



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

TO: Interested Parties / Applicant
DATE: June 23, 2006
RE: General Motors Powertrain- Bedford / 093-23139I-00007
FROM: Nisha Sizemore
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNPER.dot 1/10/05



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr.
Governor

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Jeffrey Hummel
General Motors Corporation-GM Powertrain Group, Bedford Plant
105 GM Drive
Bedford, Indiana 47421

June 23, 2006

Re: Interim Significant Source Modification Petition
093-23139I-00007

Dear Mr. Hummel:

On May 26, 2006, the Office of Air Quality (OAQ), received an interim significant source modification petition from General Motors Corporation-GM Powertrain Group, Bedford Plant, located at 105 GM Drive, Bedford, Indiana. Based on the data and supplemental information submitted in the interim petition and the provisions of 326 IAC 2-13-1, this interim petition to construct is hereby approved for the following:

One (1) natural gas-fired dry hearth furnace, identified as DC No. 9, with a maximum heat input capacity of 90 million British thermal units per hour (MMBtu/hr) and a maximum capacity of 22.5 tons of aluminum per hour.

The public notice of the interim significant source modification petition was published on June 2, 2006, in Times-Mail, Bedford, Indiana. The public comment period ended on June 16, 2006. There were no comments received during the public comment period.

The interim significant source modification petition may be revoked after this effective date upon a written finding by the Indiana Department of Environmental Management (IDEM) that any of the reasons for denial in 326 IAC 2-13-1(h) exist or if the final significant source modification is denied. The IDEM has reviewed this interim significant source modification petition and has not found any such reason.

The interim significant source modification petition is federally enforceable. Pursuant to 326 IAC 2-13-1(j)(1), this interim significant source modification expires on the effective date of the final significant source modification **093-23139-00007**. Detailed conditions will be specified in the final significant source modification. The facilities subject to this approval may not operate until a final significant source modification is issued by OAQ.

General Motors Corporation-GM Powertrain Group, Bedford Plant
Bedford, Indiana
Reviewer: Aida De Guzman

Page 2 of 2
Interim # 093-23139I-00007

If you have any questions regarding this interim significant source modification petition, please contact Aida De Guzman of my staff at 317-233-4972, or at 1-800-451-6027 (ask for extension 3-4972).

Sincerely,
Original signed by
Nisha Sizemore, Chief
Permits Branch
Office of Air Quality

APD

Enclosure: Interim Permit Evaluation (3 pages)
Petition for Interim Significant Source Modification
cc: File -- Lawrence County
Lawrence County Health Department
Air Compliance Section --Jim Thorpe
Permit Tracking

Indiana Department of Environmental Management Office of Air Quality

Interim Significant Source Modification Evaluation

Company Name: General Motors Corporation-GM Powertrain Group, Bedford Plant	
Location:	105 GM Drive, Bedford, Indiana 47421
Permit No:	093-23139I-00007
Permit Reviewer: Aida De Guzman Date Receipt of Application: 5/26/06 Supplemental Information Received: June 20, 2006	
Description of the interim construction: Construction of a new Furnace, ID #9	
Date the Supplemental Information on the Application was received + 19 days = July 9, 2006 Public Notice – June 2, 2006 PN Ended – June 16, 2006	

Interim Petition Applicability: 326 IAC 2-13-1

- (a) Existing Source with valid permit;
- (b) Exemptions:
- (1) construction of a PSD source or PSD modification;
 - (2) construction or modification in nonattainment area that would emit those pollutants for which the nonattainment designation is based.
 - (3) any modification subject to 326 IAC 2-4.1.
- (c) Approve or deny the interim minor permit revision or minor source modification in writing within 19 calendar days, or it becomes the enforceable interim minor permit revision or minor source modification. [326 IAC 2-13-1(d)]

Instructions: Check () appropriate answers and make a recommendation.

1. Did the applicant submit a written petition for an interim minor permit revision or minor source modification?
 Yes Go to question 2.
 No Ignore verbal request.
2. Did the applicant pay the \$500 interim permit fee?
 Yes Go to question 3.
 No Deny the application, pursuant to 326 IAC 2-13-1(c)(1).
3. Did the applicant state acceptance of federal enforceability of an interim minor permit revision or minor source modification?
 Yes Go to question 4.
 No Deny the application, pursuant to 326 IAC 2-13-1(c)(2)(D).
4. Did the applicant or its authorized agent sign the application?
 Yes Go to question 5.
 No Deny the application, pursuant to 326 IAC 2-13-1(c)(2)(E).
5. Did the applicant submit a notarized affidavit stating that the applicant will proceed at its own risk (if the interim minor permit revision or minor source modification is issued), including, but not limited to:
 - (a) Financial risk,
 - (b) Risk that additional emission controls may be required,
 - (c) Risk that the final minor permit revision or minor source modification may be denied. Yes Go to question 6.

