Mr. David Roycraft
Grede Foundries, Inc. - New Castle Foundry
2700 East Plum Street
New Castle, Indiana 47362

Re: Minor Source Modification No:
065-12236-00007

Dear Mr. Roycraft:

Grede Foundries, Inc. - New Castle Foundry applied for a Part 70 operating permit on August 1, 1996, for a gray iron and ductile iron foundry. An application to modify the source was received on May 1, 2000. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

(a) one (1) core machine (ID CB-5 Core Machine), with a maximum throughput of 3,000 pounds of sand per hour, and a maximum capacity of producing 1.25 tons of cores per hour, with an existing wet acid scrubber system for VOC control, exhausting to the general ventilation.

The proposed Minor Source Modification approval will be incorporated into the pending Part 70 permit application pursuant to 326 IAC 2-7-10.5(l)(3). The source may begin operation upon issuance of the source modification approval.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter call Trish Earls at (973) 575-2555, ext. 3219, or call (800) 451-6027, press 0 and ask for extension 3-6878.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

Attachments
TE/EVP
cc: File - Henry County
U.S. EPA, Region V
Henry County Health Department
Air Compliance Section Inspector Warren Greiling
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michelle Boner

PART 70 MINOR SOURCE MODIFICATION
OFFICE OF AIR MANAGEMENT

Grede Foundries, Inc. - New Castle
2700 East Plum Street
New Castle, Indiana 47362

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this approval.

This approval is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Source Modification No.: 065-12236-00007	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

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SECTION A SOURCE SUMMARY

This approval is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the emission units contained in conditions A.1 through A.2 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this approval pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary gray iron and ductile iron foundry.

Responsible Official:	David Roycraft
Source Address:	2700 East Plum Street, New Castle, Indiana 47362
Mailing Address:	2700 East Plum Street, New Castle, Indiana 47362
Phone Number:	317-521-8000
SIC Code:	3321
County Location:	Henry
County Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Major Source, under PSD Rules; Major Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source is approved to construct and operate the following emission units and pollution control devices:

(a) one (1) core machine (ID CB-5 Core Machine), with a maximum throughput of 3,000 pounds of sand per hour, and a maximum capacity of producing 1.25 tons of cores per hour, with an existing wet acid scrubber system for VOC control, exhausting to the general ventilation.

A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONSTRUCTION CONDITIONS

B.1 Permit No Defense [IC 13]

This approval to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions [326 IAC 2-7-1]

Terms in this approval shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2 and 326 IAC 2-7 shall prevail.

B.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

B.4 Revocation of Permits [326 IAC 2-1.1-9(5)][326 IAC 2-7-10.5(i)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

SECTION C GENERAL OPERATION CONDITIONS

C.1 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

(a) Where specifically designated by this approval or required by an applicable requirement, any application form, report, or compliance certification submitted under this approval shall contain certification by a responsible official of truth, accuracy, and completeness. This certification, shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, on the attached Certification Form, with each submittal.

(c) A responsible official is defined at 326 IAC 2-7-1(34).

C.2 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this approval, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) within ninety (90) days after issuance of this approval, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If due to circumstances beyond its control, the PMP cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.

(c) PMP's shall be submitted to IDEM, OAM, upon request and shall be subject to review and approval by IDEM, OAM. IDEM, OAM, may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

C.3 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this approval.

(b) Any application requesting an amendment or modification of this approval shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "responsible official" as defined by 326 IAC 2-7-1(34) only if a certification is required by the terms of the applicable rule

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

C.4 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this approval:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

C.5 Operation of Equipment [326 IAC 2-7-6(6)]

Except as otherwise provided in this approval, all air pollution control equipment listed in this approval and used to comply with an applicable requirement shall be operated at all times that the emission units vented to the control equipment are in operation.

Testing Requirements [326 IAC 2-7-6(1)]

C.6 Performance Testing [326 IAC 3-6][326 IAC 2-1.1-11]

(a) Compliance testing on new emission units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this approval, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAM.

