



Environmental Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

11/4/2011

Certified Mail

Yes	TOXIC REVIEW
Yes	PSD
Yes	SYNTHETIC MINOR TO AVOID MAJOR NSR
Yes	CEMS
No	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED
No	MAJOR GHG
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

Hoy Frakes, Jr.
AMG Vanadium, Inc.
60790 Southgate Road
Cambridge, OH 43725

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 0630010005
Permit Number: P0108340
Permit Type: Initial Installation
County: Guernsey

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install (PTI) which will allow you to install or modify the described emissions unit(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, we urge you to read it carefully. Please complete a survey at www.epa.ohio.gov/dapc/permitsurvey.aspx and give us feedback on your permitting experience. We value your opinion.

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
309 South Fourth Street, Room 222
Columbus, OH 43215

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. If you have any questions regarding this permit, please contact the Ohio EPA DAPC, Southeast District Office. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

Michael W. Ahern, Manager
Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA
Ohio EPA-SEDO; Pennsylvania; West Virginia



Response to Comments

Facility ID:	0630010005
Facility Name:	AMG Vanadium, Inc.
Facility Description:	Ferroalloy Production facility.
Facility Address:	60790 Southgate Road Cambridge, OH 43725 Guernsey County
Permit:	P0108340, Permit-To-Install - Initial Installation
A public notice for the draft permit issuance was published in the Ohio EPA Weekly Review and appeared in the The Daily Jeffersonian on 09/23/2011. The comment period ended on 10/31/2011.	
Hearing date (if held)	10/26/2011
Hearing Public Notice Date (if different from draft public notice)	

The following comments were received during the comment period specified. Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health. Often, public concerns fall outside the scope of that authority. For example, concerns about zoning issues are addressed at the local level. Ohio EPA may respond to those concerns in this document by identifying another government agency with more direct authority over the issue.

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format. PDF copies of the original comments in the format submitted are available upon request.

1. Topic: Clarifying Statements

- a. Comment: (comment 1) AMG-Vanadium wishes to clarify in the Permit Strategy Write-Up; Paragraph 4-Source Emissions, that they did not take a synthetic minor restriction on the combined operations of roaster P014 and P020 in order to avoid PSD modeling. Instead the restriction was taken to reinforce the fact that both P014 and P020 share controls and cannot be operated simultaneously for a number of reasons, i.e. only one roaster can be fed raw material at any given time. AMG intends to use P014 as a back-up unit and supports the imposition of a prohibition against operating both units concurrently except during periods of transitional start-up and shut-down.
- b. Response: Ohio EPA realizes that AMG-Vanadium took the restriction to reinforce the fact that the two roasters could not operate together. However, the result of that restriction was to negate the requirement to conduct modeling as part of a PSD permit application.
- c. Comment: In comments 4 and 7, AMG-Vanadium is clarifying that during the development of emission factors for CO, VOC, and NOx, Ohio EPA felt that more stringent emission factors for the new roaster would be required under BAT and BACT given that the new roaster was designed specifically for this process and included the most recent technology. AMG-Vanadium expressed concerns over the lack of similar sources to establish more stringent limits on P020



than exist for P014.

- d. Response: Ohio EPA and AMG-Vanadium agreed that more stringent emission factors would be used initially and that upon the results of emissions testing those factors could be altered through an administrative modification. This is memorialized in term b)(2)e.
- e. Comment: The facility description should be updated to "Ferroalloy Production facility". In addition, in the permit description on pages 1 and 2, propane should be added as a referenced fuel along with natural gas.
- f. Response: Ohio EPA has made these changes.

2. Topic: State Only Term

- a. Comment: Comment 6 states that under 1.a)(1), paragraph g)(2) should be added as a state only enforceable provision (dealing with the 2004 P014 Director's Final Findings and Orders).
- b. Response: Paragraph g)(2) will be placed under the state only enforceable provisions (i.e. 1.a)(1))

3. Topic: Correction to PM/PM-10 emissions

- a. Comment: Comment 2- Under the table (in the Permit Strategy Write Up; Paragraph 4- Source Emissions), the correct PM and PM-10 figures should be 0 tons per year (tpy). There will be no increase in PM/PM-10 as the catalyst is replacing boiler residue that was previously added as a raw material to #2 Electric Arc Furnace (P010). Since the catalyst is acting as a replacement for a material that was already being run in the furnace, and it is not anticipated that the furnaces will be running any additional days, no particulate emission increases are to be expected.
- b. Response: Upon further inquiry by Ohio EPA, AMG-Vanadium explained that the catalyst is less likely than boiler residues to break down into small particles; however, the particle sizes are smaller when it occurs. These qualities counter each other and AMG-Vanadium does not expect any net difference in PM and PM-10/PM-2.5 emissions.

