

Mr. William S. Schoonmaker, P.E.  
General Motors Corporation - Powertrain Group  
105 GM Drive  
PO Box 271  
Bedford, Indiana 47421

Re: Interim Minor Permit Revision Approval  
**I-093-10768-00007**

Dear Mr. Schoonmaker:

On March 18, 1999, the Office of Air Management (OAM) received an interim minor permit revision petition from General Motors Corporation - Powertrain Group, 105 GM Drive, Bedford, Indiana. Based on the data and information submitted in the petition and the provisions in 326 IAC 2-13-1, this interim minor permit revision petition is hereby approved for:

**One aluminum holding furnace # 2 with a maximum heat input rate of 25.0 million British thermal units (MMBtu) per hour and a maximum process rate of 11.5 tons of metal per hour. This furnace will replace the existing aluminum holding furnace #2 with a maximum heat input rate of 19.8 MMBtu per hour.**

Detailed conditions will be specified in the final minor permit revision **093-10768-00007**. This interim minor permit revision expires on the effective date of the final minor permit revision. This interim minor permit revision may be revoked after its effective date upon a written finding by the OAM that any of the reasons for denial in 326 IAC 2-13-1(h) exist or if the final minor permit revision is denied. The facilities subject to this approval may not operate until the final minor permit revision is issued by OAM.

Sincerely,

Paul Dubenetzky, Chief  
Permit Branch  
Office of Air Management

MMW

cc: File – Lawrence County  
Air Compliance Section -- Joe Foyst  
Permit Tracking -- Janet Mobley

# **PART 70 MINOR SOURCE MODIFICATION OFFICE OF AIR MANAGEMENT**

**General Motors Corporation - Powertrain Group  
105 GM Drive  
Bedford, Indiana 47421**

(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.: 093-10768-00007	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:



## 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)]

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The Permittee owns and operates an aluminum die casting plant that produces automotive drivetrain parts.

Responsible Official: Mr. John Thomas  
Source Address: 105 GM Drive, Bedford, Indiana, 47421  
Mailing Address: P.O. Box 271, Bedford, Indiana 47421  
Phone Number: 812-279-7222  
SIC Code: 3363, 3365  
County Location: Lawrence  
County Status: Attainment for all criteria pollutants  
Source Status: Part 70 Permit Program  
Minor Source, under PSD Rules

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

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

- (a) One reverberatory holding furnace referred to as RF-2 and as DC MELT B - #2, with a maximum capacity of 11.5 tons of metal per hour and 100 pounds of flux per week, and a maximum heat input capacity of 25.0 million Btu per hour, with emissions uncontrolled and exhausted to stacks 2-1 and 2-2. This furnace will replace the existing reverberatory holding furnace referred to as RF-2 and as DC MELT B - #2, constructed in 1960 with a maximum capacity of 14.4 tons of metal per hour and 100 pounds of flux per week, and a maximum heat input capacity of 19.8 million Btu per hour, with emissions uncontrolled and exhausting to stack 207.

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

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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).

## **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)]**

- (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, and any other certification required under this approval, 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 lack of proper maintenance 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.

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)]

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 unit vented to the control equipment is in operation.

**C.6 Stack Height [326 IAC 1-7]**

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The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using good engineering practices (GEP) pursuant to 326 IAC 1-7-3.

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

**C.7 Performance Testing [326 IAC 3-6]**

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(a) 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 methods 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 Commissioner, 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.8 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]**

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Compliance with applicable requirements shall be documented as required by this approval. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment, no more than ninety (90) days after receipt of this approval. If due to circumstances beyond its control, this schedule cannot be met, the Permittee may extend the compliance schedule 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

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

### **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]**

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- (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]**

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- (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)]**

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- (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 improper maintenance 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 a

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 or semi-annual 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)]**

One reverberatory holding furnace referred to as RF-2 and as DC MELT B - #2, with a maximum capacity of 11.5 tons of metal per hour and 100 pounds of flux per week, and a maximum heat input capacity of 25.0 million Btu per hour, with emissions uncontrolled and exhausted to stacks 2-1 and 2-2. This furnace will replace the existing reverberatory holding furnace referred to as RF-2 and as DC MELT B - #2, constructed in 1960 with a maximum capacity of 14.4 tons of metal per hour and 100 pounds of flux per week, and a maximum heat input capacity of 19.8 million Btu per hour, with emissions uncontrolled and exhausting to stack 207.

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

**D.1.1 Particulate Matter (PM) [326 IAC 6-3]**

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the reverberatory holding furnace RF-2 shall not exceed 21.0 pounds per hour when operating at a process weight rate of 11.5 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and  
P = process weight rate in tons per hour

#### D.1.2 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

The reverberatory holding furnace RF-2 shall not be used as a melting furnace. This limit is necessary in order that the source maintain minor PSD status; therefore, the requirements of 326 IAC 2-2 (PSD) and 40 CFR 52.21 will not apply to units constructed after 1977.

#### D.1.3 Source Modification Rules [326 IAC 2-7-10.5]

- (a) Pursuant to 326 IAC 2-7-10.5 (Source Modification Rules), the existing reverberatory holding furnace RF-2 with a heat input rate of 19.8 MMBtu per hour shall be permanently removed from service upon construction and operation of the new reverberatory holding furnace RF-2 with a heat input rate of 25.0 MMBtu per hour identified in this permit.
- (b) Pursuant to 326 IAC 2-7-10.5(c), the new reverberatory holding furnace RF-2 shall not exceed a maximum heat input capacity of 25.0 MMBtu per hour.

