

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

B905258857

FACILITY: BUCKEYE TERMINALS, LLC-MARSHALL TERMINAL		SRN / ID: B9052
LOCATION: 12451 OLD US 27 S, MARSHALL		DISTRICT: Kalamazoo
CITY: MARSHALL		COUNTY: CALHOUN
CONTACT: Eric Kuczewski , Lead Terminal Operator		ACTIVITY DATE: 06/29/2021
STAFF: Amanda Chapel	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT:		
RESOLVED COMPLAINTS:		

On June 23, 2021 Air Quality Division's (AQD) Amanda Chapel (staff) received digital records to review from Buckeye Terminals, LLC – Marshall Michigan located at 12451 Old US 27 South, Marshall, Calhoun County, Michigan. On June 28, 2021, the facility and staff had a Microsoft Teams call to further discuss the records and recordkeeping processes. The onsite inspection was completed on June 29, 2021. Mr. Eric Kuczewski, Mr. Ryan Garner, and Ms. Lee Ann Beck were present from BPLP for the inspection. Due to the ongoing guidance from the COVID-19 pandemic, digital records were requested from the facility to review before the onsite inspection. The purpose of the records review and inspection was to determine compliance with Permit to Install (PTI) No. 387-94D and 152-09 and all other applicable state and federal regulations. The following will summarize the records review and in-person inspection.

Buckeye Terminals LLC is a fuel storage facility located in Marshall, Calhoun County, Michigan. The terminal receives fuel shipments through a dedicated oil and gas pipeline that allows for clean cuts of received petroleum products. Ethanol shipments to the terminal are received via tanker truck only to a bulkhead located west of the loading rack. The facility has a synthetic minor permit for hazardous air pollutants (HAPs) and volatile organic compounds (VOCs) and is subject to 40 CFR Part 60 Subpart Kb, standards of performance for volatile organic liquid storage vessels, and 40 CFR Part 63 Subpart BBBBBB, for gasoline distribution bulk terminals, bulk plants, and pipeline facilities. The facility has a loading rack, vapor combustor unit (VCU), storage tanks, and a groundwater remediation system.

The facility was last inspected on April 19, 2017 and was determined to be in non-compliance at the time of the inspection. These violations were considered addressed when the facility obtained a new permit, PTI No. 387-94D and commissioned their third-party remediation system operator, GES, to update the remediation system. The terminal has two employees who work 7am – 3pm Monday through Friday with a seven-day on-call rotating schedule for incoming pipeline shipments to the storage tanks. These shipments are typically from Wolverine pipeline received through dedicated oil and gas pipelines that allow for clean cuts of received petroleum products so no transmix product is received or stored at this facility.

EULOADRACK

This emission unit is a two-bay truck loading rack equipped with a Vapor Combustion Unit (VCU). The facility uses a program called BEST, Buckeye Emission and Storage Tank system to check all activities against permit conditions. If the facility comes close to the limit allowed, the system will send an email alerting Ms. Kimberly Trostel of a possible exceedance.

The facility tracks the monthly and 12-month rolling throughput for gasoline/ethanol, distillate, and gasoline additive. Highest diesel throughput rolling is May 2021 95,141,000 which is about 69% of the limit. Highest gasoline/ethanol throughput is January 2020 with 124,000,000 which is about 33,5% of the limit. Highest gasoline additive throughput is in January with about 29,000 gallons or 18% of limit.

The facility supplied VOC emission calculations for the truck loading rack. They are tracking controlled, fugitive, and miscellaneous emissions from all loading, pumps, valves, and racks. Highest emissions were in January 2020 with about 21 tons of VOC on a 12-month rolling basis which is about 28% of the limit.

