during the last 12 months but an annual in-service inspection was conducted on 3/10/2015. Appendix C includes a summary of the evaluation. According to the inspection report prepared by outside contractors, they recommended to install pins in the two scoop vent covers to hold them closed in windy conditions and some other work to be done during the out-of-service inspection. Please refer to Appendix C for details. The last OOS inspection for Tank 12 was on 6/15/2015. There were various recommended actions; from bottom repair to replacement of the column wiper seals for the floating roof. Please refer to Appendix G for the specific repairs.

### **SC VI.3 - In Compliance**

Buckeye keeps records of true maximum vapor pressure of the material stored in all tanks. Please note that this condition is not cited for FGGASTANKS but the information is recorded for all tanks. The true vapor pressures at the actual storage temperatures are estimated by Buckeye based on the physical properties (i.e. vapor molecular weight, liquid density) and the specific RVP for each stored product. This type of information is maintained on their databases as part of their corporate records for all their terminals. The estimated true vapor pressures are in Appendix A.

### **Reporting Requirements – In Compliance.**

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 reported deviations when they occurred (SC VII.1) and they also demonstrated compliance with the semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A (SC VII.2). For reporting period 1/1 to 6/30, the report was timely received and postmarked on 9/15/2015. No deviations were reported.

The semiannual report for the reporting period from 7/1 to 12/31 was timely submitted by 3/15. The certification report was received / postmarked by AQD Detroit Field Office on 3/14/2016. The facility reported a deviation of permit condition SC III.2 during that period. The deviation report indicated that during 12 days, from 8/1/2015 to 8/12/2015, the facility operated the EULOADING using a vapor combustion unit (VCU) while the VRU was down for maintenance. This is considered a deviation because they should have applied for a permit to install the VCU before starting the operation of the unit. No excess emissions were reported. This issue has been resolved and a PTI has been issued for the installation/operation of the VCU.

Buckeye reported annual certification of compliance pursuant to General Conditions 19 and 20 of Part A (SC VII.3). The 2015 annual certification report was received / postmarked by AQD Detroit District Office on 3/14/2016. The reported deviations (if any) were described previously

Semiannual and annual compliance certification and deviations reports are kept on file at the District Office. Copies of the reports were also submitted the day of the inspection. They are saved on Appendix D.

- **SPECIAL CONDITIONS APPLICABLE TO EUTANK9**

This Internal Floating Roof tank can store Gasoline and Distillate.

**Emission Limits -**

**SC I.1 - In Compliance**

The records indicate that VOC emissions from EUTANK #9 based on a 12 month rolling time period as determined at the end of each calendar month, were less than 7.53 tons per year. The 12-month rolling records showed that the total VOC emissions from Tank 9 were all below the limit. The highest record (0.0369 tons) was reported for the 12-month period ending May 2015. [Refer to Tank 9 - 12-month rolling summary report on Pg. 2, Appendix A2]

**Material Limits**

**SC II.1 – In Compliance**

According to the records, the material handled by Tank 9 during the evaluated period was Distillate Fuel Oil No. 2. Zero gallons of gasoline were handled 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 May 2015, with 22,933,764 gallons per year of Ultra Low Sulfur Diesel -ULSD [Tank Throughput, pg. 2/10].

**Note:** All other special conditions applicable to EUTANK9 that have not been addressed in this section of the report were either evaluated earlier or are non-applicable.

- **SPECIAL CONDITIONS APPLICABLE TO EUTANK12**

Internal floating roof tank for the storage of Diesel, Gasoline, or Jet Fuel.

**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 April 2015, with total VOC emission of 0.0462 tpy, from Tank 12 [Pg. 7/10- Appendix A2].

**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 April 2015. The material throughput was 39,423,338 gallons per year [Appendix A2; Pg. 7/10].