A test protocol, except as provided elsewhere in this approval, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

(b) All test reports must be received by IDEM, OAM within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAM, if the source submits to IDEM, OAM, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.7 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.8 Pressure Gauge Specifications

Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent (±2%) of full scale reading.

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.9 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5][326 IAC 2-7-6] [326 IAC 1-6]

(a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:

(1) This condition;

(2) The Compliance Determination Requirements in Section D of this approval;

(3) The Compliance Monitoring Requirements in Section D of this approval;

(4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this approval; and

(5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this approval. CRP's shall be submitted to IDEM, OAM upon request and shall be subject to review and approval by IDEM, OAM. The CRP shall be prepared within ninety (90) days after issuance of this approval by the Permittee and maintained on site, and is comprised of :

(A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this approval; and

(B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.

(b) For each compliance monitoring condition of this approval, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall constitute a violation of the approval unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.

(c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:

(1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.

(2) The Permittee has determined that the compliance monitoring parameters established in the approval conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the approval, and such request has not been denied or;

(3) An automatic measurement was taken when the process was not operating; or

(4) The process has already returned to operating within “normal” parameters and no response steps are required.

(d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

C.10 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this approval exceed the level specified in any condition of this approval, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAM, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected facility while the corrective actions are being implemented. IDEM, OAM shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAM within thirty (30) days of receipt of the notice of deficiency. IDEM, OAM reserves the authority to use enforcement activities to resolve noncompliant stack tests.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAM that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAM may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate approval conditions may be grounds for immediate revocation of the approval to operate the affected facility.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.11 Monitoring Data Availability [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)]

(a) With the exception of performance tests conducted in accordance with Section C-Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this approval shall be performed at all times the equipment is operating at normal representative conditions.

(b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this approval is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this approval.

(c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.

(d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.

(e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.

(f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.12 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

(a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAM, representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Records of required monitoring information shall include, where applicable:

(1) The date, place, and time of sampling or measurements;

(2) The dates analyses were performed;

(3) The company or entity performing the analyses;

(4) The analytic techniques or methods used;

(5) The results of such analyses; and

(6) The operating conditions existing at the time of sampling or measurement.

(c) Support information shall include, where applicable:

(1) Copies of all reports required by this approval;

(2) All original strip chart recordings for continuous monitoring instrumentation;

(3) All calibration and maintenance records;

(4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this approval, and whether a deviation from an approval condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.

(d) All record keeping requirements not already legally required shall be implemented within ninety (90) days of approval issuance.

C.13 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

(a) The reports required by conditions in Section D of this approval shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(b) Unless otherwise specified in this approval, any notice, report, or other submission required by this approval shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

(c) Unless otherwise specified in this approval, any quarterly report shall be submitted within thirty (30) days of the end of the reporting period. The reports do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(d) The first report shall cover the period commencing on the date of issuance of this approval and ending on the last day of the reporting period.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

(a) one (1) core machine (ID CB-5 Core Machine), with a maximum throughput of 3,000 pounds of sand per hour, and a maximum capacity of producing 1.25 tons of cores per hour, with an existing wet acid scrubber system for VOC control, exhausting to the general ventilation.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

The sand throughput to the existing sand mixer (ID New Sand Mixer) and the six (6) associated core machines (ID Disa, CB-1, CB-2, CB-3, CB-4, and CB-5) shall not exceed 64, 335 tons per twelve (12) consecutive month period, rolled on a monthly basis. The usage of DMEA catalyst in each of the six (6) core machines shall not exceed 154.3 tons per twelve (12) consecutive month period, rolled on a monthly basis. The wet acid scrubber shall be in operation at all times that the core machines are in operation and shall maintain a minimum overall control efficiency of 98%. This sand throughput limitation, the catalyst usage limitation, and the VOC control will limit VOC emissions from the sand mixer and six (6) core machines to less than 25 tons per twelve (12) consecutive month period so that the requirements of 326 IAC 8-1-6 do not apply.

