

TENNESSEE AIR POLLUTION CONTROL BOARD
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE, TENNESSEE 37243-1531



Permit to Construct or Modify an Air Contaminant Source Issued Pursuant to Tennessee Air Quality Act

Date Issued: April 23, 2009

Permit Number:
962620P

Date Expires: August 31, 2009

Issued To:
Heraeus Metal Processing, LLC

Installation Address:
Rt. 62 E. Knoxville Highway
Wartburg

Installation Description:

Emission Source Reference No.

Eight (8) Roasting Ovens,
Natural Gas-Fired, 2.0 MMBtu/hr Each

65-0049-01

One (1) Chamber Furnace,
Natural Gas-Fired, 4.0 MMBtu/hr

Afterburner, Quench Tank, Packed Tower Scrubber, and 10,000 CFM Baghouse Controls

The holder of this permit shall comply with the conditions contained in this permit as well as all applicable provisions of the Tennessee Air Pollution Control Regulations.

CONDITIONS:

1. The modification request that was utilized in the preparation of this permit is dated January 27, 2009, and is signed by Dan West, Director of Operations, for the permitted facility. If this person terminates employment or is assigned different duties and is no longer the responsible person to represent and bind the facility in environmental permitting affairs, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification shall be in writing and submitted within thirty (30) days of the change. The notification shall include the name and title of the new person assigned by the source owner or operator to represent and bind the facility in environmental permitting affairs. All representations, agreement to terms and conditions and/or covenants made by the former responsible person that were used in the establishment of limiting permit conditions on this permit will continue to be binding on the facility until such time that a revision to this permit is obtained that would change said representations, agreements and/or covenants.

(conditions continued on next page)

TECHNICAL SECRETARY

No Authority is Granted by this Permit to Operate, Construct, or Maintain any Installation in Violation of any Law, Statute, Code, Ordinance, Rule, or Regulation of the State of Tennessee or any of its Political Subdivisions.

NON-TRANSFERABLE

POST AT INSTALLATION ADDRESS

CN-0754 (Rev. 9-92)

RDA-1298

I. General Conditions

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2. Air pollution control equipment (afterburner, quench tank, packed tower scrubber, and baghouse) used by this source shall be operating at all times when this source is operating.
3. Fugitive emissions from this source shall be controlled as specified in Rule 1200-3-8-.01. Specifically, no person shall cause, suffer, allow, or permit fugitive dust to be emitted in such manner to exceed five (5) minutes per hour or twenty (20) minutes per day as to produce a visible emission beyond the property line of the property on which the emission originates, excluding malfunction of equipment as provided in Chapter 1200-3-20. Fugitive emissions from this source shall be determined by Tennessee Visible Emissions Evaluation Method 4 as adopted by the Tennessee Air Pollution Control Board on April 16, 1986.
4. Routine maintenance, as required to maintain specified emission limits, shall be performed on the air pollution control device(s). Maintenance records shall be recorded in a suitable permanent form and kept available for inspection by the Division. These records must be retained for a period of not less than five (5) years.
5. Upon the malfunction/failure of any emission control device(s) serving this source, the operation of the process(es) served by the device(s) shall be regulated by Chapter 1200-3-20 of the Tennessee Air Pollution Control Regulations.
6. The issuance of this construction permit supersedes any previously issued permit(s) for this air contaminant source.
7. This permit shall serve as a temporary operating permit from issuance to the receipt of an operating permit, provided the operating permit application is applied for within 90 days after issuance of this permit (i.e. an updated Title V operating permit application), and provided the conditions of this permit and any applicable emission standards are met.

II. Input and Emission Limits

8. The total stated heat input capacity for this source is 26.0 million British Thermal Units per hour (MMBtu/hr, ovens, chamber furnace, and afterburners). The Technical Secretary may require the permittee to prove compliance with this rate.
9. Only natural gas shall be used as fuel for this source.
10. The total raw material input for this source shall not exceed 18,395 tons during any period of twelve consecutive months. Compliance with this condition shall be assured by complying with the recordkeeping requirements of **Condition 18**.
11. Particulate matter (as TSP) emitted from this source shall not exceed 6.5 pounds per hour (lb/hr) on a daily average basis. Compliance with this condition shall be assured by maintaining the control device operating parameters within acceptable limits, as determined in **Condition 20**, and by compliance with the recordkeeping requirements of **Conditions 21 and 22**.

This emission limitation is established pursuant to Rule 1200-3-7-.03(1) of the Tennessee Air Pollution Control Regulations.

12. Volatile organic compounds (VOC) emitted from this facility shall not exceed 6.5 tons during any period of twelve consecutive months. Compliance with this condition shall be assured by maintaining the control device operating parameters within acceptable limits, as determined in **Condition 20**, and by compliance with the recordkeeping requirements of **Conditions 21, 22, and 23**. The potential to emit VOC emissions from this source is no more than 0.2 tons per year. In order to avoid the necessity of keeping VOC emission records for this sources, 0.2 tons per year will be added to the facility-wide 12 consecutive month VOC emission total

This emission limitation is established pursuant to Rule 1200-3-7-.07(2) of the Tennessee Air Pollution Control Regulations.