No Deny the application, pursuant to 326 IAC 2-13-1(c)(2)(F).

6. Did the applicant begin construction prior to submitting the interim minor permit revision or minor source modification application?

Yes Deny the application, pursuant to 326 IAC 2-13-1(h)(6).

No Go to question 7.

7. What is the type of the interim construction?

New Source Deny the application, pursuant to 326 IAC 2-13-1(a)

Modification to an existing source Go to question 8.

8. Did the applicant present data in the interim minor permit revision or minor source modification that is sufficient to determine PSD, NSPS, NESHAP, and state rule compliance?

Yes Go to question 9.

No Deny the application pursuant to:
326 IAC 2-13-1(c)(2)(B), for PSD ;
326 IAC 2-13-1(c)(2)(C), for NSPS or NESHAP;
326 IAC 2-13-1(c)(2)(C), for state rules.

9. Is the proposed revision/modification to be located in a nonattainment area?

Yes Go to question 10.

No Go to question 11. County: Lawrence County

10. Will the proposed modification emit the pollutant for which the area is nonattainment in quantities greater than the significant levels?

Yes Deny the application, pursuant to 326 IAC 2-13-1(a)(2).

No Go to question 11.

11. Did the petition include a complete description of the process?

Yes Go to question 12.

No Deny the petition, pursuant to 326 IAC 2-13-1(c)(2)(B).

12. Did the interim minor permit revision or minor source modification petition contain conditions accepting either emission controls (baghouse, afterburners, scrubbers, etc.) or enforceable limits or other suitable restriction to avoid PSD applicability; as well as control parameters (incinerator operating temperature, baghouse pressure drop, etc.)? The specific limits must be explicitly spelled out (i.e.: The gas consumption of the boiler shall not exceed 29 million cubic feet per month.) A statement such as that the company agrees to conditions such that PSD rules are not applicable is not acceptable.

Yes Go to question 13.

No Deny the application, pursuant to 326 IAC 2-13-1(c)(2)(B).

13. Do the emission controls and/or throughput limits prevent PSD applicability?

Yes Go to question 14.

No Deny the application, pursuant to 326 IAC 2-13-1(c)(2)(B).

14. Will the modification, after application of all emission controls and/or throughput limitations comply with all applicable New Source Performance Standards (NSPS) (40 CFR 60)?

Yes Go to question 15.

No Deny the application, pursuant to 326 IAC 2-13-1(c)(2)(C).

15. Will the modification, after application of all emission controls and/or throughput limitations comply with all applicable National Emission Standards for Hazardous Air Pollutants (NESHAP)?

Yes Go to question 16.

- No Deny the application, pursuant to 326 IAC 2-13-1(c)(2)(C).
16. Will the modification, after application of all emission controls and/or throughput limitations, comply with all applicable state rules?
 Yes Go to question 17.
 No Deny the application, pursuant to 326 IAC 2-13-1(c)(2)(C).
17. Does the applicant dispute applicability of any applicable state or federal rule?
 Yes Deny the application, pursuant to 326 IAC 2-13-1(c)(2)(C).
 No Go to question 18.
18. Is there good reason to believe that the applicant does not intend to construct in accordance with the interim minor permit revision or minor source modification petition?
 Yes Deny the application, pursuant to 326 IAC 2-13-1(h)(1).
 No Go to question 19.
19. Is there a good reason to believe that information in the petition has been falsified?
 Yes Deny the application, pursuant to 326 IAC 2-13-1(h)(7).
 No Approve the interim minor permit revision or minor source modification petition.

Recommendation: Approve Interim Petition

Date the approval was drafted:

Method of informing the applicant: Phone: (812) 279-7271

Comments:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT**

PETITION FOR INTERIM APPROVAL FOR MODIFICATION

Source Name: General Motors Corporation – GM Powertrain Group, Bedford Plant
 Source Address: 105 GM Drive, Bedford, Indiana 47421
 Mailing Address: 105 GM Drive, Bedford, Indiana 47421
 SIC Code: 3363 and 3365

Description of the Operation or Equipment:

GM Powertrain operates an existing Aluminum Die Cast Foundry in Bedford, Indiana. The facility modification for which we are seeking a source modification is a new dry hearth furnace, identified as #9, which is intended to replace existing furnace #3. In addition to the new #9 furnace, the melter portion of the reverberatory furnace complex #6 will be moved to the area currently occupied by reverberatory furnace #7. Reverberatory furnaces #3 and #7 will be removed from service. In addition, reverberatory furnaces #5, #16 and #19 and crusher operations will be retired by the end of 2006, but not dismantled and removed from the facility.