4. Topic: Amount of Greenhouse Gases or CO₂e emissions

- a. Comment: Comment 3- On page 2 of the Staff Determination the correct project number for GHG/CO₂e should be 35,817 tons not 45,174.9 tons, as indicated on page 21 of the PTI application.
- b. Response: On page 22 of the application the total GHG/CO₂e amount given for the facility is 45,175 tons. 35,817 tons of the total GHG/CO₂e is attributable to the new roaster. The distinction is noted; however, the Staff Determination is not re-issued with the final permit.

5. Topic: Define Continuous Emissions Monitoring System

- a. Comment: Comment 8- Paragraph h. defines what equipment makes up the CEM "system". Because e)(2)b.iii. (page 19 of 24) requires that the company log any change in the equipment, we are requesting confirmation of our understanding of the system.

As defined, the CEMs includes all sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.

Within the subcategory of data recording and processing hardware and software we take this to include the programmable logic controller (PLC) and the operator's PC, which combined calculate the emissions and record the data. For purposes of keeping a logbook and reporting changes we do not include the following:

1. Changes to the HMI (software that communicates with the PLC) on the PC that do not directly impact the calculation or recording of the emissions data:
 2. The network server on which the data is recorded (PC will keep a local copy if the network server is unavailable);
 3. Network hardware such as cables and switches/routers; and
 4. Minor changes to the PC not related to the processing or recording of the data such as operating system updates, unrelated software, security software, and operator/administrator login rights.
- b. Response: Ohio EPA agrees with AMG-Vanadium's assessment of the definition of CEM. In future, if AMG- Vanadium has any questions about the changes in their CEM system, they should contact Ohio EPA, Southeast District Office.

6. Topic: Comments Supporting the New Roaster Project

- a. Ohio EPA acknowledges that during the October 26, 2011 Public Hearing and comment period, multiple local government entities and organizations place comments on the record in support of the new roaster project.



FINAL

**Division of Air Pollution Control
Permit-to-Install
for
AMG Vanadium, Inc.**

Facility ID:	0630010005
Permit Number:	P0108340
Permit Type:	Initial Installation
Issued:	11/4/2011
Effective:	11/4/2011



Division of Air Pollution Control
Permit-to-Install
for
AMG Vanadium, Inc.

Table of Contents

Authorization 1
A. Standard Terms and Conditions 3
1. Federally Enforceable Standard Terms and Conditions 4
2. Severability Clause 4
3. General Requirements 4
4. Monitoring and Related Record Keeping and Reporting Requirements 5
5. Scheduled Maintenance/Malfunction Reporting 6
6. Compliance Requirements 6
7. Best Available Technology 7
8. Air Pollution Nuisance 7
9. Reporting Requirements 7
10. Applicability 8
11. Construction of New Sources(s) and Authorization to Install 8
12. Permit-To-Operate Application 9
13. Construction Compliance Certification 9
14. Public Disclosure 9
15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations 10
16. Fees 10
17. Permit Transfers 10
18. Risk Management Plans 10
19. Title IV Provisions 10
B. Facility-Wide Terms and Conditions 11
C. Emissions Unit Terms and Conditions 13
1. P020, Multiple Hearth Roaster #2 14

Authorization

Facility ID: 0630010005
Facility Description: Ferroalloy Production facility.
Application Number(s): A0041754, A0042786
Permit Number: P0108340
Permit Description: Installation of a 100 ton per day propane/natural gas-fired multiple hearth roaster with a baghouse for PM control and dry scrubber for SO2 control.
Permit Type: Initial Installation
Permit Fee: \$750.00
Issue Date: 11/4/2011
Effective Date: 11/4/2011

This document constitutes issuance to:

AMG Vanadium, Inc.
60790 Southgate Road
Cambridge, OH 43725

of a Permit-to-Install for the emissions unit(s) identified on the following page.

