

Facility ID: 0125002401 Issuance type: Final 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: 0125002401 Emissions Unit ID: P001 Issuance type: Final 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>
11,250 lbs/hr tub grinder powered by a 300 hp diesel engine; processed mulch piles; loading and unloading activities associated with tub grinder	OAC rule 3745-31-05 (PTI 01-8048)	no visible emissions from the tub grinder, processed mulch pile(s), and loading and unloading activities associated with the tub grinder (see A.2.a. and A.2.b. below); 2.18 pounds (lbs) particulate matter (PM) per hour and 9.58 tons PM per year; Emissions from the diesel engine shall not exceed the following rates: Nitrogen Oxides (NOx): 9.31 pounds per hour, 40.73 tons per year; Carbon Monoxide (CO): 2.00 pounds per hour, 8.77 tons per year; Sulfur Dioxide (SO2): 0.62 pound per hour, 2.69 tons per year; Organic Compounds (OC): 0.74 pound per hour, 3.25 tons per year.
	OAC rule 3745-17-07 (A)	See A.2.d and B.1 below.
	OAC rule 3745-17-11 (B)(5)(a)	Visible particulate emissions from the diesel engine exhaust stack shall not exceed 20% opacity as a six-minute average, except as provided by rule.
	OAC rule 3745-18-06 (G)	PM emissions from the diesel engine exhaust stack shall not exceed 0.310 lb per MMBtu of actual heat input.
	OAC rule 3745-17-11(B)(1)	SO2 emissions from the diesel engine exhaust stack shall not exceed 0.5 lb per MMBtu of actual heat input. less stringent than the PM limit established pursuant to OAC rule 3745- 31-05

2. Additional Terms and Conditions

- (a) The permittee shall employ best available control measures for the tub grinder, processed mulch pile(s), and the loading and unloading activities associated with the tub grinder for the purpose of ensuring compliance with the "no visible emissions" requirement. In accordance with the permittee's permit application, the permittee has committed to watering on an "as needed" basis to ensure compliance.

Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

The above-identified control measure(s) shall be implemented if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measure is necessary to ensure compliance with the "no visible emissions" requirement. Any required implementation of the control measure(s) shall continue until further observation confirms that use of

the control measure(s) is unnecessary.

Implementation of the above-mentioned control measure(s) in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rule 3745-31-05.

The pounds per hour and tons per year NO_x, CO, SO₂, and OC limits reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limits.

B. Operational Restrictions

1. This emissions unit shall be operated with diesel fuel with a sulfur content less than 0.5% by weight.

C. Monitoring and/or Record Keeping Requirements

1. Except as otherwise provided in this section, the permittee shall perform inspections to determine if visible particulate emissions are being emitted from the operations listed below in accordance with the following minimum frequencies:
 - operation(s) minimum inspection frequency
 - tub grinder hourly
 - loading and unloading activities hourly associated with the tub grinder
 - processed mulch piles daily
2. The above-mentioned inspections shall be performed during representative, normal operating conditions.
3. The permittee may, upon receipt of written approval from the Ohio EPA, Central District Office, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the "no visible emissions" requirement.
4. The permittee shall note the following in an operations log for each operation (i.e., tub grinder, processed mulch pile(s), and the loading and unloading activities associated with the tub grinder) at the minimum inspection frequency specified above whenever the emissions unit is in operation:
 - a. the date and time of each observation;
 - b. the presence or absence of any visible emissions;
 - c. whether it was determined by the permittee that it was necessary to implement the control measures;
 - d. the dates and times the control measures were implemented; and,
 - e. the name of the person reporting each observation.
5. The operations log shall be maintained on site.
6. The permittee shall maintain a record of the sulfur content of each shipment of diesel fuel received for burning in this emissions unit.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify any of the following occurrences:
 - a. each day when visible emissions were observed, and at which location;
 - b. each day during which an inspection was not performed by the required frequency; and,
 - c. each instance when a control measure, that was to be performed as a result of an inspection, was not implemented.
2. The permittee shall submit deviation (excursion) reports which identify each day when a fuel other than .5% sulfur diesel fuel was burned in this emissions unit.
3. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

