

A. Applicable Emission Limitations and/or Control Requirements

1. The visible particulate emissions of fugitive dust shall not exceed the following:

a. Visible particulate emissions of fugitive dust from emissions unit F004 shall not exceed twenty percent (20%) opacity as a three minute average.

b. There shall be no visible particulate emissions from emissions units F001 and F002 except for a period of time not to exceed one minute during any sixty-minute observation period.

c. There shall be no visible particulate emissions from emissions unit F003 except for a period of time not to exceed three minutes during any sixty-minute observation period.

2. For emission units P001, P002 and P901, the following visible particulate emissions limitations shall not be exceeded:

a. Visible particulate emissions from the fabric filter dust collector outlet shall not exceed twenty-percent (20%) opacity, as a six-minute average.

b. Visible particulate emissions of fugitive dust from any fugitive dust emissions point shall not exceed twenty percent (20%) opacity as a three minute average.

3. The permittee shall maintain a sufficient moisture content at all material storage piles so as to minimize or eliminate at all times visible emissions of fugitive dust.

4. In order to control emissions of fugitive dust from plant roadways and parking areas, the permittee shall implement the following control measures:

a. The permittee shall apply chemical dust suppressants to the unpaved roadways and parking areas to minimize or eliminate, at all times, visible emissions of fugitive dust generated by vehicular traffic. The chemical dust suppressant shall be applied to the unpaved surfaces, at a minimum, once every month. This term and condition shall be waived during wet conditions when there is sufficient moisture to prevent visible emissions of fugitive dust.

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b. A maximum speed limit of 15 miles per hour shall be posted and enforced on the property.

c. Any material carried off of the permittee's property and deposited onto public streets by vehicular traffic or by erosion by water, etc., shall be promptly removed and disposed of properly to minimize or prevent resuspension.

d. Open bodied vehicles transporting materials likely to become airborne shall be covered at all times.

5. The permittee shall implement the following control measures for emissions unit F004 (Mixed Material Handling):

a. The main belt and main bucket elevator shall be totally enclosed in order to minimize or eliminate visible emissions of fugitive dust.

b. All transfer points shall be partially enclosed in order to minimize or eliminate visible

emissions of fugitive dust.

c. The drop height at all transfer points shall be minimized in order to minimize or eliminate visible emissions of fugitive dust.

6. The permittee shall implement the following control measures for emission unit P001 (Starch Feed System) :

a. The permittee shall pneumatically transfer the starch to the storage bin. The pneumatic system shall be totally enclosed so as to prevent at all times visible emissions of fugitive dust.

b. The starch storage bin shall be totally enclosed and vented to a baghouse. The enclosure shall be sufficient so as to minimize or eliminate at all times visible emissions of fugitive dust at the points of capture.

7. The permittee shall implement the following control measures for emissions unit P901 (Coal Handling Process):

a. The coal storage bin shall be totally enclosed and vented to a baghouse. The enclosure shall be sufficient so as to minimize or eliminate at all times visible emissions of fugitive dust at the points of capture.

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b. The coal bucket elevator and coal belt shall be totally enclosed in order to minimize or eliminate at all times visible emissions of fugitive dust.

c. All transfer points shall be partially enclosed in order to minimize or eliminate visible emissions of fugitive dust.

d. The drop height at all transfer points shall be minimized in order to minimize or eliminate visible emissions of fugitive dust.

#### B. Operational Restrictions

1. For emissions units P002 the pressure drop across the baghouse shall be maintained within the range established during the performance test that will be performed to determine that the emissions unit is in compliance. The pressure drop shall be measured in inches of water while the emissions unit is in operation.

2. For emission units P901 the pressure drop across the baghouse shall be maintained within the range specified by manufacturer in inches of water while the emissions unit is in operation.

#### C. Monitoring and Recordkeeping Requirements

1. The permittee shall maintain records which include the following information for the unpaved roadways and parking areas:

a. The date and time dust suppressants were applied to the unpaved surfaces;

b. The portions of unpaved surfaces that were treated with dust suppressants;

c.The application rate of water and any chemical additives (gallons of each per square yard);

d.The amount of dust suppressant chemicals purchased per year and the total amount applied during the year; and

e.The name of the equipment operator responsible for the application of the dust suppressants.

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2.For emissions units P002 and P901 the permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the baghouse while the emission unit is in operation. The monitoring equipment shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manual(s). The permittee shall record the pressure drop across the baghouse once per shift.

3.For emission unit P002 the permittee shall install, calibrate, maintain and continuously operate a monitoring device for the measurement of the temperature of the gas stream at the exit of the thermal dryer on a continuous basis. The monitoring device is to be certified by the manufacturer to be accurate within  $\pm 3$  degrees Fahrenheit.

#### D. Reporting Requirements

1.The permittee shall submit pressure drop excursion reports for emissions units P002 and P901 that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified during the performance tests.

2.The permittee shall immediately notify the Hamilton County Department of Environmental Services of any exceedances of the annual and/or hourly limitations set forth in the Air Emissions Summary above. Also included shall be the reason for the exceedance and the steps taken to correct the violation.

3.The permittee shall also submit annual reports which specify the total PM and PM10 emissions from emissions unit P002 for the previous calendar year. These reports shall be submitted by January 31 of each year.

4.The permittee shall submit required reports in the following manner:

a.Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

b.Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and

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recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter.