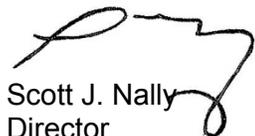
Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Southeast District Office
2195 Front Street
Logan, OH 43138
(740)385-8501

The above named entity is hereby granted a Permit-to-Install for the emissions unit(s) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency


Scott J. Nally
Director



Authorization (continued)

Permit Number: P0108340

Permit Description: Installation of a 100 ton per day propane/natural gas-fired multiple hearth roaster with a baghouse for PM control and dry scrubber for SO2 control.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

Emissions Unit ID:	P020
Company Equipment ID:	Multiple Hearth Roaster #2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

A. Standard Terms and Conditions

1. Federally Enforceable Standard Terms and Conditions

- a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:
- (1) Standard Term and Condition A.2.a), Severability Clause
 - (2) Standard Term and Condition A.3.c) through A. 3.e) General Requirements
 - (3) Standard Term and Condition A.6.c) and A. 6.d), Compliance Requirements
 - (4) Standard Term and Condition A.9., Reporting Requirements
 - (5) Standard Term and Condition A.10., Applicability
 - (6) Standard Term and Condition A.11.b) through A.11.e), Construction of New Source(s) and Authorization to Install
 - (7) Standard Term and Condition A.14., Public Disclosure
 - (8) Standard Term and Condition A.15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
 - (9) Standard Term and Condition A.16., Fees
 - (10) Standard Term and Condition A.17., Permit Transfers

2. Severability Clause

- a) A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

3. General Requirements

- a) The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and re-issuance, or modification.

- b) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c) This permit may be modified, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d) This permit does not convey any property rights of any sort, or any exclusive privilege.
- e) The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

4. Monitoring and Related Record Keeping and Reporting Requirements

- a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
 - (1) The date, place (as defined in the permit), and time of sampling or measurements.
 - (2) The date(s) analyses were performed.
 - (3) The company or entity that performed the analyses.
 - (4) The analytical techniques or methods used.
 - (5) The results of such analyses.
 - (6) The operating conditions existing at the time of sampling or measurement.
- b) Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
 - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Ohio EPA DAPC, Southeast District Office.

- (2) Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the Ohio EPA DAPC, Southeast District Office. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.
 - (3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the Ohio EPA DAPC, Southeast District Office every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
 - (4) This permit is for an emissions unit located at a Title V facility. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the Ohio EPA DAPC, Southeast District Office in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

6. Compliance Requirements

- a) The emissions unit(s) identified in this Permit shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.
- b) Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

- c) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
 - (1) At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
 - (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
 - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
 - (4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- d) The permittee shall submit progress reports to the Ohio EPA DAPC, Southeast District Office concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
 - (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
 - (2) An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

7. Best Available Technology

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.

8. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

9. Reporting Requirements

The permittee shall submit required reports in the following manner:

- a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Ohio EPA DAPC, Southeast District Office.
- 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 state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have

been detected by the testing, monitoring, and 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 Ohio EPA DAPC, Southeast District Office. 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 (i.e., postmarked) quarterly, 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.)

10. Applicability

This Permit-to-Install is applicable only to the emissions unit(s) identified in the Permit-to-Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

11. Construction of New Sources(s) and Authorization to Install

- a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.
- b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.
- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in Ohio EPA's "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).

- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

No emissions unit certified by the authorized official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

- e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a deviation report, air fee emission report, or other any reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

12. Permit-To-Operate Application

The permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77. The permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).

13. Construction Compliance Certification

The applicant shall identify the following dates in the online facility profile for each new emissions unit identified in this permit.

- a) Completion of initial installation date shall be entered upon completion of construction and prior to start-up.
- b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

14. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

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., postmarked), by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

16. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

17. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The new owner must update and submit the ownership information via the "Owner/Contact Change" functionality in Air Services once the transfer is legally completed. The change must be submitted through Air Services within thirty days of the ownership transfer date.

18. Risk Management Plans

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

19. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

B. Facility-Wide Terms and Conditions

1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
 - a) None.

C. Emissions Unit Terms and Conditions



1. P020, Multiple Hearth Roaster #2

Operations, Property and/or Equipment Description:

100 ton per day Natural Gas/Propane-fired Multiple Hearth Roaster #2 controlled by dry scrubber (96.1% control efficiency for SO₂) and baghouse (99% control efficiency for PE)

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) g(1) and g(2).