During the inspection, staff observed two tanker trucks load petroleum product, simultaneously. Mr. Garner showed me how the hook-up with a built-in interlock system to prevent unwanted off-gassing from the tanker after it's been filled. They maintain a computerized system that contains information on each truck firm, tanker truck number, and the expiration date of the most current pressure/vacuum leak test associated with that tanker. This requirement is part of the Rule 627 program. The driver is issued a card they swipe at the loading rack kiosk and enters a code. The computer system then verifies the tanker has a current Rule 627 test before they can begin loading. The driver hooks up the grounding lead to the tanker and then hooks up both the vapor collection hose and the product filling hose before filling begins. During filling, vapors inside the truck are drawn into the VCU. Any spilling or water that is inside the bay collects into one of two underground storage tanks and is regulated as petroleum contact water.

The VCU is equipped with a continuously operated flame that is fueled by propane. The propane above ground storage tank (AST) was west of the VCU. The VCU has a flame arrester to prevent the flame from traveling back to the loading rack. There was no flame or heat signature from the VCU but was running based on the sound. There are two gauges on either side of the flame arrester with approximately 1" H2O difference. Mr. Garner said this is monitored daily as indication of proper operation of the flame arrester. Maintenance is completed if the gauges read 12" H2O different.

Visual inspections are completed daily. Mr. Garner provided a checklist which is filled out daily during the walkthrough. This is updated in the BEST system quarterly. The VCU also has quarterly preventative maintenance performed. Two example PM checklists were sent for 3/3/21 and 11/13/20. No other unscheduled maintenance was performed in the last 12 months.

FGIFRTANKS

The tank EU-80-10 is a piece of equipment that was permitted but never built. Therefore, it is not on site and no records are being kept for it. It should be removed from the permit when it is reopened for any other changes.

The facility is tracking throughput of the gasoline/ethanol in the floating roof tanks. See discussion in EULOADRACK as the throughput limit is the same in both emission units. The VOC emissions are being tracked on a monthly and 12-month rolling bases for the floating roof tanks. Highest VOC emissions are in November 2020 with 11.05 tpy or 51% of the limit.

Tank Number	Storage	Date of last Internal Corrosion Inspection
EU-TANK28-1	Ethanol	8/13/2015
EU-TANK28-2	Subgrade gasoline	8/19/2014
EU-TANK28-3	Low sulfur diesel	8/28/2007
EU-TANK28-4	Premium gasoline	11/15/2017
EU-TANK75-5	Subgrade gasoline	3/12/2020
EU-TANK1-7	Empty (Transmix storage)	11/28/2006

With the issuance of PTI No. 387-94D, the facility can store ethanol, gasoline, and low sulfur diesel in any of the IFR tanks. There were no visible leaks seen during the inspection.

FGFIXEDROOFTANKS

These fixed roof tanks are equipped with pressure control vents for the purposes of maintaining pressure inside the tank.

The facility is keeping material throughput records for materials less than 1.5 psia vapor pressure. Materials include distillate fuel oil No. 2 and diesel fuel additive for this site. Highest throughput is 61,500,000 in May of 2021 which is about 44% of the limit. They are also tracking VOC emissions and the highest is in May 2021 0.54 tpy which is about 45% of the limit.

Tank Number	Storage	Date of last Internal Corrosion Inspection
EU-TANK75-6	Diesel	8/18/2010
EU-TANK8A	Gasoline Additive	-
EU-TANK9A	Gasoline Additive	4/25/2000

Tank 10 and Tank 11

In 2006, the facility installed tank 10 and tank 11, both horizontal storage tanks. Tank 10 contains lubricity which is a diesel additive. Tank 11 contains red dye which is also a diesel additive. These tanks are considered exempt per Rule 284(2)(i).

Source-Wide

Facility is tracking overall VOC, individual, and aggregate HAPs for the entire source. Overall emissions in May 2021 were 30.5 tpy on a 12-month rolling basis, well below the permitted limit. Highest emitted individual HAP is toluene at 0.29 tpy 12-month rolling and total HAPs are 1.1 tpy 12-month rolling. All well below the permitted amount.

