

Inspection Report: Buckeye Terminals LLC – St. Louis South Terminal, Clean Air Act Stationary Source

Facility Name: Buckeye Terminals LLC – St. Louis South Terminal

Inspection Date(s): September 25, 2023

Facility Address: 4040 South 1st Street, St. Louis, MO 63118

FRS ID #: 110012609114

Federal Facility: No

NCI: Creating Cleaner Air for Communities

Facility size: Minor Source

Activity: Partial Compliance Evaluation

State Referral: No

NAICS code: 424710 – Petroleum Bulk Stations and Terminals

Lead Inspector: Elizabeth Hubbard, ERG Inspector Trainee, (919) 468-7894

Asst. Inspector: Bryan Lange, ERG Inspector, (919) 622-2374

State Inspector: Suzanne Lamb, Missouri Department of Natural Resources (MoDNR)

Facility Contact: Dhaval Shah, Sr. Specialist, Air Compliance, (484) 280-3986

1. Plant Description:

The facility's 2018 construction permit states, "BET St. Louis South Terminal operates a storage and transfer station that handles petroleum products, ethanol, and asphalt. The facility receives product via pipeline, barge, rail, or truck and stores the product onsite in a variety of tanks. Product is shipped out via truck for delivery to customers." The permit indicates that no National Emission Standards for Hazardous Air Pollutants ("NESHAP") or New Source Performance Standards ("NSPS") apply to the installation.

Figure 1: Satellite image of the Buckeye Terminals – South St. Louis facility in St. Louis, MO.



2. Facility Entry:

The representatives of the United States Environmental Protection Agency (“EPA”), Elizabeth Hubbard and Bryan Lange from Eastern Research Group, Inc. (“ERG”), and a representative from the Missouri Department of Natural Resources (“MoDNR”), Suzanne Lamb, arrived at the Buckeye Terminals facility at 4040 South 1st Street, St. Louis, MO (“Buckeye” or “the facility”) at approximately 2:15 pm. The MoDNR and ERG representatives (“the inspectors”) were met at the administration building by: Dhaval Shah, Sr. Specialist, Air Compliance; Chris Depper, Terminal Operator; and Paul Decker, Operations Manager (“the facility representatives”). The inspectors presented their identification credentials and provided an overview and scope of the inspection. The inspectors explained that ERG worked as contractors to conduct facility inspections for EPA. They provided a copy of EPA’s “Small Business Resources Information Sheet.”

3. Opening Conference/Technical Discussion:

The inspectors explained that they were at the facility to conduct a routine Clean Air Act (“CAA”) inspection, including a focus on volatile organic compounds (“VOCs”) and hazardous air pollutants (“HAPs”). The inspectors explained that during the facility walkthrough, they would capture digital images of the facility’s processes and emission points using a digital point and shoot camera, as well as an optical gas imaging, forward looking infrared (“FLIR”) video camera, model GF320, that were not intrinsically safe. Therefore, they requested that the facility representatives inform them of any areas where there could be a potentially explosive atmosphere. The facility representatives explained that there were no areas of the facility where flammability would be a concern. The list of digital images and FLIR videos taken during the inspection are included in Appendix A.

The inspectors asked for background information about Buckeye and the facility. The facility representatives provided an overview of the facility’s history, as well as the general operations that take place at the facility. Buckeye purchased the facility from Equilon Enterprises LLC in 2004, and sometime between 2007 and 2009 Buckeye sold the part of the facility that handles gasoline to Kinder Morgan. At the time of the inspection, asphalt was the only product handled at the facility. The facility representatives explained that the facility was open for truck loading operations 24 hours a day, 7 days a week, and the terminal operator was generally present from 6 am to 2 pm Monday through Friday. The terminal operator was the only full-time employee at the facility, and Buckeye had around 1,900 employees companywide.