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T)	Particulate emissions (PM) shall not exceed 0.010 gr/dscf. Nitrogen oxides (NOx) emissions shall not exceed 1.04 pound per ton (lbs/ton) (See b)(2)e. below). Volatile organic compounds (VOC) emissions shall not exceed 1.99 lbs/ton (See b)(2)e. below). The requirements of this rule include compliance with the SO ₂ and CO emissions limitations established pursuant to OAC rule 3745-31-10 through 20.
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	PM-10/PM-2.5 shall not exceed 0.007 gr/dscf and 8.4 tons per year (TPY). See b)(2)c. below.
c.	OAC rule 3745-31-05(E), as effective 12/01/06	See b)(2)d. below.
d.	OAC rules 3745-31-10 through 20	Sulfur dioxide (SO ₂) emissions shall not exceed 78.1 pounds per hour (lbs/hr) and 633 ppmv, as a 3-hour, rolling average. Carbon monoxide (CO) emissions shall not exceed 4.72 lbs/ton (See b)(2)e.).

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>The requirements of this rule include compliance with the requirements of OAC rule 3745-31-05(D).</p> <p>See b)(2)a., b. and c)(1) below.</p>
e.	OAC rule 3745-31-05(D) (Synthetic minor to avoid PSD modeling)	<p>SO₂ emissions from emissions units P014 and P020, combined, shall not exceed 342.1 tons, as a 12-month, rolling summation.</p> <p>CO emissions from emissions units P014 and P020, combined, shall not exceed 86.2 tons, as a 12-month, rolling summation.</p>
f.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
g.	OAC rule 3745-17-11(B)	The emissions limitation specified by this rule is less stringent than the emissions limitation established pursuant to ORC 3704.03(T).
h.	OAC rule 3745-18-06(E)	The emissions limitation specified by this rule is less stringent than the emissions limitation established pursuant to 3745-31-10 through 20.

(2) Additional Terms and Conditions

- a. As part of the Best Available Control Technology (BACT) determination for SO₂, the emissions from the multiple hearth roaster shall be vented to an operating circulating dry scrubber and a baghouse. Compliance with the control efficiency requirement shall be demonstrated by compliance with the short term SO₂ emission limit in b)(1)d.
- b. As part of the Best Available Control Technology (BACT) determination for CO, the permittee shall only supply natural gas or propane to the burners of the multiple hearth roaster; and, establish and maintain a plan to ensure that the burners are operated in accordance with good combustion practices as recommended by the burner manufacturer. Compliance with the short term CO emission limits in b)(1)d shall be demonstrated through testing as required in f)(2).

- c. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS pollutant emissions less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then the emission limits/control measures no longer apply.

- d. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.

PTI P0108340 for this air contaminant source takes into account the following voluntary restriction (including the use of any applicable air pollution control equipment) as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3):

- i. The use of a baghouse with a control efficiency of 99%; and
 - ii. 0.007 gr/dscf and 8.4 TPY of PM-10/PM2.5.
- e. The emission limits established in this permit for CO, VOC and NO_x were based on limited emission factor data from the testing of another similar, but not identical roaster. No other emission factor data was found to be representative of the new roaster. Because of these facts, at the time this permit was written, it is unclear if the emission factors used to establish these limits are appropriate to use to establish limits for the new roaster.

Because of these uncertainties, this permit requires AMG Vanadium to conduct emissions tests for these pollutants (See f)(2) below). Once the emissions tests are complete and the data is verified, AMG Vanadium may request that the director revise these emissions limits taking into account the new data.

- f. The permittee shall maintain a written quality assurance/quality control plan for the continuous SO₂ monitoring system, designed to ensure continuous valid and representative readings of SO₂ emissions in units of the applicable standard(s). The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous SO₂ monitoring system must be kept on site and available for inspection during regular office hours.
- g. The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR Part 60; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR Part 60.

- (2) The permittee shall maintain on site, the document(s) of certification received from the U.S. EPA or the Ohio EPA's Central Office documenting that the continuous SO₂ monitoring system has been certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 2 and 6. The letter(s)/document(s) of certification shall be made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.

- (3) The permittee shall operate and maintain equipment to continuously monitor and record SO₂ emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.