**Note:** 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.

- **SPECIAL CONDITIONS APPLICABLE TO EULOADING**



Loading Racks containing four loading bays as described below:

<b>Terminal : Buckeye -Detroit</b>	
<b>Loading Rack Bay</b>	<b>Product</b>
1	Denatured Ethanol (offload to tank only)
2	Gasoline
3	Gasoline, Distillate and Transmix
4	Distillate

**NOTE :** The ROP conditions for EULOADING were superseded on 9/25/2015 with the issuance of PTI 149-15. For this inspection, compliance with PTI conditions was evaluated.

**Emission Limits and Testing**

**SC I.1, SC I.2, SC V.2 - In Compliance**

Buckeye demonstrated the VOC emissions from the EULOADING did not exceed 0.7 lbs. per 1000 gallons of gasoline loaded (SC I.1). To demonstrate compliance with this emission limit, Buckeye conducted testing of the VRU on April 1, 2010 in accordance with MI-ROP-B2247-2009, SC V.2 and the test methods specified in 40 CFR 60.503. A stack test plan was submitted and approved by AQD prior to testing. The test results report was received by AQD within 60 days following the last 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 Appendix H for VRU testing procedures and details. Previous testing conducted on May 25, 2005 showed results of VOC concentrations of 1.88 mg / liter.

The testing results obtained in 2005 and 2010 also comply with the more restrictive VOC limits established by Subpart XX- 40 CFR 60.502 (b), which was used in permit PTI -149-15 issued to Buckeye on 9/25/2015. PTI -149-15 condition SC I.2 limits VOC from EULOADING to 35 mg of VOC per liter of gasoline loaded.

Special condition V.4 allows Buckeye to submit a statement certifying the compliance status of EULOADRACK in lieu of th

Going forward, further verification of VOC emission limits is to be done by testing the VRU and/or the VCU at request of AQD.

**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 a total of 215,551,382 gallons loaded for calendar year 2015 when all transfer racks operations were 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 delivery vessel was filled by a submerged fill pipe. Buckeye indicated that all loading processes at the facility are conducted using submerged filled pipes. (Refer to Appendix L for Loading Rules and Procedures)

**SC III.2 - In Compliance**

Buckeye demonstrated that any delivery vessel located at the gasoline racks are controlled by vapor recovery system that capture all displaced organic vapor and air by means of a vapor tight collection line before loading can be activated. 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 L, 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 K has an example of a certification test results for a tank truck.

Buckeye conducts test of the VRU once every five years to demonstrate that the recovery of organic vapors is such that the emissions to the atmosphere does not exceed 0.7 lbs. of organic vapor per 1000 gallons of organic compounds loaded. In addition, to show continuing compliance with the operating parameters determined during performance tests, they are routinely monitored.

### **SC III.3a to 3e - In Compliance**

Buckeye demonstrated that all delivery vessels located at a gasoline loading racks are equipped, maintained, or controlled with all of 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’s response indicates 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’s response indicates that each loading arm had a dry-break coupler.

The procedures emphasize the sequence for a proper loading. The “scully” must always be the first piece of equipment connected to the truck and the last thing removed when loading is completed. For more details refer to Appendix L-Terminal Loading Rules and Procedures.

(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.

Buckeye response indicated that records located in Appendix J for the Header Pressure Test; and tank truck certification located in Appendix K demonstrated 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 located in Appendix L.

### **SC III.5 - In Compliance**

With the exception of the problems reported below, Buckeye demonstrated that the VRU has

been maintained and operated in a satisfactory manner over the last 12 months. Refer to the quarterly process maintenance (PM) report located in Appendix I.

The semiannual report for the period 1/1/2015 through 6/30/2015 indicated a Continuous Emission Monitoring System (CMS) downtime of 308.1 hours, representing 27.44% of the total operating time. The semiannual 6B report added that the causes of failure were unknown and the CMS was manually calibrated. Additional information provided via email on 6/28/2016 indicated that the downtime was attributed to a communication failure. A firmware update was required and once it was received it, the communication failure was resolved.

A maintenance record dated 3/3/2015, which was provided during the site inspection, recommended the replacement of a vacuum gauge in the VRU system and also suggested a full check of the VRU system. The recommended work was completed. Later in the year, the unit was taken out of service for major repairs. A work order for the retrofit of VRU was put in place in 8 / 2015. The VRU was out of service for a total of 12 days, from 8/1/2015 to 8/12/2015. During this period Buckeye used a "temporary" vapor combustion unit (VCU) to control the release of vapors during truck loading operations.

