Facility ID: 0210000107 Issuance type: Final State Permit To Operate

This version of facility specific terms and conditions was converted from a database format to an HTML file during an upgrade of the Ohio EPA, Division of Air Pollution Control's permitting software. Every attempt has been made to convert the terms and conditions to look and substantively conform to the permit issued or being drafted in STARS. However, the format of the terms may vary slightly from the original. In addition, although it is not expected, there is a slight possibility that a term and condition may have been inadvertently "left out" of this reproduction during the conversion process. Therefore, if this version is to be used as a starting point in drafting a new version of a permit, it is imperative that the entire set of terms and conditions be reviewed to ensure they substantively mimic the issued permit. The official version of any permit issued final by Ohio EPA is kept in the Agency's Legal section. The Legal section may be contacted at (614) 644-3037.

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.

Facility ID: 0210000107 Emissions Unit ID: P009 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.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P009 - a 6 mm Btu/hour natural gas fired thermal chip dryer with a max capacity of 5000 lbs/hr. Emissions from P009 are controlled by an 8 mm Btu/hour afterburner and a 30,000 cfm baghouse with hydrated lime injection.	OAC rule 3745-31-05(A)(3) [PTI No. 02-18164]	Dioxins and furans (D/F) emissions shall not exceed 3.5 x 10-5 grain per ton of charge to the dryer and 5.5 x 10-8 ton per year. Particulate emissions (PE) shall not exceed 3.1 pounds per hour and 13.6 tons per year. See section A.2.a. Organic compounds (OC) emissions shall not exceed 0.9 pound per hour and 3.8 tons per year. Carbon monoxide (CO) emissions from natural gas combustion from both the dryer and afterburner, combined, shall not exceed 1.1 pounds per hour and 4.9 tons per year. Nitrogen oxides (NOx) emissions from natural gas combustion from both the dryer and afterburner, combined, shall not exceed 0.7 pound per hour and 2.9 tons per year. Visible particulate emissions (VE) shall not exceed 10% opacity as a 6-minute average. Also see sections A.2.b and B.1 through B.8.
	40 CFR Part 63, Subpart RRR	The emission limitations required by this applicable rule are equivalent to the emission limitations established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-17-07(A) OAC rule 3745-17-11(B)	The emission limitations required by these applicable rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3).

2. **Additional Terms and Conditions**

   (a) The particulate emissions from this emissions unit will be controlled by a fabric filter dust collector. The fabric filter has a maximum stack exhaust flow rate of 30,000 scfm. The listed particulate limits of 3.1 lbs/hr and 13.6 tons/year are based upon a calculated mass emission rate from said fabric filter stack at a stack gas outlet grain load of no greater than 0.015 grain per dry standard cubic foot.
   This emissions unit shall employ a system for the capture and collection of emissions to meet the engineering standards for minimum exhaust rates as published by the American Conference of Governmental Industrial Hygienists in chapters 3 and 5 of "Industrial Ventilation: A Manual of Recommended Practice". The permittee has conducted an evaluation of the capture and collection system for this furnace and modified the system accordingly.
   For the bag leak detection system, the permittee shall initiate corrective action within 1 hour of a bag leak detection system alarm. The fabric filter system shall be operated such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month block reporting period.

In calculating this operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time shall be counted. If corrective action is required, each alarm shall be counted as a minimum of 1 hour. If the permittee takes longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by the permittee to initiate corrective action.

B. **Operational Restrictions**

1. The permittee shall ensure that the afterburner and fabric filter systems meet the engineering standards for minimum exhaust rates as published by the American Conference of Governmental Industrial Hygienists in Chapters 3 and 5 of "Industrial Ventilation: A Manual of Recommended Practice." Dilution air may be added to the emissions streams for the purpose of controlling the temperature at the inlet to the fabric filter.

2. The permittee shall ensure that the afterburner and fabric filter are operated in accordance with the procedures and requirements in the facility's OM&M plan.

3. The permittee shall install and operate a device that records the weight of each charge to the thermal chip dryer, in accordance with the facility's OM&M plan.

4. The permittee shall maintain the afterburner operating average temperature for each 3-hour period at or above the average operating temperature established during the most recent performance test which demonstrated compliance with all applicable emission limits. The average operating temperature during emissions testing conducted on May 12 and 13, 2005, was 1400F.

5. The permittee shall operate this thermal chip dryer using only unpainted aluminum chips as the feedstock.

6. The pressure drop across the fabric filter shall be maintained within the range of 2 to 12 inches of water while the emissions unit is in operation.

