

Facility ID: 0125040580 Issuance type: Draft State Permit To Operate

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In addition to the terms and conditions, hyperlinks have been inserted into the document so you may more readily access the section of the document you wish to review.

Finally, the term language under "Part II" and before "A. Applicable Emissions Limitations..." has been added to aid in document conversion, and was not part of the original issued permit.

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 0125040580 Emissions Unit ID: J001 Issuance type: Draft State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
2-bay truck loading rack for gasoline and distillates loading controlled by a carbon adsorption/gasoline absorption vapor recovery unit (VRU) consisting of 10 loading arms in 2 bays.	OAC rule 3745-21-09(Q)	Limitation applicable to the loading of gasoline (i.e., gasoline, fuel ethanol, transmix, and additives) 0.67 pound of VOC per 1,000 gallons (80 milligrams per liter (mg/l)) of gasoline loaded into the gasoline delivery vessel.
	OAC rule 3745-35-07	Limitation applicable to the loading of distillates (diesel and kerosene): 0.019 pound of VOC per 1,000 gallons of distillates loaded into the distillates delivery vessel. The total annual VOC emissions from gasoline and distillates loading at the loading rack (emissions unit J001) shall not exceed 74.14 tons per year (TPY) (including fugitive emissions).

See A.2.a below.

2. **Additional Terms and Conditions**
 - (a) The emissions of hazardous air pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from all emissions units at this facility shall not exceed 9.9 TPY for any individual HAP and 24.9 TPY for any combination of HAPs, based upon rolling, 12-month summations of the HAP emissions.

B. Operational Restrictions

1. The vapor collection and control systems shall be kept in good working order and shall be used at all times during the transfer of any product into tank trucks.
 - a. The loading rack shall be equipped with a vapor collection system whereby during the transfer of gasoline to any delivery vessel:
 - i. all vapors displaced from the delivery vessel during loading are vented only to the vapor collection system; and
 - ii. the pressure in the vapor collection system is maintained between minus 6 and plus 18 inches of water gauge pressure.
 - b. The loading rack shall be equipped with a vapor control system whereby:
 - i. all vapors collected by the vapor collection system are vented to the vapor control system; and
 - ii. any liquid gasoline returned to a stationary storage tank from the vapor control system is free of entrained air to the extent possible with good engineering design.
2. A means shall be provided to prevent drainage of gasoline from the loading device when it is not in use or to accomplish complete drainage before the loading device is connected.
3. Compliance with the emission limitations as stated in Section A.1 shall be achieved by restricting annual

throughputs of gasoline (i.e., gasoline, fuel ethanol, transmix, and additives) and distillates (i.e., diesel and kerosene).

- a. The annual throughput of gasoline [i.e., gasoline, fuel ethanol (as a blend with gasoline), transmix, and additives] shall not exceed 195,000,000 gallons per rolling, 12-month period. Of the 195,000,000 gallons, the annual throughput of ethanol (loaded by itself, as well as loaded with gasoline) shall not exceed 60,000,000 gallons per rolling, 12-month period.
 - b. The annual throughput of distillates shall not exceed 31,600,000 gallons per rolling, 12-month period.
4. All fuel loading lines and vapor lines will be equipped with fittings which are vapor tight.
 5. The permittee shall not permit fuel to be spilled, discarded in sewers, stored in open containers, or handled in any other manner that would result in evaporation of the fuel.
 6. The permittee shall repair within 15 days any leaks from the vapor collection system and the vapor control system which are employed to meet the requirements of OAC rule 3745-21-09(Q)(1), when such a leak is equal to or greater than 100% of the lower explosive limit as propane, as determined under paragraph (K) of OAC rule 3745-21-10.
 7. Any tank truck used in conjunction with this emissions unit must comply with the requirements of OAC rule 3745-21-09(V), if applicable.
 8. The following VRU parameters have been identified as key operating parameters for which acceptable operating ranges have been established. The permittee shall operate the VRU within these acceptable operating ranges:
 - a. to ensure proper regeneration of the carbon beds, the maximum vacuum pulled during the regeneration cycle shall be greater than or equal to 25 inches of Hg and the air purge solenoid shall also remain open during the regeneration cycle;
 - b. to ensure proper absorption by the absorption tower, the gasoline supply temperature shall not exceed 98 degrees F;
 - c. to ensure a proper flow rate from the absorption tower to the carbon bed, the absorber pressure shall be maintained between 8 psi and 15 psi; and
 - d. to ensure proper adsorption, the carbon bed temperatures, at all levels, shall not exceed 150 degrees F.Operation of the VRU outside of these specified operating ranges is not necessarily indicative of an emission violation, but rather serves as a trigger level for maintenance and/or repair activities, or further investigation to establish correct operation.
 9. The maximum exhaust gas VOC concentration shall not exceed 4% (as propane) from the carbon adsorption vessels. [A VOC concentration that exceeds 4% (as propane) is not necessarily indicative of a violation of the allowable mass emission limitation (80 mg/l), but rather serves as a trigger level for maintenance and/or repair activities, or further investigation to establish correct operation.]

