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

B288172467

FACILITY: US Energy Distribution LLC - Novi Terminal		**SRN / ID:** B2881
LOCATION: 40600 Grand River Avenue, NOVI		**DISTRICT:** Warren
CITY: NOVI		**COUNTY:** OAKLAND
CONTACT: David Rodriguez , Assistant Terminal Manager		**ACTIVITY DATE:** 07/02/2024
STAFF: Noshin Khan	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: scheduled on-site inspection		
RESOLVED COMPLAINTS:		

On Tuesday, July 2, 2024, I, Noshin Khan, Michigan Department of Environment, Great Lakes, and Energy-Air Quality Division (EGLE-AQD) staff, performed a scheduled, on-site inspection of US Energy Distribution, LLC (now called US Petroleum Partners) located at 40600 Grand River Avenue, Novi, Michigan 48375 (SRN: B2881). The purpose of the inspection was to determine the facility's compliance status with the requirements of the federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 Public Act 451, as amended (Act 451); the AQD administrative rules, and the conditions of Permit to Install (PTI) Number 1140-92E.

Inspection
I arrived at the facility around 10AM and met with David Rodriguez, Terminal Manager, and we discussed the facility's operations.

US Petroleum Partners (USPP) is a bulk distribution terminal for ethanol, gasoline, diesel fuel, and Jet A fuel. According to David, the facility's hours of operation are 4AM-1AM, Monday through Friday, but loading operations occur 24/7 and facility staff are on-call 24/7. There are 10 administrative employees and 4 employees associated with loading operations. There are 7 above-ground storage tanks and 2 underground storage tanks to hold fuels, and 4 loading racks.

The facility controls emissions from its loading rack through a vapor recovery unit (VRU) as its primary control device. The VRU filters exhaust air by directing vapors through carbon beds for adsorption, and captured hydrocarbons are condensed and cycled back to storage tanks. The facility has a vapor combustion unit (VCU), also known as a vapor destruction unit (VDU), which is operated as backup control if the VRU is down.

During the previous inspection, the facility was found in violation of PTI 1140-92E, EU-LOADRACK Special Condition (S.C.) VIII.2 for non-compliant VRU stack design and Michigan Air Pollution Control Rule 201 for loading of fuel additives without a PTI. David and I discussed the permit application USPP was preparing for increased throughput, adjusted VRU stack, and fuel additives. The facility is applying for increased fuel throughput in response to increased demand.

David informed me that the 2 underground storage tanks, which previously held racing fuel, are being converted to diesel storage tanks since racing fuel sales have decreased. Storage of diesel fuel is exempt from permit requirements per Michigan Air Pollution Control Rule 284(2)(d). These tanks will be connected to dispensers to supply diesel for an on-site fueling station for the fleet of trucks. David said that the facility has broken ground on the project. Because this project has the potential to release air emissions when the diesel loading process begins, I advised David that an air permit application should be submitted since operation of the process may constitute a violation of Rule 201. David said that the fleet fueling station would be included in the permit application the facility was already working on. The permit application was received by the AQD on July 25, 2024. I am utilizing enforcement discretion since the diesel dispensing process has not been operated. A violation notice will not be issued at this time.

After discussing the facility's operations, David took me outside for a site walkthrough. First, we walked to the location of the 2 underground storage tanks which the facility plans to convert into a diesel fueling station for the fleet. I observed that some ground had been dug up but no equipment has been installed. David informed me that the maximum capacity of each tank is 10,000 gallons.

Next we walked to the VRU. Here, vapors from the loading rack are directed upwards through one of two carbon beds for adsorption of hydrocarbons, and filtered air is released through the stack. About every 12 minutes, a vacuum desorbs the carbon bed saturated with hydrocarbons in a process called regeneration. While one carbon bed undergoes regeneration, the other undergoes adsorption and the process continues as they alternate. After regeneration, hydrocarbon vapors are condensed and discharged to a storage tank. Currently, recovered gas is directed to tank 104 or 105. I observed multiple pressure gauges on the VRU to monitor for proper operation. The VRU was operating during my inspection and I read a flow reading of 143.17 GPM and a pressure reading of 47 PSI. David told me that daily checks for the VRU include checking the control monitor for alarms, checking pressure gauges, and checking that valves are opening properly. The control monitor is located in a trailer next to the VRU, and David showed me how the system tracks any operating issues that arise. The panel shows whether valves are open or closed and the temperature at various parts of the process. David explained that the system tries to fix itself before shutting the loading rack down completely if a problem arises.