7. The permittee shall install, calibrate, operate and maintain a bag leak detection system for the exhaust from the fabric filter, as required in 40 CFR 63.1510(f)(1), or a continuous opacity monitoring system as required in paragraph (f)(2) of the same section.

8. Both the afterburner and fabric filter shall be in operation while this emissions unit is in operation.

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

1. The permittee shall record the weight of each charge to the thermal chip dryer. Alternatively, the permittee may instead record the aluminum production weight from the emissions unit rather than the feed weight, provided that the provisions stated in 40 CFR 63.1506(d)(3)(i) and (ii) are met.

   The accuracy of the weight measurement device or procedure must be plus or minus 1 percent of the weight being measured. The permittee shall verify the calibration of the weight measurement device in accordance with the schedule specified by the manufacturer, or if no calibration schedule is specified, at least once every 6 months.

2. The permittee shall record the type of material in each charge to the thermal chip dryer.

3. The permittee shall continuously monitor and record the operating temperature of the afterburner as follows:

   a. the temperature monitoring device must be installed at the exit of the combustion zone of the afterburner;

   b. the monitoring system must record the temperature in 15-minute block averages and determine and record the average temperature for each 3-hour block period;

   c. the recorder response range must include zero and 1.5 times the average temperature established according to the requirements in 40 CFR 63.1512(m); and

   d. the reference method must be a National Institute of Standards and Technology calibrated reference thermocouple-potentiometer system or alternate reference, subject to approval by the Ohio EPA.

4. The permittee shall record a brief explanation of the cause for excursions when any 3-hour block period falls below the compliance operating parameter value.

5. The permittee shall conduct an inspection of the afterburner at least once a year and record the results. At a minimum, an inspection must include the following:

   a. inspection of all burners, pilot assemblies, and pilot sensing devices for proper operation and clean pilot sensor;

   b. inspection for proper adjustment of combustion air;

   c. inspection of internal structure (e.g., baffles) to ensure structural integrity;

   d. inspection of dampers, fans, and blowers for proper operation;

   e. inspection for proper sealing;

   f. inspection of motors for proper operation;

   g. inspection of combustion chamber refractory lining and clean and replace lining as necessary;

   h. inspection of afterburner shell for corrosion and/or hot spots;

   i. documentation, for the burn cycle that follows the inspection, that the afterburner is operating properly and any necessary adjustments have been made; and

j. verification that the equipment is maintained in good operating condition.

The permittee shall perform all necessary repairs following an inspection, in accordance with the requirements of the OM&M plan.

6. The permittee shall record the following information for the bag leak detection system:

a. the number of total operating hours for the thermal chip dryer during each 6 month reporting period;

b. records of each alarm;

c. the time of the alarm;

d. the time corrective action was initiated and completed; and

e. a brief description of the cause of the alarm and the corrective action(s) taken.

7. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the fabric filter while the emissions 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 fabric filter on a weekly basis.

8. The permittee shall maintain daily records of the number of hours of operation for this emissions unit.

D. **Reporting Requirements**

1. The permittee submitted a "Notification of Compliance Status Report" on July 15, 2005.

2. The permittee submitted a startup, shutdown and malfunction and a program of corrective action for malfunctioning process and air pollution control equipment used to comply with the standard on July 15, 2005. The permittee shall also keep records of each event as required by 40 CFR 63.10(b) and record and report if an action taken during a startup, shutdown or malfunction is not consistent with the procedure in the plan as described in 40 CFR 63.6(e)(3).

3. The permittee shall submit semiannual excursion reports to the Ohio EPA Northeast District Office within 60 days after the end of each 6- month period. The 6 month reporting periods shall be January 1 to June 30, and July 1 to December 31 of each calendar year. These reports shall report if any of the following conditions occurred during a 6-month period:

a. the corrective action specified in the OM&M plan for a bag leak detection system alarm, or for a continuous opacity monitoring deviation, that was not initiated within 1 hour; and/or

b. any excursion of an operational requirement, as listed in section B of this permit.

4. If no deviations of parameters have occurred during a 6 month period, the permittee must still submit a semiannual report stating that no excess emissions occurred during the reporting period. The permittee shall include in this report a certification of compliance with the applicable operational standard for charge materials as stated in 40 CFR 63.1516(f)(3). The applicable operational standard reads "The permittee shall operate this thermal chip dryer using only unpainted aluminum chips as the feedstock." Each certification must contain the statement provided in 40 CFR 63.1516(b)(2)(i) which reads, "Only unpainted aluminum chips were used as feedstock in the thermal chip dryer during this reporting period."