D.1.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the wet acid scrubber. A Preventive Maintenance Plan is not required for the new core machine since there are no maintenance procedures that can be performed which would affect emissions.

Compliance Determination Requirements

D.1.3 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

During the period no later than 180 days after issuance of this permit, the Permittee shall perform VOC testing to verify the overall control efficiency of the scrubber utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

D.1.4 VOC Emissions

Compliance with Condition D.1.1 shall be demonstrated within 30 days of the end of each month based on the total sand throughput and catalyst usage for the most recent twelve (12) month period.

D.1.5 Volatile Organic Compounds (VOC)

The wet acid scrubber for DMEA (a VOC) control shall be in operation at all times when the six (6) core machines (ID Disa, CB-1, CB-2, CB-3, CB-4, and CB-5) are in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.6 Parametric Monitoring

The Permittee shall record the total static pressure drop across the scrubber used in conjunction with the core machines, at least once per day when the core machines are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the scrubber shall be maintained within the range of 1.0 to 5.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

D.1.7 Scrubber Inspections

An inspection shall be performed each calender quarter of the wet acid scrubber controlling the core machines when venting to the atmosphere. A wet acid scrubber inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors.

D.1.8 Scrubber Failure Detection

In the event that wet acid scrubber failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of 326 IAC 2-7-16 (Emergency Provisions).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.9 Record Keeping Requirements

(a) To document compliance with Condition D.1.1, the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limit established in Condition D.1.1.

(1) The amount and VOC content of catalyst used in the core machines for each month. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used;

(2) The amount of sand used in the sand mixer and six (6) core machines per month; and

(3) The weight of VOCs emitted for each compliance period.

(b) To document compliance with Condition D.1.6, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure;

(2) Documentation of all response steps implemented, per event .

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(8) Documentation of the dates vents are redirected.

(c) To document compliance with Condition D.1.7, the Permittee shall maintain records of the results of the inspections required under Condition D.1.7 and the dates the vents are redirected.

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.10 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does not require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

PART 70 SOURCE MODIFICATION CERTIFICATION

Source Name: Grede Foundries, Inc. - New Castle
Source Address: 2700 East Plum Street, New Castle, Indiana 47362
Mailing Address: 2700 East Plum Street, New Castle, Indiana 47362
Source Modification No.: 065-12236-00007

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this approval.

Please check what document is being certified:

9 Test Result (specify) _____

9 Report (specify) _____

9 Notification (specify) _____

9 Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

Part 70 Source Modification Quarterly Report

Source Name: Grede Foundries, Inc. - New Castle
Source Address: 2700 East Plum Street, New Castle, Indiana 47362
Mailing Address: 2700 East Plum Street, New Castle, Indiana 47362
Source Modification No.: 065-12236-00007
Facility: one (1) existing sand mixer (ID New Sand Mixer) and the six (6) associated core machines (ID Disa, CB-1, CB-2, CB-3, CB-4, and CB-5)
Parameter: VOC emissions
Limit: The sand throughput to the existing sand mixer (ID New Sand Mixer) and the six (6) associated core machines (ID Disa, CB-1, CB-2, CB-3, CB-4, and CB-5) shall not exceed 64, 335 tons per twelve (12) consecutive month period, rolled on a monthly basis. The usage of DMEA catalyst in each of the six (6) core machines shall not exceed 154.3 tons per twelve (12) consecutive month period, rolled on a monthly basis. The wet acid scrubber shall be in operation at all times that the core machines are in operation and shall maintain a minimum overall control efficiency of 98%.

