

Mr. James DeLuca
General Motors Corporation
12200 Lafayette Center Road
Roanoke, IN 46783

Re: Significant Source Modification No:
003-12830-00036

Dear Mr. DeLuca:

General Motors Corporation applied for a Part 70 operating permit on May 29, 1996 for the Ft. Wayne Assembly Plant. An application to modify the source was received on October 5, 2000. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

Twenty (20) natural gas fired burners, known as MOD 1 through MOD 10 (each mod contains two burners), located in the paint booth air supply houses, with emissions exhausted through stack S04, each burner rated at 12.6 million British thermal units per hour.

The Significant Source Modification approval will be incorporated into the pending Part 70 permit application pursuant to 326 IAC 2-7-10.5(l)(3). If there are no changes to the proposed construction of the emission units, the source may begin operating on the date that IDEM receives an affidavit of construction pursuant to 326 IAC 2-7-10.5(h). If there are any changes to the proposed construction the source can not operate until an Operation Permit Validation Letter is issued.

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 (800) 451-6027, press 0 and ask for Patrick T. Brennan, c/o OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 631-691-3395 or in Indiana at 1-800-451-6027 (ext 631-691-3395).

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments
PTB/MES

cc: File - Allen County
U.S. EPA, Region V
Allen County Health Department
Air Compliance Section Inspector - Jennifer Dorn
Compliance Data Section - Mendy Jones
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

PART 70 SIGNIFICANT SOURCE MODIFICATION

Office of Air Quality

**General Motors Corporation
12200 Lafayette Center Road
Roanoke, IN 46783**

(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.: 003-12830-00036	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	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 Quality (OAQ). 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 an automobile and light duty truck assembly plant.

Responsible Official: James Deluca
Source Address: 12200 Lafayette Center Road, Roanoke, IN 46783
Mailing Address: 12200 Lafayette Center Road, Roanoke, IN 46783
SIC Code: 3711
County Location: Allen
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:

Twenty (20) natural gas-fired burners known as MOD 1 through MOD 10 air supply house burners (each mod air supply house contains two burners) with emissions exhausted through the booth stacks which are denoted as S04, each burner is rated at 12.6 million British thermal units per hour.

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

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

B.3 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.

B.4 Significant Source Modification [326 IAC 2-7-10.5(h)]

This document shall also become the approval to operate pursuant to 326 IAC 2-7-10.5(h) when, prior to start of operation, the following requirements are met:

(a) The attached affidavit of construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section, verifying that the emission units were constructed as proposed in the application. The emissions units covered in the Significant Source Modification approval may begin operating on the date the affidavit of construction is postmarked or hand delivered to IDEM if constructed as proposed.

- (b) If actual construction of the emissions units differs from the construction proposed in the application, the source may not begin operation until the source modification has been revised pursuant to 326 IAC 2-7-11 or 326 IAC 2-7-12 and an Operation Permit Validation Letter is issued.
- (c) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
- (d) The Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.

However, in the event that the Title V application is being processed at the same time as this application, the following additional procedures shall be followed for obtaining the right to operate:

- (1) If the Title V draft permit has not gone on public notice, then the change/addition covered by the Significant Source Modification will be included in the Title V draft.
- (2) If the Title V permit has gone thru final EPA proposal and would be issued ahead of the Significant Source Modification, the Significant Source Modification will go thru a concurrent 45 day EPA review. Then the Significant Source Modification will be incorporated into the final Title V permit at the time of issuance.
- (3) If the Title V permit has not gone thru final EPA review and would be issued after the Significant Source Modification is issued, then the Modification would be added to the proposed Title V permit, and the Title V permit will issued after EPA review.

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, using the attached Certification Form, with each submittal requiring certification.
- (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 but no more than 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 Quality
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, OAQ, upon request and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.
- (d) Records of preventive maintenance shall be retained for a period of at least five (5) years. These records shall be kept at the source location for a minimum of three (3) years. 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 request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

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 Quality
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).
- (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 alternative opacity limitations), 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 by statute, rule, or 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, OAQ.

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 Quality
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, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAQ, if the source submits to IDEM, OAQ, 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 2-7-5(3)] [326 IAC 2-7-6(1)]

Compliance with applicable requirements shall be documented as required by this approval. Unless otherwise specified in this approval, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of approval issuance. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
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.8 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 response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, 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 response actions are being implemented. IDEM, OAQ shall notify the Permittee within thirty (30) days, if the response actions taken are deficient. The Permittee shall submit a description of additional response actions taken to IDEM, OAQ within thirty (30) days of receipt of the notice of deficiency. IDEM, OAQ 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, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ 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.9 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.10 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

- (a) Records of all required data, reports 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, OAQ, 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) All record keeping requirements not already legally required shall be implemented within ninety (90) days of approval issuance.

