

Facility ID: 0857090554 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: 0857090554 Emissions Unit ID: P004 Issuance type: Final State Permit To Operate

[Go to the top of this document](#)

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>
P004 - 7.8 tons/hour Central Mix Concrete Batch Plant	OAC rule 3745-31-05(A)(3) PTI 08-3303	Particulate emissions (PE) from this emissions unit shall not exceed 1 lb/hr and 4.38 tons per year (TPY).
Transfer of Sand and Aggregate to Elevated Bins	OAC rule 3745-31-05(A)(3) PTI 08-3303	Visible emissions of fugitive dust shall not exceed 5 percent opacity as a three-minute average. At all times during the transfer of sand and aggregate, the drop height of the front-end bucket or dump truck shall be minimized to the extent possible to minimize or eliminate visible emissions of fugitive dust. Sand and aggregate loaded into the elevated bins shall, at all times, have an inherent moisture content sufficient to minimize or eliminate visible emissions of fugitive dust.
Cement Silo Vent	OAC rule 3745-17-07(B) and OAC rule 3745-17-08(B) OAC rule 3745-31-05(A)(3) PTI 08-3303	The requirements specified by these rules are equivalent to or less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3). The fabric filter serving the cement silo shall achieve an outlet emission rate of not greater than 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gases or there shall be no visible particulate emissions from the outlet. The cement silo vent shall be adequately enclosed and vented to a fabric filter. The enclosure shall be sufficient so as to eliminate at all times visible emissions of fugitive dust at the point of capture.
Weigh Hopper Loading of Sand, Aggregate and Cement	OAC rule 3745-17-07(A), OAC rule 3745-17-07(B), OAC rule 3745-17-08(B) and OAC rule 3745-17-11(B) OAC rule 3745-31-05(A)(3) PTI 08-3303	The requirements specified by these rules are equivalent to or less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3). Visible emissions of fugitive dust shall not exceed 5 percent opacity as a three-minute average. The weigh hoppers shall be sufficiently enclosed so as to minimize or eliminate at all times visible emissions of fugitive dust.
Mixer Loading of Cement, Sand and Aggregate	OAC rule 3745-17-07(B) and OAC rule 3745-17-08(B) OAC rule 3745-31-05(A)(3) PTI 08-3303	The requirements specified by these rules are equivalent to or less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3). Visible emissions of fugitive dust shall not exceed 5 percent opacity as a three-minute average.

The central mix drum shall be sufficiently enclosed so as to minimize or eliminate at all times visible emissions of fugitive dust.

OAC rule 3745-17-07(B) and OAC rule 3745-17-08(B) The requirements specified by these rules are equivalent to or less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).

2. **Additional Terms and Conditions**

- (a) The 1 lb/hr and 4.38 TPY PE limitations were established to reflect 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. None

C. **Monitoring and/or Record Keeping Requirements**

1. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the fabric filter serving this emissions unit and for any visible emissions of fugitive dust from the weigh hoppers, elevated bins, mixer, truck loading and unloading, and each material transfer point for this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- the color of the emissions;
 - whether the emissions are representative of normal operations;
 - if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - the total duration of any visible emission incident; and
 - any corrective actions taken to eliminate the visible emissions.

D. **Reporting Requirements**

1. The permittee shall submit semiannual written reports that include the following information:
- An identification of all days during which any visible particulate emissions were observed from the stack serving this emissions unit.
 - An identification of all days during which any visible emissions of fugitive dust were observed from the weigh hoppers, elevated bins, mixer, truck loading and unloading, and each material transfer point for this emissions unit.
 - A description of any corrective actions taken to eliminate the visible particulate emissions and/or visible fugitive dust emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month periods.

E. **Testing Requirements**

1. Compliance with the emission limitations specified in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation -
PE from this emissions unit shall not exceed 1 lb/hr.

Applicable Compliance Method -
Compliance shall be determined using the cement silo fabric filter exhaust grain loading, AP-42 Section 11.12 (June 2006) for the fugitive emissions and inputs representing the Potential To Emit (PTE), as follows:

Emissions = Elevated Bin Emissions + Cement Silo Emissions + Weigh Hopper Emissions + Mixer Emissions

Elevated Bin Emissions = (equipment capacity) * (emission factor)
Elevated Bin Emissions = (11 tons/hr) * (0.0069 lb PE/ton)
Elevated Bin Emissions = 0.076 lb/hr

Cement Silo Emissions = (exhaust PE concentration) * (exhaust flow rate) * (60 min/hr) / (7000 gr/lb)
Cement Silo Emissions = (0.03 gr/dscf) * (700 dscf/min) * (60 min/hr) / (7000 gr/lb)
Cement Silo Emissions = 0.18 lb/hr

Weigh Hopper Emissions = (equipment capacity) * (emission factor)
Weigh Hopper Emissions = (7.8 tons/hr) * (0.0051 lb PE/ton)
Weigh Hopper Emissions = 0.040 lb/hr

Mixer Emissions = (equipment capacity) * (emission factor)
Mixer emission factor = $k * 0.0032 * (U^a / M^b) + c$ (AP-42 Equation 11.12-1)
where:

$k = 5.9$, $a = 0.6$, $b = 1.3$, $c = 0.12$
 $U =$ wind speed = 10 mph
 $M =$ material moisture content = 1.77% for aggregate

Mixer Emission Factor = $5.9 * 0.0032 * (10^{0.6} / 1.77^{1.3}) + 0.12$
Mixer Emission Factor = 0.038 lb/ton
Mixer Emissions = (7.8 tons/hr) * (0.038 lb PE/ton)
Mixer Emissions = 0.30 lb/hr

Emissions = 0.076 + 0.18 + 0.040 + 0.30 = 0.59 lb/hr
b. Emission Limitation -
PE from this emissions unit shall not exceed 4.38 TPY.

Applicable Compliance Method -

Compliance shall be determined by multiplying the maximum hourly PE rate (1.0 lb/hr) by the maximum annual operating hours (8,760 hrs/yr) and dividing by 2,000 lbs/ton.

F. **Miscellaneous Requirements**

1. None