YEAR: _____

Month	Sand Throughput This Month (tons)	Catalyst Usage This Month (tons)	Sand Throughput Previous 11 Months (tons)	Catalyst Usage Previous 11 Months (tons)	12 Month Total Sand Throughput (tons)	12 Month Total Catalyst Usage (tons)

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a
Part 70 Minor Source Modification

Source Background and Description

Source Name:	**Grede Foundries, Inc. - New Castle Foundry**
Source Location:	**2700 East Plum Street, New Castle, Indiana 47362**
County:	**Henry**
SIC Code:	**3321**
Source Modification No.:	**065-12236-00007**
Permit Reviewer:	**Trish Earls/EVP**

The Office of Air Management (OAM) has reviewed a modification application from Grede Foundries, Inc. relating to construction and operation of the following emission unit:

(a) one (1) core machine (ID CB-5 Core Machine), with a maximum throughput of 3,000 pounds of sand per hour, and a maximum capacity of producing 1.25 tons of cores per hour, with an existing wet acid scrubber system for VOC control, exhausting to the general ventilation.

History

On May 1, 2000, Grede Foundries, Inc. - New Castle Foundry submitted an application to the OAM requesting to add an additional core machine to their existing gray iron and ductile iron foundry. The new core machine is of the same type as the existing core machines permitted under CP-065-3495-00007, and will comply with the same applicable requirements and permit terms and conditions as the existing core machines and associated sand mixer. The addition of the new core machine does not result in any de-bottlenecking since the throughput of the existing sand mixer has not changed. Grede Foundries, Inc. - New Castle Foundry submitted a Part 70 permit application (T065-6354-00007) for the existing source on August 1, 1996, which is currently being reviewed by IDEM.

Existing Approvals

The source applied for a Part 70 Operating Permit on August 1, 1996. The source has been operating under previous approvals including, but not limited to, the following:

(1) OP 33-07-87-0107, issued on March 8, 1984;

(2) CP065-2749-00007, issued on March 24, 1993; and

(3) CP065-3495-00007, issued on June 22, 1994.

Enforcement Issue

There are no pending enforcement actions related to the equipment in this modification.

Recommendation

The staff recommends to the Commissioner that the Minor Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on May 1, 2000.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (4 pages).

Potential To Emit Before Controls (Modification)

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

Pollutant	Potential To Emit (tons/year)
PM	0.0
PM-10	0.0
SO_2	0.0
VOC	35.81
CO	0.0
NO_x	0.0

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

HAP's	Potential To Emit (tons/year)
Naphthalene	less than 10
TOTAL	less than 25

Justification for Modification

The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of VOC is equal to or greater than 25 tons per year. However, pursuant to 326 IAC 2-7-10.5(d)(9), the Part 70 source is being modified through a Minor Source Modification because the modification consists of the addition of a core machine, which is of the same type as the existing core machines permitted under CP-065-3495-00007, and which will comply with the same applicable requirements and permit terms and conditions as the existing core machines. This modification is being performed pursuant to 326 IAC 2-7-10.5(e).

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 1997 OAM emission data.

Pollutant	Actual Emissions (tons/year)
PM	N/A
PM-10	194.98
SO_2	0.49
VOC	61.45
CO	1.25
NO_x	6.48
HAP (specify)	N/A

County Attainment Status

The source is located in Henry County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Henry County has been designated as attainment or unclassifiable for ozone.

Source Status

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	greater than 100
PM-10	greater than 100
SO_2	less than 100
VOC	less than 100
CO	less than 100
NOx	less than 100

(a) This existing source is a major stationary source because an attainment regulated pollutant is emitted at a rate of 100 tons per year or more, and it is one of the 28 listed source categories.

(b) These emissions are based upon the emission calculations in Appendix A of the TSD for the pending Title V draft permit (T065-6354-00007) for Grede Foundries, Inc.

Potential to Emit After Controls

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units associated with the modification.

	Limited Potential to Emit (tons/year)						
Process/facility	PM*	PM-10*	SO_2	VOC**	CO	NO_X	HAPs
Total Controlled Emissions from Existing Sand Mixer and Core Machines Plus New Core Machine	2.32	0.35	0.0	24.00	0.0	0.0	0.10
Emissions Increase from Modification***	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PSD Significant Threshold	25	15	40	40	100	40	N/A

* Controlled PM emissions represent emissions at a limited sand throughput of 64,335 tons per twelve (12) consecutive month period and after control by an existing dust collector.