5. For the purpose of annual certifications of compliance required by 40 CFR Part 70 or 71, the owner or operator must certify continuing compliance based upon, but not limited to, the following conditions:

a. any period of excess emissions, as defined in 40 CFR 63.1516(b)(1), that occurred during the year were reported as required by this subpart; and

b. all monitoring, record keeping, and reporting requirements were met during the year.

E. **Testing Requirements**

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:
Emission Limitation:

D/F emissions shall not exceed 3.5 x 10-5 grain per ton of charge to the dryer.

Applicable Compliance Method:

The permittee conducted D/F emission testing on this emissions unit on May 12 and 13, 2005. This testing demonstrated 2.0 E-08 grain D/F per ton feed to the dryer. Continued compliance shall be demonstrated by complying with the requirements specified in section B of this permit. This emissions unit shall be retested, if required.
Emission Limitation:

D/F emissions shall not exceed 5.5 x 10-8 ton per year.

Applicable Compliance Method:

Compliance with the annual emission limit shall be determined by multiplying the number of hours of annual operation by the hourly emission rate determined by the D/F emission test and dividing by 2,000 lbs/ton.
Emission Limitation:

PE shall not exceed 3.1 pounds per hour.

Applicable Compliance Method:

Compliance shall be demonstrated by complying with the requirements specified in section B of this permit. If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Method 5.
Emission Limitation:

PE shall not exceed 13.6 tons per year.

Applicable Compliance Method:

Compliance with the annual emission limit shall be determined by multiplying the number of hours of annual operation by the hourly emission rate and dividing by 2,000 lbs/ton.
Emission Limitation:

OC emissions shall not exceed 0.9 pound per hour.

Applicable Compliance Method:

Compliance shall be demonstrated by complying with the requirements specified in section B of this permit. If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Appendix A, Method 25 or 25A.
Emission Limitation:

OC emissions shall not exceed 3.8 tons per year.

Applicable Compliance Method:

Compliance with the annual emission limit shall be determined by multiplying the number of hours of annual operation by the hourly emission rate and dividing by 2,000 lbs/ton.
Emission Limitation:

CO emissions from natural gas combustion from both the dryer and afterburner, combined, shall not exceed 1.1 pounds per hour.

Applicable Compliance Method:

To determine the hourly CO emission rate, the following equation shall be used:

E = (D x scu ft./1,059 Btu x EF) + (A x scu ft./1,059 Btu x EF)

where:

E = CO emission rate, in pounds per hour;
D = Maximum heating capacity of P009 (reported as 6 mmBtu/hr);
A = Maximum heating capacity of after burner (reported as 8 mmBtu/hr); and
EF = Emission Factor for CO taken from AP-42 Table 1.4-1 is 84.0 lbs/mmsft3.
Emission Limitation:

CO emissions from natural gas combustion from both the dryer and afterburner, combined, shall not exceed 4.9 tons per year.

Applicable Compliance Method:

Compliance with the annual emission limit shall be determined by multiplying the number of hours of annual operation by the hourly CO emission rate and dividing by 2,000 lbs/ton.
Emission Limitation:

NOx emissions from natural gas combustion from both the dryer and afterburner, combined, shall not exceed 0.7 pound per hour.

Applicable Compliance Method:

To determine the hourly NOx emission rate, the following equation shall be used:

E = (D x scu ft./1,059 Btu x EF) + (A x scu ft./1,059 Btu x EF)

where:

E = NOx emission rate, in pounds per hour;
D = Maximum heating capacity of P009 (reported as 6 mmBtu/hr);
A = Maximum heating capacity of after burner (reported as 8 mmBtu/hr); and
EF = Emission Factor for NOx taken from AP-42 Table 1.4-1 is 50.0 lbs/mmsft3.
Emission Limitation:

NOx emissions from natural gas combustion from both the dryer and afterburner, combined, shall not exceed 2.9 tons per year.

Applicable Compliance Method:

Compliance with the annual emission limit shall be determined by multiplying the number of hours of annual operation by the hourly NOx emission rate and dividing by 2,000 lbs/ton.
Emission Limitation:

VE shall not exceed 10% opacity as a 6-minute average.

Applicable Compliance Method:

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

F. **Miscellaneous Requirements**

1. None