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain monthly records of the following information:
 - a. the total throughputs of gasoline, fuel ethanol and distillates, in gallons;
 - b. the rolling, 12-month summations of the total gasoline, fuel ethanol and distillates throughputs, in gallons;
 - c. the total VOC emissions for this emissions unit, in pounds or tons;
 - d. the total HAP (individual and combined) emissions for all emissions units at the facility, in tons.
 - e. the rolling, 12-month summations of the total VOC emissions for this emissions unit, in tons; and
 - f. the rolling, 12-month summations of the total HAP (individual and combined) emissions for all emissions units at the facility, in tons.
2. The permittee shall implement a preventive maintenance program (PMP) for the carbon adsorption/gasoline absorption VRU which has been submitted to the Ohio EPA, Central District Office. The PMP shall include an annual inspection of the VRU by a qualified individual trained in the operation and inspection of carbon adsorption/absorption systems. The resultant report shall be maintained on site and shall be made available during subsequent inspections by a representative of the Ohio EPA, Central District Office.
3. The permittee shall maintain the data required by the VRU manufacturer's recommended daily operating guidelines on a daily basis. The permittee shall submit a copy of the operating guidelines checklist to the Ohio EPA, Central District Office within 90 days of the issuance of this permit. Any subsequent revisions to this checklist shall be mutually agreeable to the permittee and the Ohio EPA, Central District Office.
4. The permittee shall collect and record the following information for each day for the control equipment:
 - a. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation;
 - b. during the regeneration cycle, the vacuum pressure, in inches of Hg;
 - c. the gasoline supply temperature, in degrees F;
 - d. the absorber pressure, in psi; and
 - e. the carbon bed temperatures, in degrees F.

5. The permittee shall perform monthly monitoring of the exhaust gas VOC concentration from both carbon adsorption vessels on the VRU using the 40 CFR Part 60, Appendix A, Method 21 procedure for open ended lines. The highest VOC concentration, as measured during the processing of vapors from gasoline loading during the last 5 minutes of the adsorption cycle for each vessel, shall be recorded. The permittee shall maintain records of the monthly monitored VOC concentrations detected in the exhaust gases from the VRU.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following:
- all exceedances of the rolling, 12-month fuel throughput limitations for gasoline, fuel ethanol and distillates;
 - all exceedances of the rolling, 12-month emission limitation for VOC for this emissions unit;
 - all exceedances of the rolling, 12-month emission limitation for each individual HAP for the entire facility;
 - all exceedances of the rolling, 12-month emission limitation for total combined HAPs for the entire facility;
 - all exceedances of the exhaust gas VOC concentration limitation from the carbon adsorption vessels for this emissions unit; and
 - all parameter readings that are outside of the acceptable value for each VRU key operating parameter established in section B.8 above. The report shall include a written description of why the unacceptable reading occurred, and an explanation of any action taken or required to correct the unacceptable reading.
- The permittee shall submit the quarterly deviation (excursion) reports in accordance with the General Terms and Conditions.
2. The permittee shall notify the Ohio EPA, Central District Office in writing of each monthly record indicating that a leak was not repaired within 15 days. The notification shall include a copy of such record and shall be sent to the Ohio EPA, Central District Office within 30 days after the leak was discovered.
3. The permittee shall submit annual reports that specify the total throughputs, in gallons, for gasoline, fuel ethanol, and distillates, and the total VOC emissions during the calendar year for this emissions unit. This report shall also include the total individual HAP, and combined HAP emissions from all emissions units at the facility. The annual reports shall be submitted by April 15 of each year and shall address the data obtained for the previous calendar year (January through December).