** VOC emissions represent emissions after control by the wet acid scrubber which controls DMEA (a VOC) emissions at a limited sand throughput of 64,335 tons per twelve (12) consecutive month period to avoid the requirements of 326 IAC 8-1-6.

*** Since the emission limits for the existing emission units also include the new core machine, there is no increase in the Limited Potential to Emit from this modification.

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2 and 40 CFR 52.21, the PSD requirements do not apply.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR art 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than one hundred (100) tons per year of PM-10 and VOC. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions)

This source is subject to 326 IAC 6-4 for fugitive dust emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), fugitive dust shall not be visible crossing the boundary or property line of a source. Observances of visible emissions crossing property lines may be refuted by factual data expressed in 326 IAC 6-4-2 (1), (2), or (3).

State Rule Applicability - Individual Facilities

326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

This rule applies to new facilities, constructed after January 1, 1980, which have potential emissions of 25 tons or more per year of VOC. Potential VOC emissions from the new core machine (ID CB-5) are greater than 25 tons per year. However, pursuant to CP-065-3495-00007, issued on June 22, 1994, VOC emissions from the existing sand mixer (ID New Sand Mixer) and two (2) of the five (5) existing core machines (ID CB-3 Core Machine and CB-4 Core Machine) associated with this mixer are limited to 24 tons per year to avoid the requirements of 326 IAC 8-1-6 (BACT). Since the sand/resin mixture from the existing sand mixer is also used in the remaining three (3) existing core machines (ID Disa, CB-1, and CB-2) and the new core machine (ID CB-5), this limit also includes these four (4) core machines. The sand throughput to the sand mixer (ID New Sand Mixer) and the six (6) associated core machines (ID Disa, CB-1, CB-2, CB-3, CB-4, and CB-5) shall not exceed 64,335 tons per twelve (12) consecutive month period, rolled on a monthly basis. The usage of DMEA catalyst shall not exceed 154.3 tons per twelve (12) consecutive month period, rolled on a monthly basis. The wet acid scrubber shall be in operation at all times that the core machines are in operation and shall maintain a minimum overall control efficiency of 98%. The sand throughput limitation, the catalyst usage limitation, and the VOC control will limit VOC emissions to less than 25 tons per year from the sand mixer and six (6) core machines so that the requirements of 326 IAC 8-1-6 do not apply.

Compliance Requirements

Permits issued under 326 IAC 2-7are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

1. The scrubber controlling VOC emissions from the six (6) core machines (ID Disa, CB-1, CB-2, CB-3, CB-4, and CB-5) has applicable compliance monitoring conditions as specified below:

   (a) The Permittee shall record the pressure drop of the scrubber controlling the core machines at least once per day when the unit is in operation. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the scrubber shall be maintained within the range of 1.0 to 5.0 inches of water, or a pressure drop range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

   (b) An inspection shall be performed each calender quarter of the wet acid scrubber controlling the core machines when venting to the atmosphere. A wet acid scrubber inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All leakage shall be repaired.

   These monitoring conditions are necessary because the wet acid scrubber controlling VOC emissions from the six (6) core machines must operate properly to avoid the requirements of 326 IAC 8-1-6 (BACT).

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Part 70 Application Form GSD-08.

(a) This modification will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Clean Air Act Amendments.

(b) See attached calculations for detailed air toxic calculations. (Appendix A, page 2 of 4)

Conclusion

The operation of this modification to the existing gray iron and ductile iron foundry shall be subject to the conditions of the attached proposed **Part 70 Minor Source Modification Permit No. 065-12236-00007**.