C.11 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 Quality
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, OAQ, 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 report does 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)]: Paint Booth Air Supply House

Twenty (20) natural gas-fired burners known as MOD 1 through MOD 10 air supply house burners (each mod air supply house contains two burners) with emissions exhausted through the booth stacks which are denoted as S04, each burner is rated at 12.6 million British thermal units per hour.

(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 NO_x [326 IAC 2-2]

- (a) The natural gas throughput to the twenty (20) natural gas-fired burners shall be limited such that NO_x emissions are less than thirty and five tenths (30.5) tons per consecutive twelve (12) month period. Therefore, the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) do not apply.
- (b) The emission factors for natural gas combustion approved by IDEM shall be taken from Chapter 1.4 of U.S. EPA publication AP-42, Compilation of Air Pollution Emission Factors, July 1998. The current emission factor for uncontrolled emissions from natural gas combustion sources less than 100 MMBtu per hour heat input is 100 pounds of NO_x per million standard cubic feet of natural gas. Based upon this factor, 30.5 tons of NO_x is equivalent to combustion of six hundred and ten (610) million cubic feet of natural gas.
- (c) Natural gas throughput to the twenty (20) natural gas-fired burners shall therefore be limited to six hundred and ten (610) million cubic feet of natural gas per 12 consecutive month period. In the event that the natural gas combustion factors in AP-42 are revised, the source shall make appropriate adjustments to the allowable natural gas throughput to ensure that NO_x emissions are less than thirty and five tenths (30.5) tons per year per consecutive twelve (12) month period.

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

D.1.2 Record Keeping Requirements

- (a) To document compliance with Condition D.1.1, the Permittee shall maintain records of the natural gas usage monthly.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.3 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 require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
Office of Air Quality
COMPLIANCE DATA SECTION

PART 70 SOURCE MODIFICATION
CERTIFICATION

Source Name: General Motors Corporation
Source Address: 12200 Lafayette Center Road, Roanoke, IN 46783
Mailing Address: 12200 Lafayette Center Road, Roanoke, IN 46783
Source Modification No.: 003-12830-00036

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 Quality
 COMPLIANCE DATA SECTION**

Part 70 Source Modification Quarterly Report

Source Name: General Motors Corporation
 Source Address: 12200 Lafayette Center Road, Roanoke, IN 46783
 Mailing Address: 12200 Lafayette Center Road, Roanoke, IN 46783
 Source Modification No.: 003-12830-00036
 Facility: Twenty (20) natural gas-fired burners, known as MOD 1 through MOD 10 (each mod contains two burners)
 Parameter: Natural gas fuel usage

Limit: The natural gas throughput to the twenty (20) natural gas-fired burners shall be limited such that NO_x emissions are less than thirty and five tenths (30.5) tons per consecutive twelve (12) month period.

The emission factors for natural gas combustion approved by IDEM shall be taken from Chapter 1.4 of U.S. EPA publication AP-42, Compilation of Air Pollution Emission Factors, July 1998. The current emission factor for uncontrolled emissions from natural gas combustion sources less than 100 MMBtu per hour heat input is 100 pounds of NO_x per million standard cubic feet of natural gas. Based upon this factor, 30.5 tons of NO_x is equivalent to combustion of six hundred and ten (610) million cubic feet of natural gas.

Natural gas throughput to the twenty (20) natural gas-fired burners shall therefore be limited to six hundred and ten (610) million cubic feet of natural gas per 12 consecutive month period. In the event that the natural gas combustion factors in AP-42 are revised, the source shall make appropriate adjustments to the allowable natural gas throughput to ensure that NO_x emissions are less than thirty and five tenths (30.5) tons per year per consecutive twelve (12) month period.

YEAR: _____

Month	Natural Gas Usage (MMCF)	Natural Gas Usage (MMCF)	Natural Gas Usage (MMCF)
	This Month	Previous 11 Months	12 Month Total

- 9 No deviation occurred in this month.
- 9 Deviation/s occurred in this month.
 Deviation has been reported on: _____

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

Attach a signed certification to complete this report.

Mail to: Permit Administration & Development Section
Office of Air Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015

General Motors Corporation
12200 Lafayette Center Road
Roanoke, IN 46783

Affidavit of Construction

I, _____, being duly sworn upon my oath, depose and say:
(Name of the Authorized Representative)

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.

2. I hold the position of _____ for _____.
(Title) (Company Name)

3. By virtue of my position with _____, I have personal knowledge of the
(Company Name)
representations contained in this affidavit and am authorized to make these representations on behalf of
_____.
(Company Name)

4. I hereby certify that General Motors Corporation, 12200 Lafayette Center Road, Roanoke, IN 46783, completed construction of the 20 natural gas-fired burners on _____ in conformity with the requirements and intent of the Part 70 Operating Permit application received by the Office of Air Management on October 5, 2000, and as permitted pursuant to **SSM 003-12830, Plant ID No. T 003-00036** issued on _____.