The permittee shall maintain records of data obtained by the continuous SO₂ monitoring system including, but not limited to:

- a. emissions of SO₂ in parts per million on an instantaneous (one-minute) basis;
 - b. emissions of SO₂ in pounds per hour and in all units of the applicable standard(s) in the appropriate averaging period;
 - c. results of quarterly cylinder gas audits;
 - d. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
 - e. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
 - f. hours of operation of the emissions unit, continuous SO₂ monitoring system, and control equipment;
 - g. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous SO₂ monitoring system;
 - h. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous SO₂ monitoring system; as well as,
 - i. the reason (if known) and the corrective actions taken (if any) for each such event in (g) and (h).
- (4) The permittee shall maintain monthly records of the following information:
- a. the amount of catalyst processed in P014 and P020, separately;

- b. the monthly emissions of SO₂ and CO emissions for P014 and P020, separately and combined;
- c. the rolling, 12-month summation of the amount of catalyst processed in P014 and P020, combined; and
- d. the rolling, 12-month summation of the SO₂ and CO emissions for P014 and P020, separately and combined.

* The rolling, 12-month summations for CO shall be calculated by using the equation in f)(1)c. The SO₂ rolling, 12-month summation shall be calculated using records required in d)(3).

e) Reporting Requirements

- (1) The permittee shall notify the Director (the appropriate local air agency or District Office) in writing of any fuel supplied to the burners in this emissions unit other than natural gas or propane.
- (2) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous SO₂ monitoring system:
 - a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR Parts 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports in the month following the end of each calendar quarter to the appropriate Ohio EPA District Office or local air agency, documenting all instances of SO₂ emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, OAC Chapter 3745-18, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude of each exceedance, as well as the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s).
 - b. These quarterly reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall include the following:
 - i. the facility name and address;
 - ii. the manufacturer and model number of the continuous SO₂ and other associated monitors;
 - iii. a description of any change in the equipment that comprises the continuous emission monitoring system (CEMS), including any change to the hardware, changes to the software that may affect CEMS readings, and/or changes in the location of the CEMS sample probe;
 - iv. the excess emissions report (EER)*, i.e., a summary of any exceedances during the calendar quarter, as specified above;
 - v. the total SO₂ emissions for the calendar quarter (tons);

- vi. the total operating time (hours) of the emissions unit;
- vii. the total operating time of the continuous SO₂ monitoring system while the emissions unit was in operation;
- viii. results and dates of quarterly cylinder gas audits;
- ix. unless previously submitted, results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));
- x. unless previously submitted, the results of any relative accuracy test audit showing the continuous SO₂ monitor out-of-control and the compliant results following any corrective actions;
- xi. the date, time, and duration of any/each malfunction** of the continuous SO₂ monitoring system, emissions unit, and/or control equipment;
- xii. the date, time, and duration of any downtime** of the continuous SO₂ monitoring system and/or control equipment while the emissions unit was in operation; and
- xiii. the reason (if known) and the corrective actions taken (if any) for each event in (b)(xi) and (xii).

Each report shall address the operations conducted and data obtained during the previous calendar quarter.

* where no excess emissions have occurred or the continuous monitoring system(s) has/have not been inoperative, repaired, or adjusted during the calendar quarter, such information shall be documented in the EER quarterly report

** each downtime and malfunction event shall be reported regardless if there is an exceedance of any applicable limit

- (3) The permittee shall submit semiannual written reports that identify:
 - a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and
 - b. any corrective actions taken to minimize or eliminate the visible particulate 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 period.

- (4) The permit shall submit quarterly written reports that identify any exceedance of the following:
- a. the rolling, 12-month catalyst operational restriction;
 - b. the rolling, 12-month emissions limitations for SO₂ and CO.
- f) Testing Requirements
- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
- a. Emissions Limitations:

PM-10/PM-2.5 shall not exceed 0.007gr/dscf.

PM-10/PM-2.5 shall not exceed 8.4 tons per year.

Applicable Compliance Methods:

PM-10/PM-2.5 emissions shall be determined according to test Methods 1-4, 201 or 201A, and 202 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources" and 40 CFR Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office. See f)(2).