Appendix A: Grey Iron Foundry Operations
VOC Emission Calculations

Company Name: Grede Foundries, Inc. - New Castle Foundry
Address City IN Zip: 2700 East Plum Street, New Castle, Indiana 47362
Source Mod. No.: 065-12236
Plt ID: 065-00007
Reviewer: Trish Earls
Date: May 1, 2000

Material	Process	Usage Rate (lbs/hr)	Weight % VOC (DMEA)	VOC Emissions (ton/yr)
Phenolic Urethane Cold Box Core Making				
Catalyst	CB-5	7.20	100.00%	31.54
			Total Potential Emissions:	**31.54**

	Core Machine Scrubber Control Eff.	
Total Controlled Emissions:	98.00%	**0.63**

VOC Emissions Based on Sand Usage

Process	Maximum Sand Usage Rate (tons/hr)	Emission Factor (lb VOC/ton sand)	Potential VOC Emissions (lbs/hr)	Potential VOC Emissions (tons/yr)
CB-5	1.5	0.65	**0.98**	**4.27**

Total Potential VOC Emissions: **35.81**

Total Controlled VOC Emissions: **4.90**

METHODOLOGY

VOC Emissions from Catalyst = Max. Hourly Usage Rate * % VOC * 8760 hrs/yr * 1 ton/2000 lbs
VOC emission factor from a 1997 study performed by the Ohio Cast Metals Association (OCMA).

Appendix A: Grey Iron Foundry Operations
HAP Emission Calculations

Company Name: Grede Foundries, Inc. - New Castle Foundry
Address City IN Zip: 2700 East Plum Street, New Castle, Indiana 47362
Source Mod. No.: 065-12236
Plt ID: 065-00007
Reviewer: Trish Earls
Date: May 1, 2000

Material	Process	Usage Rate (lbs/hr)	Weight % Phenol	Weight % MDI	Weight % Naphthalene	Weight % Polymeric Diphenyl methane	Phenol Emissions (ton/yr)	MDI Emissions (ton/yr)	Naphthalene Emissions (ton/yr)	Formaldehyde Emissions (ton/yr)
Phenolic Urethane Cold Box Core Making										
Part I Binder	CB-5	27.90	6.50%	0.00%	2.00%	0.00%	0.00	0.00	0.08	0.00
Part II Binder	CB-5	20.55	0.00%	42.00%	0.00%	35.00%	0.00	0.00	0.00	0.00
Reduction Factors for Core Making							**0.00**	**0.00**	**0.08**	**0.00**

Pollutant	Binder Reduction Factor
Phenol	0
MDI	0
Naphthalene	0.0325
Polymeric Diphenylmethane	0

Total HAPs (tons/yr)
0.08

Total State Potential Emissions:

METHODOLOGY

HAP Emissions from Resins = Max. Hourly Usage Rate * % HAP * Reduction Factor * 8760 hrs/yr * 1 ton/2000 lbs

Reduction factors obtained from the American Foundrymen's Society Publication entitled "Form R Reporting of Binder Chemicals used in Foundries", and refers to the weight percent of HA to the atmosphere.

Appendix A: Grey Iron Foundry Operations
Overall Potential VOC and PM Emission Calculations
From Sand Mixer and Associated Core Machines

Company Name: Grede Foundries, Inc. - New Castle Foundry
Address City IN Zip: 2700 East Plum Street, New Castle, Indiana 47362
Source Mod. No.: 065-12236
Plt ID: 065-00007
Reviewer: Trish Earls
Date: May 1, 2000

Material	Process	Usage Rate (lbs/hr)	Weight % VOC (DMEA)	VOC Emissions (ton/yr)
Phenolic Urethane Cold Box Core Making				
Catalyst	All Core Mach.	43.20	100.00%	189.22
			Total Potential VOC Emissions:	**189.22**

Core Machine Scrubber Control Eff.	
98.00%	**3.78**

Total Controlled VOC Emissions:

VOC Emissions Based on Sand Usage

Process	Maximum Sand Usage Rate (tons/hr)	Emission Factor (lb VOC/ton sand)	Potential VOC Emissions (lbs/hr)	Potential VOC Emissions (tons/yr)
All Core Mach.	9	0.65	**5.85**	**25.62**

Total Potential VOC Emissions: **214.84**

Total Controlled VOC Emissions: **29.41**

METHODOLOGY
VOC Emissions from Catalyst = Max. Hourly Usage Rate * % VOC * 8760 hrs/yr * 1 ton/2000 lbs
VOC emission factor from a 1997 study performed by the Ohio Cast Metals Association (OCMA).