The facility representatives described the asphalt handling and storage processes at the facility. The facility received all its asphalt via barges; no product was received by rail. The facility stored products for multiple customers that paid for storage space at the facility and would pick up their product via truck. There were five asphalt storage tanks that were in service (Tanks 11, 12, 14, 972, and 600) and one that was out of service (Tank 13), all of which were fixed roof tanks. The truck loading process involved drivers parking a truck on a scale at the loading rack, chocking the wheels (i.e., putting a wedge against the wheels to prevent the truck from moving), taring the truck (i.e., once the truck is on the scale, zeroing out the scale before adding product), and loading asphalt into the truck based on weight. The loading system was automated, and if a driver’s ID card was not valid then they would not be able to enter through the facility’s gate. The asphalt at the facility was stored between 300 and 320 degrees Fahrenheit and was heated using heating oil that flowed through 4-inch diameter pipes in the asphalt

tanks. The heating oil was heated by natural gas boilers which were inspected, cleaned, and tuned annually. The facility representatives noted that the boilers had been tuned recently prior to the inspection.

The inspectors asked whether the facility's fuel bills were generally consistent between years. The facility representatives said that yes, while fuel bills could vary largely between seasons, they were generally consistent year-to-year.

The facility representatives told the inspectors about an internal four-month study Buckeye had conducted to determine whether the truck drivers that visited the facility needed to wear personal protective equipment ("PPE") for hydrogen sulfide ("H₂S"). The air monitoring they conducted during the study determined that the H₂S content in the air was between 0 to 2 ppm and that PPE for H₂S was not necessary. They also said that the H₂S content of the liquid asphalt had been tested by a third-party company and had never been above 3 ppm.

The inspectors asked how many trucks were typically filled at the facility each day. The facility representatives said that 30 to 40 trucks per day were typically filled during the summer and 1 to 2 trucks per day were typically filled in the winter. Mid-March through mid-October was considered to be the summer season.

The inspectors asked how often the tanks were filled. The facility representatives explained that the filling schedule varied and would depend on customer demand, but on average, they typically filled one tank per week during the summer and one tank every one to two months during the winter.

The inspectors noted that the facility's 2018 construction permit indicated the facility was permitted to handle heavy gas oil and catalytic cracked clarified oil and asked whether these products were handled at the facility. The facility representatives explained that they had been permitted to handle those products at the request of a customer, but the customer had backed out. Therefore, neither of those products had ever been handled at the facility, even though they were permitted.

The inspectors noted that, according to the facility's 2018 construction permit, 40 CFR Part 60 Subpart Kb - *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984*, did not apply because the maximum true vapor pressures of the petroleum compounds handled at the facility were each below 3.5 kPa. The inspectors asked how the facility determined the maximum true vapor pressures of its products. The facility representatives explained that the facility never handled products where Subpart Kb could apply, so this determination was not relevant to its operations.

The inspectors noted that, according to the facility's 2018 construction permit, no NSPS or NESHAP regulations applied to the facility and asked whether this was accurate to the facility representatives' knowledge. The facility representatives confirmed that this was accurate and that the facility was exempt from NSPS and New Source Review ("NSR") standards because the only product they handled was asphalt slurry.

The inspectors asked whether any of the tanks or loading operations at the facility had control devices. The facility representatives said that there were no control devices at the facility.

The facility representatives showed the inspectors the following documents and process screens, of which the inspectors took photos:

- A table indicating the safe fill levels for the tanks;
- A process screen indicating the H₂S levels measured by a monitor at the loading rack;
- A process screen indicating the status of the asphalt storage tanks; and
- A certificate of analysis for asphalt product received from the Phillips 66 Wood River Refinery.

See photos CBI_DSCN7446.JPG through CBI_DSCN7449.JPG.

4. Facility Tour/Walkthrough:

At approximately 3:25 pm, the facility representatives led the inspectors on a walkthrough of the facility. They started at the outdoor storage tank area, proceeded past the barge unloading area, then visited the boiler room and truck loading rack.