### **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 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 J shows an example of the Truck Rack Vapor Pressure Readings (in inches of H<sub>2</sub>O) for Bays 2, 3 and 4 at specific dates.

#### **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 K demonstrates compliance with this condition. It includes pressure/vacuum test results.

### **Testing/Sampling**

#### **SC V.1 - 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. An example has been included in Appendix M. The copy included in Appendix M does not show all the information that Buckeye collects. However, during the site visit I checked some of the records in their computer screen and verified that the "actual" forms did include all the required information listed on 40 CFR 63.11089(a).

#### **SC V.2 - In Compliance**

This condition was evaluated earlier in this report.

### **Testing/Sampling (SC V.3 and SC V.4); Monitoring/Recordkeeping (SC VI.6 and SC VI.7a)**

Buckeye requires the reduction of TOC 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 EULODING is operating in compliance with the enforceable State emission limit of 80 mg, or less, per liter of gasoline loaded (mg / l), Buckeye's is allowed under Special condition SC V.4 to submit a statement certifying the compliance status of EULODING in lieu of the testing requirements. It appears as if Buckeye has not submitted such statement. Instead, they have demonstrated compliance with the cited standard by conducting performance test on the carbon adsorption VRU (using approved testing procedures).

Buckeye uses a Continuous Monitoring Emission System (CEMS) that is calibrated, certified, operated and maintained according to the manufacturer's specifications (SC VI.6). Examples of the calibration procedures, daily CEM reports and CEM operation are available in the facility files under the MACT notification of compliance.

In the event that a permanently stationed portable VCU backup unit is used to control load rack emissions, Buckeye would need to test the VCU unit and meet the mg / liter emission limit imposed by the ROP,

### **Monitoring/Recordkeeping**

#### **SC VI.1 and SC VI.2- In Compliance**

Buckeye demonstrated that they do not operate the EULODING unless the VRU is installed and operating properly. Records of VRU operating log are kept all times that gasoline is loaded (SC VI.1). The records show that for calendar year 2015, the total VOC emissions from all the loading operations before controls were 512.2 tons. After passing through the VRU, the emissions were reduced to 0.3073 tons of VOC.

On a quarterly basis Buckeye demonstrated that the delivery vessels (loading trucks) are in compliance with the provisions cited under section SC III.3 for EULODING (SC VI.2). The attached VRU Preventive Maintenance Check Lists located in Appendix I, and 6B MACT reports in Appendix N demonstrate compliance with the above listed conditions.

#### **SC. VI.3 - In Compliance**

The permittee recorded detection of each leak, and the source of the leak was repaired as soon as practicable (it should be within 15 calendar after the leak was detected-AQD did not verified the repair time). Details of compliance were evaluated the day of the inspection by browsing some of Buckeye LDAR Log Forms on their computer screen. A sample of the inspection records and leak records was provided in the LDAR Log Form saved on Appendix M.

#### **SC VI.4 (a) to (e) - In Compliance**

The permittee keeps records of each monthly leak inspection as required under 40 CFR 60.5021 (i). The leak records included all the information required by the cited regulation: a) Date of inspection, b) Findings, c) Leak Determination Method, d) Corrective Action, e) Inspector Name and Signature. Refer to Appendix M for details.

The "sample" records showed two leaks, one on 9/11/2015 and another on 9/12/2015. Both leaks were timely repaired.

#### **SC. VI.5 - In Compliance**

The permittee keeps records of all replacements or additions of components performed on an existing vapor processing system. Records of all replacements or additions of components performed on existing vapor processing system were documented through PM and Work Orders as indicated in Appendix I.

### **Reporting**

### **SC. VII 1 - In Compliance**

Each time the portable VCU backup unit is used to control load rack emissions, Buckeye must notify the DEQ the date of the startup and the date that the unit is removed from the site. Buckeye has not used the temporary VCU after the cited situation occurred in 8/2015. Buckeye notified AQD the date when the unit was removed from the site.