Compliance with the annual emission limitation shall be demonstrated by multiplying the maximum flow rate through the baghouse (in dscfm) by the short term emission rate (in gr/dscf) determined during the most recent stack test, multiplying by 525,600 min/year, and dividing by 7,000gr/lb and 2,000 lbs/ton.
 - b. Emissions Limitation:

Particulate emissions (PM) shall not exceed 0.010 gr/dscf.

Applicable Compliance Methods:

Particulate emissions shall be determined according to test Methods 1 - 5, as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office. See f)(2).
 - c. Emissions Limitations:

CO emissions shall not exceed 4.72 lbs/ton.

CO emissions from emissions units P014 and P020, combined, shall not exceed 86.2 tons, as a 12-month, rolling summation.

Applicable Compliance Methods:

Carbon monoxide emissions shall be determined according to test Methods 1 - 4, and 10 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office. See f)(2).

Compliance with the 12-month rolling limitation shall be demonstrated by: multiplying the rolling, 12-month summation of the catalyst roasted (in tons) by the short term emission rate determined during the most recent stack test (in lbs/ton) for each of P014 and P020; summing the results for P014 and P020 for each 12-month, rolling period; and dividing the total by 2,000 lbs/ton.

d. Emissions Limitation:

NO_x emissions shall not exceed 1.04 lbs/ton.

Applicable Compliance Methods:

Nitrogen oxides emissions shall be determined according to test Methods 1 - 4, and 7 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office. See f)(2).

e. Emissions Limitation:

VOC emissions shall not exceed 1.99 lbs/ton.

Applicable Compliance Methods:

Organic compound emissions shall be determined according to test Methods 1 - 4, and 18, 25, or 25A as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office. See f)(2).

f. Emissions Limitations:

SO₂ emissions shall not exceed 78.1 lbs/hr and 633 ppmv, as a 3-hour, rolling average.

SO₂ emissions from emissions units P014 and P020, combined shall not exceed 342.1 tons, as a 12-month, rolling summation.

Applicable Compliance Methods:

Sulfur dioxide emissions shall be determined according to test Methods 1 - 4, and 6 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-

approved test methods may be used with prior approval from Ohio EPA, Southeast District Office. See f)(2).

Ongoing compliance with the SO₂ emission limitations contained in this permit, 40 CFR Part 60 and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Record keeping Section of this permit; and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the testing and recertification requirements of 40 CFR Part 60.

g. Emissions Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9. See f)(2).

(2) The permittee shall conduct, or have conducted, emissions testing for this emissions unit in accordance with the following requirements:

- a. The emission testing shall be conducted within 3 months after achieving the maximum production rate at which the facility will be operated, but no later than 180 days after initial start-up of this emissions unit.
- b. The emission testing shall be conducted to demonstrate compliance with the mass emission limitations for PE, PM-10/PM-2.5, CO, NO_x, VOC and SO₂, and the visible particulate emissions limitation.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

For SO₂, Methods 1-4 and 6 or 6C of 40 CFR Part 60, Appendix A;

For PE, Methods 1-5 of 40 CFR Part 60, Appendix A;

For PM-10/PM-2.5, Methods 1-4 of 40 CFR Part 60, Appendix A, and 201 or 201A, and 202 of 40 CFR Part 51, Appendix M;

For CO, Methods 1-4 and Method 10 of 40 CFR Part 60, Appendix A;

For NO_x, Methods 1-4 and Method 7 of 40 CFR Part 60, Appendix A;

For VOC, Methods 1-4 and Method 18, 25, or 25A of 40 CFR Part 60, Appendix A; and,

For visible particulate emissions, Method 9 of 40 CFR Part 60, Appendix A.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- d. The testing shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Southeast District Office.
 - e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Southeast District Office. 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). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Southeast District Office refusal to accept the results of the emission test(s).
 - f. Personnel from the Ohio EPA, Southeast District Office 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
 - g. A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Southeast District Office 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 Ohio EPA, Southeast District Office.
- (3) Ongoing compliance with the SO₂ emission limitations contained in this permit, 40 CFR Part 60, and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Record keeping Section of this permit; and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the testing and recertification requirements of 40 CFR Part 60.
- g) **Miscellaneous Requirements**
- (1) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions units maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified PTI prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new PTI.
 - (2) The permittee shall not operate emissions unit P014 above a process weight rate of 80 tons per day until such time as the October 26, 2004 Director's Findings and Orders (case number 2258) are terminated.