FG-REMEDIATION

This information is kept by a third party, GES, which services the equipment and keeps track of all emissions information. They service the equipment monthly. The last time a sample was taken from the catalytic oxidizer soil vapor extraction (SVE) system was 6/15/2017. There is also an air stripper remediation system with a dual stage granulated activated carbon system which is still being run for the groundwater remediation. The facility doesn't run the SVE equipment anymore and only uses the air stripper to maintain compliance.

The groundwater treatment system has approximately 18 active extraction wells. Five or six have electric pumps and the rest have pneumatic pumps. All the liquid is conveyed with underground piping to treatment at the facility. An oil water separator is used, and the removed oil has a tank with secondary containment which is removed from site as needed. The water is processed through the air stripper and liquid carbon and then vapor carbon is used for off gassing of the air stripper. There are two filters, a lead and a lag. Sampling is done quarterly taken from before, between, and after filters. Photo Ionization Detector (PID) readings are done weekly to monitor if there are any VOC present before, between, or after the canisters.

Records were provided for the air stripper and carbon system for both BTEX and gasoline. In 2018, total BTEX emissions were 0.003 tons. In 2019 and 2020, total BTEX emissions were 0.000 tons. For gasoline in 2018 emissions were 0.31 tons and 0.00 tons in both 2019 and 2020. These emissions meet the limits established in 152-09. The facility is monitoring the BTEX and gasoline concentrations for the inlet and outlet, run time, water flow, and emissions, as required by the permit.

The carbon was last changed on July 6, 2017 according to GES. GES also provided records for PID readings taken for the dual stage activated carbon system. The permit requires breakthrough from the first canister to the second be monitored at least once every two weeks. Based on the provided records, the system was inactive from August 2019 to June 2020. Since the system was turned back on, PID readings have been taken on 6/22/20, 8/13/20, 10/16/20, 12/21/20, 1/25/21, 2/4/21, 2/25/21, and 4/22/21. PID readings show breakthrough of the carbon on 6/22/20 with 38%, 12/21/20 with 46.5%, 1/25/21 with 34.6%, 2/4/21 with 43.2%, and 2/25/21 with 34.6%.

The records provided also show that the facility is not continuously meeting the minimum 95% reduction of hydrocarbon emissions. Based on the PID readings from before the first canister to the emissions from the final canister, on 10/16/20 and 2/4/21, it was performing at 89.4% and 83.7% respectively.

Since the dual stage activated carbon system is not consistently meeting the 95% reduction requirement, PID breakthrough readings are not being done at least once every two weeks, and breakthrough of the carbon canisters is above 20%, a violation notice (VN) will be sent

The inactive SVE system has a Falco 600 catalytic oxidizer to remove VOCs and only emit water and carbon dioxide, after destroying VOCs. There are internal discussions to restart the SVE system which would require updating before being turned back on. The date of the last readings for the SVE system is 10/31/17.

Rule 290 Exemption

The facility had an accidental release of ethanol in 2019 by EU-TANK28-1. Due to the already installed remediation system, they were able to contain the release and it did not travel offsite. The facility initially applied to update their existing permit, 152-09, with additional remediation equipment. It was determined that the emissions from the proposed catalytic oxidizer system would meet the requirements of Rule 291 and the application was withdrawn.

Records were submitted by GES to show compliance with Rule 291. Based on the records submitted, the facility is complying with Rule 290 instead of Rule 291. The ITSL for ethanol (CAS 64-17-5) is 19,000 $\mu\text{g}/\text{m}^3$ per hour. Records show that monthly controlled emissions of ethanol at the highest were 2.27 pounds in November 2019. Emissions in May 2021 were 0.03 pounds per month. This complies with the 500 lbs/month limit in Rule 290.

Based on the inspection and records review, a violation notice will be sent for not meeting the 95% emission reduction requirement, carbon breakthrough, and recordkeeping deficiencies from the remediation system permitted under PTI No. 152-09.

NAME *Quinn Chappell*

DATE 8/3/21

SUPERVISOR *Rex Lane*