- (1) One new Dry Hearth Furnace, identified as DC No. 9, with a maximum capacity of 22.5 tons of aluminum melted per hour and 90 MMBtu per hour of heat input, combusting only natural gas, emissions exhausting to stacks 9-1, 9-2, and 9-3, uncontrolled.
- (2) No change in emissions will result from moving the existing reverberatory furnace complex # 6 within the plant.

Emissions Summary for Proposed #9 Dry Hearth Furnace

Rated Melt Capacity	#9 system 22.5 tons/hr						
Rated Capacity	#9 system 90 MMBtu/hr						
Description	PM	PM₁₀	Lead	SO₂	NO_x	VOC	CO
#9 Melt Emission Factors, lbs/ton	1.93	1.93	NA	-	-	-	-
Combustion Emission Factors, lbs/MMcf	7.6	7.6	NA	0.6	100.0	5.5	84
#9 Furnace Melt Emissions, lbs/hr	43.43	43.43	Trace	-	-	-	-
#9 Furnace Combustion Emissions, lbs/hr.	0.68	0.68	Trace	0.05	9.0	0.50	7.56
Total Emissions, lbs/hr	44.11	44.11	Trace	0.05	9	0.50	7.56
Total Emissions, tons/yr	193.2	193.2	Trace	0.24	39.42	2.17	33.11

PSD Requirements:

No additional emission limit for the proposed #9 dry hearth furnace will be requested by the source. Its emissions will be included with the existing furnaces limits. The source's existing furnaces are currently limited to the following limits to avoid 326 IAC 2-2 (PSD) requirements for the furnaces constructed after 1977, and to keep the source minor under 326 IAC 2-2 (PSD).

- (1) The total melt capacity for the entire facility shall be limited to 175,000 tons per twelve (12) consecutive month period.
- (2) PM and PM₁₀ emissions from each furnace at the facility shall be limited to 1.78 pounds per ton of metal melted averaged over the melt cycle.
- (3) The amount of organic flux used in all of the furnaces combined shall not exceed 34,909 pounds per twelve (12) consecutive month period, where 100 pounds of inorganic flux is equivalent to 1 pound of organic flux.
- (4) The Permittee shall not melt any post-consumer scrap materials in any of the furnaces at this source. Only General Motors returns and/or returns from non-General Motors sources where the composition of the purchased returns have at least the same quality as the General Motors returns shall be melted in any of the furnaces. The non-General Motors returns shall be specified contractually, and the quality of the returns shall be controlled contractually. Therefore, this source is not considered a secondary metal production facility and is therefore, not one of the 28 listed source categories.

NSPS Requirements:

There are no NSPS standards that would apply to the proposed modification.

NESHAP Requirements:

This facility is an area source under the Clean Air Act Section 112. Therefore, only the area source requirements of 40 CFR 63 Subpart RRR apply to this facility.

State Rule Requirements:

- (a) **326 IAC 2-2, Prevention of Significant Determination (PSD) Minor Status and HAPs Minor Source Status (Title V Condition D.3.2):**
- (1) The total melt capacity for the entire facility shall be limited to 175,000 tons per twelve (12) consecutive month period.
 - (2) PM and PM₁₀ emissions from each furnace at the facility shall be limited to 1.78 pounds per ton of metal melted averaged over the melt cycle.
 - (3) The amount of organic flux used in all of the furnaces combined shall not exceed 34,909 pounds per twelve (12) consecutive month period, where 100 pounds of inorganic flux is equivalent to 1 pound of organic flux.
 - (4) The HCl emissions from the use of organic flux shall not exceed 0.55 pounds per pound of organic flux used.
 - (5) The HF emissions from the use of organic flux shall not exceed 0.06 pounds per pound of organic flux used.
 - (6) The hexachloroethane emissions from the use of organic flux shall not exceed 0.004 pounds per pound of organic flux used.
 - (7) The HCl emissions from the use of inorganic flux shall not exceed 0.005 pounds per pound of inorganic flux used.

- (8) The HF emissions from the use of inorganic flux shall not exceed 0.03 pounds per pound of inorganic flux used.
- (9) The Permittee shall not melt any post-consumer scrap materials in any of the furnaces at this source. Only General Motors returns and/or returns from non-General Motors sources where the composition of the purchased returns have at least the same quality as the General Motors returns shall be melted in any of the furnaces. The non-General Motors returns shall be specified contractually, and the quality of the returns shall be controlled contractually. Therefore, this source is not considered a secondary metal production facility and is therefore, not one of the 28 listed source categories.

These limitations shall limit emissions to less than 250 tons per year, to keep the source minor under 326 IAC 2-2 (PSD). Emissions from the proposed furnace will be included under this limitation.