### **SC VII. 2 - In Compliance**

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

-Semi-annual reporting of emissions and CEMS performance records. The reports showed if no excess emissions or parameter exceedances have occurred and also whether the CEMS has been inoperative, out of control, repaired or adjusted.

For details refer to Appendix N.

### **Other Requirement (s)**

#### **SC IX.1 - In Compliance**

Buckeye is subject to 40 CFR 60, Subpart A and Subpart XX, and they are also subject to 40 CFR Part 63, Subpart A and BBBB. Their response indicated compliance with the applicable requirements of the cited regulations. Based on our evaluation of specific requirements cited in this report, Buckeye appears to be in compliance with these two standards.

### **• SPECIAL CONDITIONS APPLICABLE TO EUAIRSTRIPPER**

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

**(Buckeye refer to this equipment as Remediation Project)**

Unless otherwise noted, records pertaining to compliance with EUAIRSTRIPPER are located in Appendix O within the file.

#### **Emission Limits**

##### **SC I.1 - In Compliance**

Buckeye demonstrated VOC emissions from EUAIRSTRIPPER did not exceed 0.52 ponds per hour based on hourly operating scenario. Records showed that the highest VOC calculated value was 0.0001 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 VOC emissions from EUSTRIPPER did not exceed 2.2 tons per year based on annual operating scenario. Records indicated the highest calculated emissions were 0.0001 tons per year.

##### **SC I.3 - In Compliance**

Buckeye demonstrated the benzene emissions from EUAIRSTRIPPER did not exceed 0.02 pounds per hour based on hourly operating scenario. Records indicate benzene highest emissions were "zero" pounds per hour.

##### **SC I.4 - In Compliance**

Buckeye demonstrated the benzene emissions from EUAIRSTRIPPER did not exceed 175 pounds per year based on annual operating scenario. Records indicated benzene emissions were "zero" pounds per year.

#### **Material Limit(s)**

##### **SC II.1 - In compliance**

Buckeye demonstrated that the material limit on water flow rate to the AIRSTRIPPER did not exceed 2.8 gallons per minute based on daily operating scenario. Records indicated the highest average inflow rate was 9.3 gallons per hour, equivalent to 0.155 gallons per minute.

### **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 VOC and benzene concentrations (in ug/mL) determined from the sampling results are used to calculate the emission rates of each pollutant in accordance with the equation cited on Appendix 7 of the ROP.

### **Monitoring/Recording**

#### **SC VI.1 - In Compliance**

Buckeye uses a flow-totalizer to monitor the influent feed rate to AIRSTRIPPER on a daily basis. Daily flow are recorded and kept on file. Quarterly monitoring data were provided for year 2015.

#### **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 the AIRSTRIPPER on a daily basis as specified in Appendix 7.

### **Reporting**

#### **SC VII. 1 to 3 – In Compliance**

The conditions listed in this section have been evaluated earlier in this report.

### **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.

- **SPECIAL CONDITIONS APPLICABLE TO EUBOILER**

A boiler with a heat input capacity of 1.08 MM BTU per hour has been out of service since 2012, yet, it is still on the site.

In terms of permitting under Rule 201, the boiler seems to comply with exempt requirements cited under R336.1282 (b) (ii): This is a fuel-burning equipment used as a service water heating. Buckeye uses number 2 fuel oil with less than 0.4% sulfur by weight; the rated heat input capacity is less than 20 MMBTU per hour.

Buckeye should verify the applicability NESHAP 'Area Source Boiler MACT" - 40 CFR 63, Subpart 6J, if they believe the boiler could potentially be in operation.

### **MAERS 2015**

The MAERS 2015 was reviewed and audited. The facility passed the audit. For audit details, please refer to the compliance activity report CA\_ B22473471 in the facility file.

**COMPLIANCE STATUS**

Based on the 2016 annual inspection, Buckeye Terminal, Detroit was found to be operating in compliance with the applicable state and federal air regulations.

NAME Abundoral

DATE 8/3/16

SUPERVISOR JK