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:
- Emission Limitation:
0.67 pound VOC per 1,000 gallons of gasoline loaded
- Applicable Compliance Method:
Compliance with this emission limitation shall be demonstrated through the emission tests required pursuant to Section E.7 below. The emission test methods and procedures are those outlined in OAC rule 3745-21-10(E) and specify a minimum of one 6-hour test during which at least 187,500 gallons (709,688 liters) of gasoline are loaded. (The test should be conducted at the maximum gasoline throughput possible.)
- Emission Limitation:
0.019 pound VOC per 1,000 gallons of distillates loaded
- Applicable Compliance Method:
Compliance with this emission limitation shall be based upon emission factors from AP-42, 5th Edition, Table 5.2-5 (1/95) of 0.016 pound of VOC per 1,000 gallons of kerosene and 0.014 pound VOC per 1,000 gallons of diesel.
2. Emission Limitation:
74.14 tons of VOC per year
- Applicable Compliance Method:
Compliance with this emission limitation shall be determined based upon a summation of the emissions from the VRU, gasoline loading fugitive emissions, and distillate fuel loading emissions as follows:
- For the VRU, sum the monthly gasoline throughputs for the 12-month period and multiply this sum by the results of the most recent emission tests for the VRU (in lbs VOC/1,000 gallons gasoline loaded) and divide by 2,000 lbs/ton.
 - For gasoline loading fugitive emissions, sum the monthly gasoline throughputs for the 12-month period and divide this sum by 2,000 lbs/ton and multiply by the emission factor (lbs VOC/1,000 gallons gasoline) obtained using Equation 1 from AP-42, Section 5.2 (1/95) multiplied by the overall reduction efficiency term of $(1 - \text{efficiency} / 100)$ (AP-42, Section 5.2 (1/95), page 5.2-6), using an efficiency of 98.7% (Gasoline Distribution Industry (Stage I) - Background Information for Promulgated Standards, EPA-450/R-94-002b, November 1994, Appendix A, page A-5).
 - For distillate fuel loading emissions, sum the distillate fuel throughputs for the 12-month period and divide this sum by 2,000 lbs/ton and multiply by the emission factor 0.016 lb VOC/1000 gallons fuel obtained from AP-42, Table 5.2-5 (1/95).
3. VOC fugitive emissions (e.g., valves, fittings, and pumps) from the loading rack shall be determined using EPA-453/R-95-017, "Protocol for Equipment Leak Emission Estimates."
4. VOC emissions from the storage tanks shall be determined using the USEPA's "TANKS" Program, version 4.0 or newer.

5. Emission Limitations:
The emissions of HAPs, as identified in Section 112(b) of Title III of the Clean Air Act, from all emissions units at this facility shall not exceed 9.9 TPY for any individual HAP and 24.9 TPY for any combination of HAPs, based upon rolling, 12-month summations of the HAP emissions.