The reports shall be submitted quarterly, i.e. by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

#### E. Compliance Methods/Testing Requirements

1. The permittee shall calculate the PM and PM10 emission rates for emissions units F001 and F002, using the following equations:

a. Calculate the emission factors for load-in, load-out, vehicle activity and wind erosion using the appropriate formulas in RACM section 2.1.2.

b. Multiply the emission factor by the coal throughput (TPY) and divide by 2000 to get the PM and PM10 emissions in tons per year (TPY).

c. Sum the emissions from load-in, load-out, vehicle activity and wind erosion to get the total emissions for each emissions unit.

2. The permittee shall calculate the PM and PM10 emission rate for emissions unit F003 using the following equations:

a. Calculate the emission factors for empty trucks and full trucks using the appropriate formula in AP 42 Section 13.2.2-1.

b. Perform the following calculation to get the emission rates:  $\text{Emission factor} \times \text{vehicle miles traveled per year} \times \text{control efficiency} / 2000 = \text{emission rate in tons per year}$ .

c. Determine the emission rate for empty trucks and full trucks then sum the two to get the total PM and PM10 emission rates for emission unit F003.

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3. The permittee shall calculate the PM and PM10 emission rate for emissions unit F004 using the following equations for each transfer point and conveyor:

a. The transfer points and conveyors are: main bucket elevator, main belt, coal bin to main belt feeder, belt feeder to main belt, main belt to bucket elevator and bucket elevator to mixer.

b.  $\text{Emission factor (from RACM Table 2.1.3-2)} \times \text{Material throughput (TPH)} \times \text{control factor} / 2000 = \text{emission rate (TPY)}$ .

c. Sum the emission rates for each transfer point and conveyor to get the total emission rate for emissions unit F004.

4. The permittee shall calculate the PM and PM10 emission rate for emissions unit P001 using the following equations:

a. For pneumatic feeding: Emission rate (lb/hr) = outlet loading (gr/cf) X flowrate (acfm) / 7000 gr/lb X 60 min/hr

Emission rate (TPY) = emission rate (lb/hr) X max hr/yr / 2000 lb/ton

b. For aeration: Emission rate (lb/hr) = outlet loading (gr/cf) X flowrate (acfh) / 7000 gr/lb

Emission rate (TPY) = Emission rate (lb/hr) X 8760 hr/yr / 2000 lb/ton

c. Sum the emission rates to get the total emission rate for emission unit P001.

\* Assume PM10 emissions equal PM emissions.

5. The permittee shall calculate the PM and PM10 emission rates for emissions unit P002 using the following equations:

Emission rate (lb/hr) = outlet loading (gr/cf) X flowrate (acfm) / 7000 gr/lb X 60 min/hr

Emission rate (TPY) = Emission rate (lb/hr) X 8760 hr/yr / 2000 lb/ton

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6. The permittee shall calculate the CO, NOX, SO2 and VOC's emission rates for emissions unit P002 using the following equations:

Emission rate (lb/hr) = Emission factor (lb/10<sup>6</sup> ft<sup>3</sup>) / 1000 BTU/ft<sup>3</sup> X heat rating (MMBTU/hr)

Emission rate (TPY) = Emission rate (lb/hr) X 8760 hr/yr / 2000 lb/ton

\* Emission factors taken from AP 42 Section 1.4

7. The permittee shall calculate the PM and PM10 emission rates for emissions unit P901 using the following equations:

a. For conveying and transfer points:

Emission rate (lb/hr) = Emission factor (from RACM Table 2.1.3-2) X Material throughput (TPH) X control efficiency (RACM Table 2.1.3-3)

Emission rate (TPY) = Emission rate (lb/hr) X 8760 hr/yr / 2000 lb/ton

\* PM10 is 36% of total suspended particulate matter. (RACM)

b. For the coal crusher:

Emission rate (lb/hr) = Emission factor (from RACM Table 2.1.3-2) X Material throughput (TPH) X control efficiency (RACM Table 2.1.3-3)

Emission rate (TPY)=Emission rate (lb/hr) X 8760 hr/yr / 2000 lb/ton

\* PM10 is 60% of total suspended particulate matter.(RACM page 2-383, Hammermill crusher for aggregate)

c.For the coal bin with baghouse:

Emission rate(lb/hr)= outlet loading (gr/cf) X flowrate (acfh) / 7000 gr/lb

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Emission rate(TPY)= Emission rate (lb/hr) X 8760 hr/yr / 2000 lb/ton

\* Assume PM10 emissions equal PM emissions

d.Sum the emission rates to get the total emission rates of PM and PM10 for emissions unit P901.

8.Compliance with OAC rule 3745-17-07 (A)(1) shall be demonstrated by OAC 3745-17-03(B)(1).

9.Compliance with OAC rule 3745-17-07 (B)(6) shall be demonstrated by OAC 3745-17-03(B)(5).

10.The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a.The emission testing shall be conducted within 60 days after achieving the maximum production rate but no later than 180 days after initial startup.

b.The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate and visible particulate emission limitation for emissions unit P002 and the visible particulate emission limitation for emissions unit F004 and P901.

c.The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): Method 5 and 9. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

d.The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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(s), and the person(s) who will be conducting the test(s).

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Failure to submit such notification for review and approval prior to the test(s) may result in the

Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency 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 emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.