

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

101 04 7064



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

Date Issued: SEP 29 2004

Permit Number:  
957486P

Date Expires: August 31, 2005

Issued To:  
Heraeus Metal Processing

Installation Address:  
Rt. 62 E. Knoxville Highway  
Wartburg

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

Emission Source Reference No.  
65-0049-01

49

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

Afterburner, Quench Tank, and Packed Tower Scrubber 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 application that was utilized in the preparation of this permit is dated July 13, 2004, and is signed by Mark Degnan, General Manager, for the permitted facility. If this person terminates employment or is reassigned different duties such that they are 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 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 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

I. General Conditions, Annual Compliance Report
---

2. The permittee has elected to opt-out of being issued a major source operating permit pursuant to Division Rule 1200-3-9-.02(11)(a). The permittee would be considered a major source because their "potential to emit" values for particulate matter and volatile organic compounds (VOC) were greater than 100 tons per year at the time of application. The permittee has agreed to be subject to limitations in order to be below the major source applicability thresholds for particulate matter and volatile organic compounds of 100 tons per year each.
3. Any non-compliance with any condition(s) of this permit set to restrain the "potential to emit" below the applicability thresholds of 1200-3-9-.02(11) of the Tennessee Air Pollution Control Regulations shall be reported in writing to the Technical Secretary within three (3) working days of such discovery. This notification, at a minimum, shall include the identification of the source, identification of the permit condition(s) violated, and details of the violation.
4. Air pollution control equipment (afterburner, quench tank, and packed tower scrubber) used by this source shall be operating at all times when this source is operating.
5. 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.
6. 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.
7. 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.
8. A report stating the compliance status of this facility with **Conditions 14, 15, and 16** shall be submitted by March 31 of every year, beginning in the year 2005. This report shall cover the preceding calendar year and shall include the records required by **Conditions 23, 26, 27, and 28**. The report shall be submitted to the Knoxville Environmental Assistance Center at the following address:  
  
Knoxville Environmental Assistance Center  
Division of Air Pollution Control  
2700 Middlebrook Pike  
Knoxville, TN 37921
9. The issuance of this construction permit supersedes any previously issued permit(s) for this air contaminant source
10. The permittee shall apply for a Conditional Major operating permit within ninety (90) days of start-up of this new source.
11. This permit shall serve as a temporary operating permit from initial start-up to the receipt of a Conditional Major Operating Permit, provided the operating permit is applied for within the time period specified in **Condition 10** of this permit, and provided the conditions of this permit and any applicable emission standards are met.

(conditions continued on next page)

## II. Input and Emission Limits

12. 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.
13. Only natural gas shall be used as fuel for this source.
14. 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 23**.

15. Particulate matter (as TSP) emitted from this source shall not exceed 6.5 pounds per hour (lb/hr) on a daily average basis.

This emission limitation is established pursuant to Rule 1200-3-9-.02(11)(a) of the Tennessee Air Pollution Control Regulations and the information contained in the agreement letter dated March 10, 2004, from the permittee. The permittee has requested this limit in order to avoid Title V status.

Compliance with this condition shall be assured by maintaining the control device operating parameters within acceptable limits, as determined in **Condition 25**, and by compliance with the recordkeeping requirements of **Conditions 26 and 27**.

16. Volatile organic compounds (VOC) emitted from this facility shall not exceed 6.5 tons during any period of twelve consecutive months.

This emission limitation is established pursuant to Rule 1200-3-9-.02(11)(a) of the Tennessee Air Pollution Control Regulations and the information contained in the agreement letter dated March 10, 2004, from the permittee. The permittee has requested this limit in order to avoid Title V status.

Compliance with this condition shall be assured by maintaining the control device operating parameters within acceptable limits, as determined in **Condition 25**, and by compliance with the recordkeeping requirements of **Conditions 24, 26, 27, and 28**.

17. VOC emissions from the pan dumper, ball mills, rotary melt furnace, and refining furnaces have the potential to emit no more than 0.2 tons per year. In order to avoid the necessity of keeping VOC emission records for these sources, 0.2 tons per year will be added to the facility-wide 12 consecutive month VOC emission total.
18. 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 discovery.

Compliance with this condition shall be assured by maintaining the control device operating parameters within acceptable limits, as determined in **Condition 25**, and by compliance with the recordkeeping requirements of **Conditions 24, 26, 27, and 28**.

19. Carbon monoxide (CO) emitted from this source shall not exceed 2.2 lb/hr on a daily average basis.
20. Nitrogen oxides (NO<sub>x</sub>) emitted from this source shall not exceed 2.6 lb/hr on a daily average basis.

(conditions continued on next page)

21. Sulfur dioxide (SO<sub>2</sub>) emitted from this source shall not exceed 0.1 lb/hr on a daily average basis.
22. Visible emissions from this source shall not exhibit greater than twenty percent (20%) opacity as determined by EPA Method 9, as published in 40 CFR 60, Appendix A. (six-minute average).

### III. Recordkeeping Requirements for Raw Material Inputs

23. 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 14, 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.
24. The as-supplied VOC and HAP content of all VOC or HAP-containing materials to be used by this new source shall be determined as follows:

Raw Materials Containing VOC, Organic HAP, Antimony, Arsenic, Beryllium, Cadmium, Chromium, Cobalt, Lead, Manganese, Mercury, Nickel, or Selenium - from Material Safety Data Sheets (MSDS) or manufacturer or vendor formulation data which explicitly list the VOC or HAP content by weight.