Next, David walked me to the VCU, which serves as the backup control device. On the way, David pointed out the valves which are used to switch vapor direction between the VCU and VRU. At the VCU, I observed the magnehelic pressure differential gauge on the unit. David explained that the release of vapors through the VCU is regulated by a control valve; this opens when the pressure in the unit reaches about 8 PSI and vapors are burned off. David also noted that daily checks are performed on the VCU when it is operating, including making sure that the flame is lit, the blower is on, the glycol level is appropriate, and that the pressure gauge is functioning properly. He said that the VCU is operated each month to ensure that it is functioning properly.

At the loading racks, David demonstrated how each station requires the driver to enter information into the security system before the loading process can begin. Once the loading hose is pressed and locked firmly into place as to form a vapor-tight connection, the driver is allowed to enter a unique driver number, PIN, and trailer ID number into the computer. The computer automatically checks information on the truck and driver's compliance and will lock out the driver if the truck's certification testing is expired or other requirements like driver safety certifications are not met. By locking out the driver, the safety system prevents a driver with a non-compliant truck to bypass the system by entering a fake trailer number. The system will only allow a PIN to be entered if the interlocking system is connected properly, and loading will only begin when the system light turns green after all information is entered and verified. Drivers are required to enter a product number which prevents drivers from loading material that they are not assigned to.

I observed that written operational procedures required by EU-LOADRACK S.C. III.1.c. are posted at each rack.

I observed the vapor collection lines at each rack used to extract vapors from the trucks during loading. David said that a daily rack walk is performed to inspect vapor collection hoses for cracks, breaks, or fuel odor, and that repairs are made based on those inspections. He noted that the hoses are checked and replaced, if necessary, before each winter and typically replaced every 1-1.5 years. The racks utilize submerged fill pipes for loading material into trailers, and a probe inside each truck prevents overfilling.

Racks 2 and 3 load gasoline, diesel, and jet fuel. Rack 4 loads gasoline, diesel, and turbo blue racing fuel, although David noted that the racing fuel is currently out of service. Rack 5 loads gasoline and diesel. In the area adjacent to the loading rack are smaller storage tanks containing fuel additives which are conveyed into the racks and loaded along with fuel as specified by customer formulations. According to David, the largest of these additive tanks has a maximum capacity of 6000 gallons. David provided SDS's for these additives and most are petroleum blends and include compounds including cumene and xylene. The additive loading process is a violation of Rule 201 since it is not currently permitted and has the potential to emit air contaminants. The facility received a violation for this following the previous inspection in 2023. As discussed above, the facility has submitted a permit application which includes this process. Since this action has been taken I am utilizing enforcement discretion and a violation notice will not be issued at this time.

For the 7 large storage tanks, David confirmed the following::

101 – holds ethanol; has an internal floating roof
102 – holds jet A fuel; no internal floating roof
103 – holds diesel; no internal floating roof
104 – holds regular gasoline; has an internal floating roof
105 – holds regular gasoline; has an internal floating roof
106 – holds premium gasoline; has an internal floating roof
107 – holds diesel; no internal floating roof

The facility performs butane blending into regular gasoline (tanks 104 and 105) from approximately mid-September to the beginning of May. The blend is up to 5% butane and does not increase the throughput of the loading rack. Butane is injected into tanks 104 and 105 and is blended by continuous mixers in the tanks. This process was included in the application for the current permit, and permit evaluation documents account for increased RVP with butane blending. David said that the facility is considering performing butane blending in tank 106, but the tank is not turned as much as tanks 104 and 105 so there is a concern that the butane will not cycle through the tank enough. I advised David to have this reflected in the permit application if the company chooses to make this change.

Permit Compliance
The records I received are available on the AQD shared drive at the following address: S:\Air Quality Division\STAFF\Noshin Khan\FY24\B2881 US Energy Distribution.

Emission Limits
Per EU-LOADRACK S.C. I.1, the facility has a VOC emission limit of 17.4 tpy based on a 12-month rolling time period as determined each calendar month. David provided throughput and emissions records, in accordance with EU-LOADRACK S.C. VI.2 and VI.3. These calculations indicate that from June 2023 through June 2024, the highest 12-month rolling VOC emissions were 3.3 tons as calculated in December 2023.