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13. The maximum emission rate from the entire facility for any single hazardous air pollutant (HAP), listed pursuant to Section 112(b) of the Federal Act, shall not exceed 9.9 tons per year. Total emissions of all HAPs from the entire facility shall not exceed 24.9 tons per year. In the event that the emission rates from the entire facility exceed these limits, the permittee shall provide written notification of the exceedance(s) to the Technical Secretary within fifteen (15) days from the date of

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discovery. Compliance with this condition shall be assured by maintaining the control device operating parameters within acceptable limits, as determined in **Condition 20**, and by compliance with the recordkeeping requirements of **Conditions Error! Reference source not found., 21, 22, and 23.**

14. Carbon monoxide (CO) emitted from this source shall not exceed 2.2 lb/hr on a daily average basis. TAPCD Rule 1200-3-7-.07(2)
15. Nitrogen oxides (NO_x) emitted from this source shall not exceed 2.6 lb/hr on a daily average basis. TAPCD Rule 1200-3-7-.07(2)
16. Sulfur dioxide (SO₂) emitted from this source shall not exceed 0.1 lb/hr on a daily average basis. TAPCD Rule 1200-3-14-.01(3)
17. Visible emissions from this source shall not exhibit greater than twenty percent (20%) opacity except for one six-minute period per one (1) hour or for no more than four (4) six-minute periods in any twenty four (24) hour period. Visible emissions from this source shall be determined by EPA Method 9, as published in 40 CFR 60, Appendix A (six-minute average).

This emission limitation is established pursuant to Rules 1200-3-5-.01(1) and 1200-3-5-.03(6) of the Tennessee Air Pollution Control Regulations.

III. Recordkeeping Requirements

18. A log of the type of raw material feed and material input rate for each actual calendar month, in a form that readily shows compliance with **Condition 10**, must be maintained at the source location and kept available for inspection by the Technical Secretary or his representative. This log must be retained for a period of not less than five (5) years.
19. The following requirements shall apply to all recordkeeping:
 - (a) For all monthly logs, all data, including all required calculations, must be entered in the log no later than thirty (30) days from the end of the month for which the data is required.
 - (b) For all weekly logs, all data, including all required calculations, must be entered in the log no later than seven (7) days from the end of the week for which the data is required.
 - (c) For all daily logs, all data, including all required calculations, must be entered in the log no later than seven (7) days from the end of the day for which the data is required.
 - (d) All maintenance activities required by **Condition 4** shall be entered in the maintenance log no later than seven (7) days following the start of the maintenance.
20. The source owner or operator shall operate the control device(s) in accordance with the parameters established in the approved test of May 19 and 20, 2005, for compliance with permit 957486P. The test was approved by the Technical Secretary on May 11, 2006. The following operating parameters shall be monitored and recorded: afterburner temperature, scrubber liquor flow rate, and scrubber liquor pH.
21. Except as noted in **Condition 22**, the operating parameters listed in **Condition 20** shall be measured and recorded no less than once per day. A log of this information must be maintained at the source location and kept available for inspection by the Technical Secretary or his representative. This log must be retained for a period of not less than five (5) years.

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22. The temperature of each afterburner shall be monitored as follows:
- The permittee shall install, calibrate, operate, and maintain continuous monitoring equipment. The continuous monitoring equipment shall monitor the combustion chamber temperature of each afterburner.
 - The temperature monitoring equipment must be equipped with a continuous recorder and have accuracy within 1 percent of the combustion temperature expressed in degrees Celsius (°C) or within 0.5°C, whichever is greater.
 - Using data obtained from the continuous recorder, the permittee shall calculate the average temperature of the afterburner for each hour that the source is in operation.
 - Excursions below the minimum operating temperature established in **Condition 20** shall not be considered violations of this condition unless the average temperature during any period of three consecutive hours (or the batch average temperature, if the total batch time is less than three hours) is more than 28°C (50°F) below the minimum operating temperature.
 - Excursions below the minimum operating temperature resulting from startups, shutdowns, or malfunctions shall not be considered violations of this condition.
 - All three-hour periods of operation (or all batches, if the total batch time is less than three hours) during which the average combustion temperature is more than 28°C (50°F) below the minimum operating temperature are considered deviations to this condition. All deviations shall be recorded in a separate log.
 - Temperature monitoring records, including records of all excursions/deviations, shall be documented in a suitable permanent form and kept available for inspection by the Division. These records must be retained for a period of not less than five (5) years.
23. The permittee shall calculate the actual quantities of VOC and organic HAPs emitted from this source during each calendar month and shall maintain records of these emissions in a form that readily shows compliance with **Conditions 12 and 13** of this permit. These records must be maintained at the source location and kept available for inspection by the Technical Secretary or his representative. These records must be retained for a period of not less than five (5) years.

VOC and organic HAP emissions from the afterburner shall be determined as follows by using data from the source test for η_{Overall} .

$$\text{VOC}_{\text{Emission}} = \text{VOC}_{\text{Input}} \times (1 - \eta_{\text{Overall}})$$

Where:

$\text{VOC}_{\text{Emission}}$ is the emission of VOCs and/or HAPs.

$\text{VOC}_{\text{Input}}$ is the amount of VOC or HAP input to the source

η_{Overall} is the overall efficiency, or the product of the capture and destruction efficiency.

(end of conditions)

The permit application gives the location of this source as 36.04° Latitude and 84.44° Longitude.

This permit is issued per the request to remove temperature monitoring requirements from the furnace and ovens. It is updated to include current condition language in various places and current control devices. The modification includes the removal of conditional major status and related conditions.