The results of these determinations shall be compiled in the following tabular format or an alternative format that readily provides the same required information. This table, along with MSDS or other supporting documentation for each material to be used, shall be maintained at the source location and made available for inspection by the Technical Secretary or his representative, beginning within 180 days of initial start-up. If new materials are used, or if material formulation is changed, the table shall be updated within 90 days from the initial date of usage of the new or altered material.

Raw Material Description	Contaminant (VOC or HAP)	Material Density <sup>2</sup>	VOC or HAP Content <sup>3</sup>

Notes:

1. For HAP-containing raw materials, list the specific HAP. For VOC-containing materials, the contaminant may be listed as "VOC".
2. The material density is required for liquids only.
3. For liquid raw materials, the VOC or HAP content may be given in pounds per gallon (lb/gal) or by weight percentage. For solid raw materials, the permittee may provide the VOC or HAP content in weight percentage, mg/kg, or a suitable alternative format. The permittee must specify the units of measure used in this table.

(conditions continued on next page)

IV. Source Testing and Monitoring Requirements, Recordkeeping Requirements for Control Device Operating Parameters

25. Within 60 days after achieving the maximum production rate at which this source will be operated, but no later than 180 days after initial start-up, the owner or operator shall conduct a source test to determine the actual emissions of particulate matter (TSP) and volatile organic compounds (VOC). The source test shall be conducted and data reduced in accordance with methodology allowed by the Tennessee Division of Air Pollution Control (TDAPC). At least 30 days prior to the actual test date, the Technical Secretary shall be notified of the official test date and shall be in receipt of a test protocol detailing both test methods to be used and operational parameters to be monitored to assure continual compliance.

During the emissions performance test, the following operating parameters shall be monitored and recorded: combustion chamber temperature, afterburner temperature, scrubber liquor flow rate, and scrubber liquor pH. Within 60 days of completion of the source test, a written report containing the source test results and control device operating parameters shall be submitted to the Technical Secretary. Upon test validation, the permittee shall use the operating parameters listed above, as approved by the Technical Secretary, to demonstrate compliance with Conditions 15 and 16.

26. Except as noted in Condition 27, the operating parameters listed in Condition 25 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.
27. The temperature of each afterburner shall be monitored as follows:
- a) The permittee shall install, calibrate, operate, and maintain continuous monitoring equipment. The continuous monitoring equipment shall monitor the combustion chamber temperature of each oven, furnace, and afterburner.
  - b) The temperature monitoring equipment must be equipped with a continuous recorder and have an accuracy within 1 percent of the combustion temperature expressed in degrees Celsius (°C) or within 0.5°C, whichever is greater. Records of the combustion chamber temperature 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.
  - c) Within 60 days of completion of source testing required by Condition 25, the permittee shall establish a minimum operating temperature for each afterburner and shall maintain a record of any excursions below this temperature. All temperature excursions shall be reported to the Division as specified in Condition 8. Records of temperature excursions must be retained at the facility for a period of not less than five (5) years.
28. Upon completion of the source test required by Condition 25, 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 16 and 18 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.

(conditions continued on next page)

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

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

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
- $\eta_{\text{Overall}}$  is the overall efficiency, or the product of the capture and destruction efficiency.

#### V. Startup Certification

29. The permittee shall certify the start-up date of the air contaminant source regulated by this permit by submitting

~~A COPY OF ALL PAGES OF THIS PERMIT~~  
with the information required in A) and B) of this condition completed, to the Technical Secretary's representatives listed below:

A) DATE OF START-UP: \_\_\_\_ / \_\_\_\_ / \_\_\_\_  
month day year

B) Anticipated operating rate: \_\_\_\_ percent of maximum rated capacity

For the purpose of complying with this condition, "start-up" of the air contaminant source shall be the date of the setting in operation of the source for the production of product for sale or use as raw materials or steam or heat production.

The undersigned represents that he/she has the full authority to represent and bind the permittee in environmental permitting affairs. The undersigned further represents that the above provided information is true to the best of his/her knowledge and belief.

Signature		Date
Signer's name (type or print)	Title	Phone (with area code)

Note: This certification is not an application for an operating permit. At a minimum, the appropriate application form(s) must be submitted requesting an operating permit. The application must be submitted in accordance with the requirements of this permit.

The completed certification shall be delivered to the Compliance Validation Program and the Environmental Assistance Center at the addresses listed below, no later than thirty (30) days after the air contaminant source is started-up.

Compliance Validation Program  
Division of Air Pollution Control  
9th Floor, L & C Annex  
401 Church Street  
Nashville, TN 37243-1531

Knoxville Environmental Assistance Center  
Division of Air Pollution Control  
2700 Middlebrook Pike  
Knoxville, TN 37921

(end of conditions)

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

## Emission Summary

Permit Number: 957486P

Source Status: New ☒ Modification ☐ Expansion ☐ Relocation ☐Permit Status: New ☒ Renewal ☐PSD ☐ NSPS ☐ NESHAPs ☐

Previous Permit Number: Construction 957486P Operating

	Pounds/Hour			Tons/Year				Date of Data	*	Applicable Standard 1200-3-
	Actual	Potential	Allowable	Actual	Potential	Allowable	Net Change			
TSP	0.8	13.6	6.5	3.7	59.4	28.6				9-.02(11)(a)
SO <sub>2</sub>	0.02	0.02	0.1	0.08	0.08	0.4				14-.03(5)
CO	2.2	2.2	2.2	9.6	9.6	9.6				7-.07(2)
VOC	1.5	41.7	1.5**	6.4	182.6	6.5**				9-.02(11)(a)
NO <sub>x</sub>	2.6	2.6	2.6	11.4	11.4	11.4				7-.07(2)

\* - Source of data

\*\* - Facility-wide Emission Limit for VOC

PERMITTING PROGRAM: TJB DATE: September 29, 2004