E. Testing Requirements

1. Emission Limitation-
 - no visible emissions
 - Applicable Compliance Method-
 - Visible emission observations performed in accordance with Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources," as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(4)(a) through (B)(4)(d) of OAC rule 3745-17-03.
2. Emission Limitation-
 - 2.18 lbs PM per hour and 9.58 tons PM per year
 - Applicable Compliance Method-
 - The calculations used to determine the permitted emission limits are as follows:

Hourly PM Emissions from Grinding:

$(0.35 \text{ lb PM/hour-ton of wood processed}) * X (11,250 \text{ lbs wood/hour}) X (\text{ton}/2000 \text{ lbs}) X (1-0.8)** = 0.39 \text{ lb PM/hour}$

*The emission factor of "0.35 lb PM/hour-ton of wood processed" is taken from Ohio EPA document Reasonably Available Control Measures for Fugitive Dust Sources ("RACM") Table 2.17-1 for wood sawing/grinding.

**Since the 0.35 lb PM/hour-ton of wood processed emission factor does not include rain days and watering, it is likely that a conservative estimate of the emission reductions from these practices will reduce PM emissions by 80%.

Hourly PM Emissions from Processed Mulch Piles:

$(1.0 \text{ lb PM/ton}) X (11,250 \text{ lbs wood/hour}) X (\text{ton}/2000 \text{ lbs}) X (1-0.8)*** = 1.13 \text{ lbs PM/hour}$

***Table 2.17-1 also lists an emission factor for loading and unloading from sawdust piles as 1.0 lb PM/ton. However, the accompanying text notes that these are rough estimates and that good judgement should be used to determine more efficient estimates. Since the 1.0 lb PM/ton emission factor does not include rain days and watering, it is likely that a conservative estimate of the emission reductions from these practices will reduce PM emissions by 80%.

Hourly PM Emissions from Diesel Engine:

PM emissions from the diesel engine are based on the emission factor of 0.0022 lb PM/hp-hr from AP-42, 5th Edition (October 1996), Table 3.3-1, "Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines" and the rated capacity of the diesel engine (300 hp) as follows:

$(0.0022 \text{ lb PM/hp-hr}) X (300 \text{ hp}) = 0.66 \text{ lb PM/hour}$

Total Hourly PM Emissions:

$0.39 + 1.13 + 0.66 = 2.18 \text{ lbs/hour}$

This emissions unit shall be deemed to be in compliance with the lbs PM/hour limit if there are no visible emissions observed from the tub grinder, processed mulch piles, and the loading and unloading activities associated with the tub grinder.

Annual PM Emissions:

The hourly PM emission rate is multiplied by 8760 hours and converted to tons to obtain the annual PM emissions.

3. Emission Limitation-

Emissions shall not exceed the following rates:

NOx: 9.31 pounds per hour, 40.73 tons per year;
CO: 2.00 pounds per hour, 8.77 tons per year;
SO2: 0.62 pound per hour, 2.69 tons per year;
OC: 0.74 pound per hour, 3.25 tons per year.

Applicable Compliance Method-

Compliance with the emission limitations identified above for the diesel engine shall be determined by using the emission factors from AP-42, 5th Edition (October 1996), Table 3.3-1, "Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines" and the rated capacity of the diesel engine (300 hp). The hourly emission rates are multiplied by 8760 hours and converted to tons to obtain the annual emissions.

4. Emission Limitation-

Visible particulate emissions from the diesel engine exhaust stack shall not exceed 20% opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method-

If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Test Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

5. Emission Limitation-

PM emissions from the diesel engine exhaust stack shall not exceed 0.310 lb per MMBtu of actual heat input.

Applicable Compliance Method-

Compliance with the emissions limitation for the diesel engine identified above shall be determined by using the emission factor for particulates from AP-42, 5th Edition (October 1996), Table 3.3-1, "Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines." This emission factor is 0.31 lb particulate/MMBtu (fuel input) for diesel fuel. (Note: this emission factor is equivalent to the emission factor of 0.0022 lb PM/hp-hr.)

6. Emission Limitation-

SO2 emissions from the diesel engine exhaust stack shall not exceed 0.5 lb per MMBtu of actual heat input.

Applicable Compliance Method-

Compliance with the emissions limitation for the diesel engine identified above shall be determined by using the

emission factor for SO_x from AP-42, 5th Edition (October 1996), Table 3.3-1, "Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines." This emission factor is 0.29 lb SO_x/MMBtu (fuel input) for diesel fuel.

F. **Miscellaneous Requirements**

1. None