Per EU-LOADRACK S.C. I.2, the VCU and VRU have a VOC emission limit of 10 mg/L of organic compounds loaded. The last stack test for the VRU was in August 2023 and results showed a VOC emission rate of 1.77 mg/L of organic compounds loaded. The last stack test for the VCU was in May 2021 and results showed a VOC emission rate of 1.95 mg/L of all fuels loaded. Both control devices are in compliance with this limit.

Material Limits
Per EU-LOADRACK II.1, the facility has a gasoline material limit of 250 million gallons per year based on a 12-month rolling time period as determined each month. The facility's throughput records indicate that from June 2023 through June 2024, the highest 12-month rolling gasoline throughput was 200,637,478 gallons as calculated in December 2023.

Per EU-LOADRACK II.2, the facility has a diesel material limit of 100 million gallons per year based on a 12-month rolling time period as determined each month. The facility's throughput records indicate that from June 2023 through June 2024, the highest 12-month rolling diesel throughput was 29,805,031 gallons as calculated in June 2024.

Per EU-LOADRACK II.3, the facility has an ethanol material limit of 80 million gallons per year based on a 12-month rolling time period as determined each month. The facility's throughput records indicate that from June 2023 through June 2024, the highest 12-month rolling ethanol throughput was 20,908,574 gallons as calculated in February 2024.

Per EU-LOADRACK II.4, the facility has a Jet A fuel material limit of 50 million gallons per year based on a 12-month rolling time period as determined each month. The facility's throughput records indicate that from June 2023 through June 2024, the highest 12-month rolling Jet A fuel throughput was 9,746,551 gallons as calculated in December 2023.

Process/Operational Restrictions

Per PTI 1140-92E, the facility is subject to Michigan Administrative Part 6 and 7 rules for gasoline loading and storage.

EU-LOADRACK S.C. III.1 requires compliance with Rule 706. Rule 706 requires that delivery vessels loading any organic compound that has a true vapor pressure of more than 1.5 psia at a facility that has a throughput of 5,000,000 or more gallons per year is controlled by a vapor recovery system and vapor-tight collection line so that emissions to the atmosphere do not exceed 0.7 lb of organic vapor per 1000 gallons of organic compounds loaded.

As discussed previously, a vapor-tight collection line is implemented into the loading system at the facility. The VOC emission rate of 1.77 mg/L when the VRU is the method of control translates to an emission rate of 0.015 lb/1000 gallons. The VOC emission rate of 1.95 mg/L when the VCU is the method of control translates to an emission rate of 0.016 lb/1000 gallons. Both the VRU and VCU operate below the limit of 0.7 lb/1000 gallons. Rule 706 also requires that delivery vessels are filled by a submerged fill pipe, which David explained is the case for the loading racks. As previously mentioned, the facility has written procedures for operation of control measures posted at each loading rack.

EU-LOADRACK S.C. III.2 requires compliance with Rule 627. Rule 627 requires that delivery vessels are pressure/vacuum tested annually. David explained that companies send US Energy Distribution vapor testing and certification information for loading trucks and provided an example tank-truck inspection report. The document specifies test compliance conditions for the vapor pressure system and internal vapor valve. It also lists inspection requirements including testing the overfill protection probe and checking for a functional brake interlock system on the loading header and vapor recovery hose. Electronic data is updated and if any certifications are expired for a truck, it will be locked out from the fuel loading process. This procedure indicates that the facility is in compliance with Rule 627, as only trucks with up-to-date testing can load fuels.

S.C. III.2 also requires that there shall be no visible leaks, except for a few drops from the disconnection of bottom loading dry breaks and from raising top loading vapor heads. Per S.C. III.2, no gas detector reading (from a combustible gas detector according to Rule 2005 procedure) shall be greater than or equal to the lower explosive limit (LEL) at a distance of 1 inch from the location of a potential leak in the vapor collection system. I did not observe any leaks during my inspection. As discussed, David said that staff perform daily rack walks to inspect vapor collection hoses for cracks, breaks, or fuel odor, and that repairs are made based on those inspections. He said that a combustible gas detector is used when work (such as a repair) is being done at the rack to ensure that readings are well below the LEL. He said the facility does not keep records of these readings. David did provide a weekly log of repairs done on vapor hoses at each loading rack. The log notes which lane requires repair and David said that repairs are done immediately.