#### D.1.4 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 reverberatory holding furnace.

### **Compliance Determination Requirements**

#### D.1.5 Testing Requirements [326 IAC 2-7-6(1),(6)]

Within 24 months after the issuance of this permit, the Permittee shall perform PM and PM10 testing on the reverberatory furnaces using methods as approved by the Commissioner, in order to demonstrate compliance with condition D.1.1. One or more representative furnaces may be tested instead of testing every furnace if, during protocol review, the OAM Compliance Data Section determines that one or more furnaces can be considered representative of other furnaces. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facilities are in compliance.

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

#### D.1.6 Visible Emissions Notations

- (a) Daily visible emission notations of each of the reverberatory furnace stack exhausts shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

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

**D.1.7 Record Keeping Requirements**

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- (a) To document compliance with Condition D.1.6, the Permittee shall maintain records of daily visible emission notations of each of the reverberatory furnace stack exhausts.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

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

**PART 70 SOURCE MODIFICATION  
CERTIFICATION**

Source Name: General Motors Corporation  
Source Address: 105 GM Drive, Bedford, Indiana 47421  
Mailing Address: P.O. Box 271, Bedford, Indiana 47421  
Source Modification No.: 093-10768-00007

**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**  
 Technical Support Document (TSD) for a Minor Source Modification  
 to a Part 70 Operating Permit

**Source Background and Description**

Source Name:	General Motors Corporation - Powertrain Group
Source Location:	105 GM Drive, Bedford, Indiana 47421
County:	Lawrence
SIC Code:	3363, 3365
Operation Permit No.:	T 093-5652-00007
Source or Permit Modification No.:	093-10768-00007
Permit Reviewer:	Michele M. Williams

The Office of Air Management (OAM) has reviewed a modification application from General Motors Corporation - Powertrain Group, relating to the operation of an aluminum die casting plant that produces automotive drivetrain parts.

**History**

On January 7, 1998, General Motors Corporation - Powertrain Group submitted an application to the OAM requesting to add one reverberatory holding furnace referred to as RF-2 and as DC MELT B - #2, with a maximum capacity of 11.5 tons of metal per hour and 100 pounds of flux per week, and a maximum heat input capacity of 25.0 million Btu per hour, with emissions uncontrolled and exhausted to stacks 2-1 and 2-2. This furnace will replace the existing reverberatory holding furnace referred to as RF-2 and as DC MELT B - #2, constructed in 1960 with a maximum capacity of 14.4 tons of metal per hour and 100 pounds of flux per week, and a maximum heat input capacity of 19.8 million Btu per hour, with emissions uncontrolled and exhausting to stack 207.

**Stack Summary**

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
2-1	Holding Furnaces	51	4.58	27,095	490
2-2	Holding Furnaces	39	3.5	36,005	120

**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 March 18, 1999.

**Emission Calculations**

The calculations submitted by the applicant have been verified and found to be accurate and correct. These calculations are provided in Appendix A of this document.

- (a) General Motors Corporation - Powertrain Group is proposing to replace the reverberatory holding furnace RF-2. The existing furnace is rated at 19.8 MMBtu per hour and the

- proposed furnace is rated at 25 MMBtu per hour. Because the furnace is a new unit, the total emissions from the new unit were calculated to determine permitting requirements.
- (b) The existing reverberatory holding furnace RF-2 has a maximum process rate of 14.4 tons of aluminum per hour. Based on the information provided in the application, the new reverberatory holding furnace RF-2 has a maximum process rate of 11.5 tons of aluminum per hour. Because the maximum throughput rate of the new unit is less than the existing unit, there is no emissions increase associated with the melting activities of the process.

### Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit (PTE) 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	0.83
PM-10	0.83
SO <sub>2</sub>	0.07
VOC	0.60
CO	9.20
NO <sub>x</sub>	10.95

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

- (a) The potential emissions (as defined in 326 IAC 1-2-55) from this modification project (construction of a new reverberatory holding furnace) are less than 25 tons per year for each criteria pollutant. Therefore, this modification project is defined as a minor source modification subject to the provisions of 326 IAC 2-7-10.5.
- (b) The PTE from this modification project are less than the PSD significant threshold levels defined in 326 IAC 2-2-1(w). Therefore, this modification project is not subject to the prevention of significant deterioration (PSD) requirements pursuant to 326 IAC 2-2.

### County Attainment Status

The source is located in Lawrence County.

Pollutant	Status
PM-10	Attainment
SO <sub>2</sub>	Attainment
NO <sub>2</sub>	Attainment
Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) are precursors for the formation of ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the ozone standards. Lawrence County has been designated

as attainment or unclassifiable for ozone.

### **Federal Rule Applicability**

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to the proposed reverberatory holding furnace.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR art 63) applicable to the proposed reverberatory holding furnace.

### **State Rule Applicability - Individual Facilities**

#### 326 IAC 5-1 (Visible Emissions 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 6-3-2 (Process Operations)

The particulate matter (PM) from the reverberatory holding furnace RF-2 shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

Based on calculations made, the reverberatory furnaces are in compliance with this requirement.

### **Compliance Requirements**

Permits issued under 326 IAC 2-7 are 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.

### **Compliance Monitoring - Reverberatory Holding Furnace #2**

The reverberatory furnaces have applicable compliance monitoring conditions as specified below:

- (a) Daily visible emissions notations of each of the reverberatory furnaces stack exhausts shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.
- (b) Within 24 months after issuance of this permit, the Permittee shall perform PM and PM10 emissions testing utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance.

These monitoring conditions are necessary in order to ensure compliance with 326 IAC 6-3 (Process Operations) and 326 IAC 5-1 (Opacity).

### **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.

None of the listed air toxics will be emitted from the proposed reverberatory holding furnace.

### **Conclusion**

The operation of this reverberatory holding furnace, referred to as RF-2, shall be subject to the conditions of the attached proposed **Minor Source Modification No. 093-10768-00007**.