- (b) **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 Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (1) 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.
- (2) 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) 326 IAC 6-3-2, Particulate Emission Limitations:
The pounds per hour limitations were calculated with the following equation:

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

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and}$$
$$P = \text{process weight rate in tons per hour}$$
$$E = 4.10 (22.5)^{0.67}$$
$$= 33 \text{ lb/hr}$$

Based on the supplemental information submitted on June 20, 2006, the Permittee inadvertently used the emission factor of 1.78 lb/ton that is in Condition D.3.2 of the TV permit 093-5652-00007, to calculate the PTE from the new furnace. Using this emission factor resulted in noncompliance with the 326 IAC 6-3-2 PM allowable emissions. This emission factor was verified through a stack testing, and resulted in a much lower emissions at 0.286 lb/ton. Instead of using 0.286 lb/ton in the PTE calculation, the Permittee proposed to use a more restrictive emission factor of 1.28 lb/ton in order to comply with 326 IAC 6-3-2.

- (d) **Recordkeeping**

- (1) The Permittee shall keep records of the amount of metal melted in all of the furnaces combined, each month of operation.

- (2) The Permittee shall keep records of the amount of organic flux used in all of the furnaces combined, each month of operation.
- (3) The Permittee shall keep records of the amount of inorganic flux used in all of the furnaces combined, each month of operation.
- (4) The Permittee shall keep records of the type of scrap used in the furnaces.

(e) **Reporting**

- (1) In accordance with the compliance schedule specified in 326 IAC 2-6-3(b)(3) starting in 2006 and every three (3) years thereafter, the Permittee shall submit by July 1 an emission statement covering the previous calendar year.
- (2) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in its Title V permit, including emission limitations, standards, or work practices.
- (3) The source shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent within thirty (30) days of the end of the reporting period.

Federal Enforceability:

General Motors Corporation – GM Powertrain Group, Bedford Plant consents to the federal enforceability of this interim approval for modification.

Signature: _____
Printed Name: John Lancaster
Title or Position: Plant Manager
Date: _____

No. 9 DRY HEARTH FURNACE

CAPACITY

Activity	SCC Code	Rated Capacity	Units	Maximum Capacity	Units
No. 9 Dry Hearth: Melting	30400302	22.5	TM/Hr	197,100	TM/Yr
No. 9 Dry Hearth: Natural Gas	10300602	90.0	MMBtu/hr	0.090	MMcf/hr

SCC - Source Classification Code

POTENTIALS TO EMIT

No. 9 DRY HEARTH FURNACE				
Criteria Pollutant	Emission			
	Factor	Units	(lbs/hr)	(tons/yr)
PM	1.93	lbs/TMC	43.43	190.20
PM ₁₀	1.93	lbs/TMC	43.43	190.20
PM _{2.5}	1.93	lbs/TMC	43.43	190.20
Lead	NA	lbs/TMC	Trace	Trace
SO ₂	0.00	lbs/TMC	0.00	0.00
VOC	0.00	lbs/TMC	0.00	0.00
CO	0.00	lbs/TMC	0.00	0.00

Emission factor based on #10 stack test on 9/25/2002 - 1.93 lb/ton.

No. 9 Dry Hearth Furnace: Natural Gas Combustion				
Criteria Pollutant	Emission			
	Factor	Units	(lbs/hr)	(tons/yr)
PM	7.6	lbs/MMcf	0.68	3.00
PM ₁₀	7.6	lbs/MMcf	0.68	3.00
PM _{2.5}	7.6	lbs/MMcf	0.68	3.00
Lead	NA	lbs/MMcf	Trace	Trace
SO ₂	0.6	lbs/MMcf	0.05	0.24
NO _x	100.0	lbs/MMcf	9.00	39.42
VOC	5.5	lbs/MMcf	0.50	2.17
CO	84.0	lbs/MMcf	7.56	33.11

EF source: AP-42 natural gas combustion

TM/hr = tons of Aluminum melted /hour

ALLOWABLE EMISSIONS vs. POTENTIAL TO EMIT PM

Activity	Rated Capacity	Units	Emission Factor: PM	Units	Potential to Emit (lbs PM/hr)	Allowable Emissions (lbs PM/hr)
DRY HEARTH FUR	22.5	TM/Hr	1.93	lbs/TMC	43.43	33.02

$$326 \text{ IAC } 6-3: \text{ lbs PM/hr} = 4.10 \times (\text{tons/hr process rate})^{0.67}$$

$$= 4.10(22.5)^{0.67}$$

The new No. 9 Dry Hearth Furnace has a PTE (43.43 lb/hr) greater than the allowable (33.02 lb/hr). However, it would included in the existing furnaces allowable emissions.