Per EU-LOADRACK S.C. III.3, the facility is subject to 40 CFR Part 60 Subpart XX. Based on the system checks I observed during my inspection, the facility appears to operate in compliance with the specific conditions listed in the permit for operating a vapor collection system. This rule establishes a 35 mg/L VOC emission limit. The VRU and VCU stack test results discussed above are in compliance with this limit.

EU-LOADRACK S.C. III.4 requires that the permittee operate with an approved preventative maintenance/malfunction abatement plan (PM/MAP). David provided a copy of this Malfunction Abatement Plan (MAP). The plan includes descriptions for topics required by this condition and by Rule 911. I noticed that the MAP only included procedures for the VDU, and during my inspection David said that he is working with the site's engineer to update the MAP to include procedures for the VRU. Since the facility has provided records for daily checks and preventative maintenance for the VRU indicating operation of the device in a satisfactory manner, I am utilizing enforcement discretion and will not be issuing a violation notice. David provided an updated MAP addressing VRU procedures on August 16, 2024.

Design/Equipment Parameters
EU-LOADRACK S.C. IV.1 requires that no product be loaded into trucks unless the VRU or VDU are installed, maintained, and operated in a satisfactory manner, which includes maintaining each control

device in accordance with the MAP. As previously discussed, facility staff perform daily checks for both the VRU and VDU. David provided weekly logs for the daily inspections performed on the VRU and copies of field service tickets for maintenance and repairs done on the VRU. Based on the regular checks and maintenance performed on the control units, the facility is in compliance with this condition.

Monitoring/Recordkeeping
Per EU-LOADRACK S.C. VI, the facility is in compliance with recordkeeping requirements. The facility provided records for monthly VOC emissions and 12-month rolling emission rates (S.C. VI.2); they also provided throughput records for gasoline, diesel, ethanol, and jet A fuel that included 12-month rolling values (S.C. VI.3). As previously discussed, facility staff perform daily checks of the loading racks and control devices, and David provided records for inspections and repairs done on the vapor collection system (S.C. VI.4). These records indicate that for leaks detected, repairs are done within the same week. While I was on-site, David showed me a log noting when when the VCU backup control is operated when the VRU is down, in compliance with S.C. VI.5. As discussed, the facility maintains a procedure for keeping tank truck certifications up to date, indicating compliance with S.C. VI.6.a and VI.7. David also provided records for repairs and maintenance on control devices that included descriptions of the issues found (S.C. VI.6.b and VI.6.c), and VRU/VCU emission test results (S.C. VI.6.d).

Reporting
S.C. VII.1 required notification to the AQD District Supervisor within 30 days of installation of the VRU, which is considered to occur not later than the commencement of trial operation. This notification was received.

The facility submitted the 2023 emissions report on March 15, 2024 (on-time) on MiEnviro Portal. US Energy Distribution reported that facility-wide emissions (including breathing loss emissions from FGASOLINETANKS) were 8.37 tons of VOC's which is consistent with calculations provided and is below the facility's permitted VOC emission limit for EU-LOADRACK.

Other Requirements
The facility is subject to 40 CFR Part 63 Subpart BBBBBB. The AQD hasn't accepted delegation to enforce this rule, so compliance with this rule was not evaluated.

Per FG-GASOLINETANKS S.C. IV.1, the permittee shall not store gasoline in tanks 104, 105, or 106 unless internal floating roofs are installed, maintained, and operated in a satisfactory manner. During the facility inspection, David confirmed that tanks 104, 105, and 106 have internal roofs installed. David also provided records noting most-recent and scheduled in-service and out-of-service inspection dates. In-service inspections were performed on tanks 101 through 107 in 2022 and are next due for 2027. The most recent out-of-service inspection was in 2020 for tank 101, and the soonest scheduled out-of-service inspection is in 2025 for tank 106. The facility is in compliance with this condition.

Conclusion
The facility is currently in violation of EU-LOADRACK S.C. VIII.2 for emissions discharged horizontally rather than vertically upwards from its VRU stack, as required by the permit. The facility is also in violation of Rule 201 for the loading of additives, which may emit air contaminants, without a Permit to Install. The facility has submitted a permit application to address these issues. I am utilizing enforcement discretion and a violation notice will not be issued at this time.

NAME Nashin Khan DATE 09/05/2024 SUPERVISOR K. Kelly