At the outdoor storage tank area, the facility representatives informed the inspectors that Tank 14 was used to store an asphalt product they referred to as "58". The 58 asphalt product was the product the facility received and transferred the most of and was thinner and less expensive than other grades of asphalt. The facility also stored an asphalt product they referred to as "24", which was thicker than 58 and was the type of asphalt that would be used for purposes such as filling potholes.

The inspectors took photographs with a digital camera and took one video using the FLIR camera while visiting the storage tank area. The inspectors did not observe any indications of emissions from the asphalt storage tanks using the FLIR camera. See photos CBI_DSCN7450.JPG through CBI_DSCN7452.JPG, CBI_DSCN7454.JPG through CBI_DSCN7458.JPG, and video MOV_2754.mp4.

As the group passed by the barge loading area, the facility representatives pointed out the barge loading arm. No barges were unloading at the time of the inspection. See photo CBI_DSCN7453.JPG.

Outside of the building where the natural gas boilers were located, the inspectors observed the expansion tank used to heat the heating oil, as well as a heating oil overflow tank. The facility representatives informed the inspectors that they used Therma-C heating oil to heat the asphalt tanks. The inspectors could hear loud popping from inside the expansion tank and the facility representatives informed the inspectors this was the sound of moisture evaporating from the heating oil. Using the FLIR camera, the inspectors observed possible heat or emissions from the boiler stacks on the roof of the building. See photos CBI_DSCN7459.JPG and IR_2757.JPG and videos MOV_2755.mp4 and MOV_2756.mp4.

Inside the boiler room, the inspectors observed that both boilers, Heater 1 and Heater 2, were operating. The facility representatives informed the inspectors that the boilers were programmed to heat the heating oil to 10 degrees Fahrenheit above the oil set point, then turn off until the heating oil cooled below the set point again. The inspectors took photos of the various gauges and controls for the

boilers, the daily log sheet for Heater 2, and the waste heating oil storage area. See photos CBI_DSCN7460.JPG through CBI_DSCN7470.JPG.

The facility representatives informed the inspectors that they received the natural gas used to power the boilers directly from the Explorer Pipeline, which passed over the property. Natural gas was the only fuel used at the facility and there were no fuel storage tanks on site.

Finally, the group visited the truck loading rack. There were no trucks loading while the inspectors were visiting the loading rack. See photos CBI_DSCN7471.JPG through CBI_DSCN7473.JPG.

At approximately 4:05 pm, the group returned to the administrative building and the inspectors provided the facility representatives with a closing conference.

5. Closing Conference:

The inspectors thanked the facility representatives for their time and cooperation during the inspection. The inspectors explained to the facility representatives that EPA would provide Buckeye with an inspection report in approximately 60 days. They explained that the report would be available to the public through the Freedom of Information Act, and therefore, if the company wanted to claim any notes or digital images as confidential business information (CBI), they could do so today or within 10 days following the inspection. They provided the facility representatives with EPA's confidentiality notice form. Mr. Shah filled out and signed the form. See Appendix B.

The inspectors summarized questions and concerns raised during the inspection. They noted that during the facility walkthrough, they observed possible indications of VOC emissions or heat from the boiler stacks with the FLIR camera. The inspectors noted that it seemed likely these observations were only indications of heat rather than emissions, especially since, according to the facility representatives, the boilers had been tuned recently and therefore, they did not see this observation as a major concern. The inspectors had no other areas of concern. They provided the facility representatives with a Notice of Preliminary Findings form and explained that EPA may follow up with additional questions. See Appendix C.

The inspectors did not take copies of any documents.

At approximately 4:30 pm, the inspectors departed from the facility.

6. Appendices

- A. Digital Image Log
- B. Confidentiality Notice Form
- C. Notice of Preliminary Findings Form

Inspection Report Sign-Off

Lead Inspector's Name: Elizabeth Hubbard, ERG

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Lead Inspector

Assisting Inspector's Name: Bryan Lange, ERG

Signed by Jason Sese for Bryan Lange

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Assisting Inspector

Supervisor's Name: Tracey Casburn, Air Branch Chief, ECAD

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Supervisor