PM Emissions Based on Sand Usage

Process	Maximum Sand Usage Rate (tons/hr)	PM Emission Factor (lb PM/ton sand)	Potential PM Emissions (lbs/hr)	Potential PM Emissions (tons/yr)
Sand Mixer	9	3.6	**32.40**	**141.91**

Total Potential PM Emissions: **141.91**

Process	Maximum Sand Usage Rate (tons/hr)	PM10 Emission Factor (lb PM/ton sand)	Potential PM10 Emissions (lbs/hr)	Potential PM10 Emissions (tons/yr)
Sand Mixer	9	0.54	**4.86**	**21.29**

Total Potential PM10 Emissions: **21.29**

Baghouse Control Eff.	Controlled PM10 Emissions (tons/yr)	Controlled PM Emissions (tons/yr)
98.00%	**0.43**	**2.84**

METHODOLOGY
PM and PM10 emission factors from USEPA's FIRE version 5.0 Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants, August 1995.

Appendix A: Grey Iron Foundry Operations
Overall Limited VOC and PM Emission Calculations
From Sand Mixer and Associated Core Machines

Company Name: Grede Foundries, Inc. - New Castle Foundry
Address City IN Zip: 2700 East Plum Street, New Castle, Indiana 47362
Source Mod. No.: 065-12236
Plt ID: 065-00007
Reviewer: Trish Earls
Date: May 1, 2000

Material	Process	Usage Rate (lbs/hr)	Weight % VOC (DMEA)	VOC Emissions (ton/yr)
Phenolic Urethane Cold Box Core Making				
Catalyst	All Core Mach.	35.23	100.00%	154.32
			Total Potential Emissions:	**154.32**

Core Machine Scrubber Control Eff.	
Total Controlled Emissions: 98.00%	**3.09**

VOC Emissions Based on Sand Usage

Process	Limited Sand Usage Rate (tons/yr)	Emission Factor (lb VOC/ton sand)	Potential VOC Emissions (lbs/hr)	Potential VOC Emissions (tons/yr)
All Core Mach.	64,335	0.65	**4.77**	**20.91**

Total Potential VOC Emissions:	**175.23**
Total Controlled VOC Emissions:	**24.00**

METHODOLOGY
VOC Emissions from Catalyst = Max. Hourly Usage Rate at limited sand throughput * % VOC * 8760 hrs/yr * 1ton/2000 lbs
VOC emission factor from a 1997 study performed by the Ohio Cast Metals Association (OCMA).

PM Emissions Based on Sand Usage

Process	Limited Sand Usage Rate (tons/hr)	PM Emission Factor (lb PM/ton sand)	Potential PM Emissions (lbs/hr)	Potential PM Emissions (tons/yr)
Sand Mixer	7.34	3.6	**26.44**	**115.80**

Total Limited PM Emissions:	**115.80**

Process	Limited Sand Usage Rate (tons/hr)	PM10 Emission Factor (lb PM/ton sand)	Potential PM10 Emissions (lbs/hr)	Potential PM10 Emissions (tons/yr)
Sand Mixer	7.34	0.54	**3.97**	**17.37**

Total Limited PM10 Emissions:	**17.37**

Baghouse Control Eff.	Controlled PM10 Emissions (tons/yr)	Controlled PM Emissions (tons/yr)
98.00%	**0.35**	**2.32**

METHODOLOGY
PM and PM10 emission factors from USEPA's FIRE version 5.0 Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants, August 1995.