Applicable Compliance Method:

Compliance with these emission limitations shall be determined as follows:

- a. For individual and combined HAP emissions from the VRU, multiply the VOC emissions from Section E.2.a above by the following HAP emission factors (obtained from Gasoline Distribution Industry (Stage 1) - Background Information for Proposed Standards, EPA-450/R-94-002a, January 1994, Table 3-2):

benzene - 0.009 pound of benzene emissions per pound of VOC emissions;
ethyl benzene - 0.001 pound of ethyl benzene emissions per pound of VOC emissions;
hexane - 0.016 pound of hexane emissions per pound of VOC emissions;
toluene - 0.013 pound of toluene emissions per pound of VOC emissions;
xylene - 0.005 pound of xylene emissions per pound of VOC emissions;
2,2,4-trimethylpentane - 0.008 pound of 2,2,4-trimethylpentane emissions per pound of VOC emissions; and
combined HAP - 0.052 pound of combined HAP emissions per pound of VOC emissions.

- b. For individual and combined fugitive HAP emissions from gasoline loading, multiply the VOC emissions from Section E.2.b above by the HAP emission factors specified in Section E.5.a above.

- c. For individual and combined HAP emissions from gasoline storage tanks, multiply the VOC emissions (in tons/yr) from all gasoline storage tanks at the facility, as determined using USEPA's "TANKS" Program, version 4 or newer, by the HAP emission factors specified in Section E.5.a above.

- d. For individual and combined HAP emissions from fuel ethanol storage tanks, multiply the VOC emissions (in tons/yr) from all fuel ethanol storage tanks at the facility, as determined using USEPA's "TANKS" Program, version 4 or newer, by the HAP emission factors specified in Section E.5.a above, and then by (0.02/0.52). [From Archer Daniels Midland communication to Ohio EPA, Central District Office, September 24, 2004.]

- e. For individual and combined HAP emissions from equipment leaks (i.e., fugitive emissions from valves, flanges, open ended lines, pumps, etc.), multiply the VOC emissions (in tons/yr) from equipment leaks at the facility, as determined using the document "Protocol for Equipment Leak Emission Estimates" (EPA-453/R-95-017), by the HAP emission factors specified in Section E.5.a above.

- f. For individual HAP emissions from distillate fuel loading, multiply the VOC emissions from Section E.2.c above by the following emission factors derived from using the speciation option of USEPA's "TANKS" Program:

benzene - 0.0022 pound of benzene emissions per pound of VOC emissions;
ethyl benzene - 0.0031 pound of ethyl benzene emissions per pound of VOC emissions;
hexane - 0.00046 pound of hexane emissions per pound of VOC emissions;
toluene - 0.0239 pound of toluene emissions per pound of VOC emissions;
xylene - 0.0573 pound of xylene emissions per pound of VOC emissions; and
1,2,4-trimethylbenzene - 0.0427 pound of 1,2,4-trimethylbenzene emissions per pound of VOC emissions.

- g. For individual and combined HAP emissions from distillates storage tanks, multiply the VOC emissions (in tons/yr) from all distillate storage tanks at the facility, as determined using USEPA's "TANKS" Program, version 4 or newer, by the emission factors derived from using the speciation option of USEPA's "TANKS" Program (see E.5.f above).

- h. For individual HAP emissions, sum the values from E.5.a through E.5.g for each individual HAP. For combined HAP emissions, sum the individual HAP emissions.

6. Should more accurate emission factors be developed during the current permit cycle, the permittee shall use them, provided the new emission factors are mutually agreeable to the Ohio EPA, Central District Office and the permittee.
7. Within 12 months after the effective date of this permit and within 12 months prior to the expiration of this permit, the permittee shall conduct or have conducted, emission test(s) for this emissions unit in order to demonstrate continuing compliance with the allowable VOC emission rate. This test shall be conducted between the months of May through September.

No later than 30 days prior to proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test, and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Central District Office's refusal to accept the results of the emission test (s).

Personnel from the Ohio EPA, Central District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the test(s) and submitted to the Ohio EPA, Central District Office within 30 days following completion of the the test(s).

F. Miscellaneous Requirements

1. Sections A, B, C, D, E and F of these terms and conditions constitute the federally enforceable portions of this permit.