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

Signature

Date

STATE OF INDIANA)
)SS

COUNTY OF _____)

Subscribed and sworn to me, a notary public in and for _____ County and State of
Indiana on this _____ day of _____, 20 _____.

My Commission expires: _____.

Signature

Name (typed or printed)

Indiana Department of Environmental Management Office of Air Management

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

Source Background and Description

Source Name:	General Motors Corporation
Source Location:	12200 Lafayette Center Road, Roanoke, IN 46783
County:	Allen
SIC Code:	3711
Operation Permit No.:	T 003-5959-00036
Operation Permit Issuance Date:	Not Yet Issued
Significant Source Modification No.:	SSM 003-12830-00036
Permit Reviewer:	Patrick Brennan/MES

The Office of Air Management (OAM) has reviewed a modification application from General Motors Corporation relating to the construction of the following emission units and pollution control devices:

Twenty (20) natural gas-fired burners, known as MOD 1 through MOD 10 (each mod contains two burners), located in the paint booth air supply houses, with emissions exhausted through stack S04, each burner rated at 12.6 million British thermal units per hour.

History

On October 5, 2000, General Motors Corporation submitted an application to the OAM requesting to convert 20 paint booth air supply houses at the Fort Wayne Assembly Plant from steam to direct fired natural gas. This conversion is to allow for more efficient control of paint booth temperature and relative humidity. The source applied for a Part 70 permit on May 29, 1996. The Part 70 permit is currently in preparation. Therefore, this application is being processed as a significant source modification to a Part 70 permit yet to be issued.

Existing Approvals

The source applied for a Part 70 Operating Permit T 003-5959-00036 on May 29, 1996. The source has been operating under previous approvals including, but not limited to the following:

- (a) PSD (02) 1575, issued on November 30, 1984,
- (b) CP 003-3069, issued on May 31, 1994,
- (c) OP 35-12-90-0146 through -0158, and -0160,
- (d) CP 003-3418-00036, issued on August 3, 1994,
- (e) R 003-5142-00036, issued on July 24, 1996,

- (f) E 003-5854-00036, issued on July 15, 1996,
- (g) R 003-9181-00036, issued on February 9, 1998,
- (h) E 003-10352-00036, issued on March 30, 1999, and
- (i) Amendment 003-10921-00036, issued on June 1, 1999.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the Part 70 Significant 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 October 5, 2000.

Emission Calculations

See pages 1 and 2 of 2 of Appendix A of this document for detailed emissions calculations.

Potential To Emit of 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.”

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	8.39
PM ₁₀	8.39
SO ₂	0.66
VOC	6.07
CO	92.7
NO _x	110.4

HAPs	Potential To Emit (tons/year)
Formaldehyde	0.08
Hexane	1.99
TOTAL	2.07

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 1998 OAM emission data.

Pollutant	Actual Emissions (tons/year)
PM	48.7
PM ₁₀	48.7
SO ₂	4.46
VOC	1701
CO	30.13
NO _x	117
HAPs	>10 of single, >25 of combined

County Attainment Status

The source is located in Allen 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 (NO_x) 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. Allen County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Allen County has been classified as attainment or unclassifiable for the remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

- (c) **Fugitive Emissions**
 Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive PM emissions are not counted toward determination of PSD and Emission Offset applicability.

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	75
PM ₁₀	75
SO ₂	2,730
VOC	3,204
CO	<250
NO _x	361

- (a) This existing source is a major stationary source because an attainment regulated pollutant is emitted at a rate of two hundred fifty (250) tons per year or more, and it is not one of the 28 listed source categories.
- (b) These emissions are based upon technical support document for the draft Part 70 permit for the source.

Potential to Emit of Modification After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

Pollutant	PM (tons/yr)	PM₁₀ (tons/yr)	SO₂ (tons/yr)	VOC (tons/yr)	CO (tons/yr)	NO_x (tons/yr)
Proposed Modification	2.32	2.32	0.182	1.68	25.6	30.5
PSD or Offset Significant Level	25	15	40	40	100	40

- (a) 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.
- (b) NO_x is limited to 30.5 tons per year. Therefore, the requirements of 326 IAC 2-2 do not apply. This limit is equivalent to a natural gas throughput of 610 million cubic feet of gas per year, as shown on page 1 of Appendix A.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source has submitted their Part 70 (T 003-5959-00036) application on May 29, 1996. The natural gas fired burners being reviewed under this permit shall be incorporated in the submitted Part 70 application.

Justification for Modification

- (a) The Part 70 Operating Permit is being modified through a Part 70 Significant Source Modification to a yet to be issued Part 70 Operating Permit because the potential to emit before controls of this modification exceeds twenty five (25) tons of NO_x and CO per year. This modification is being performed pursuant to 326 IAC 2-7-10.5(f)(4).
- (b) Since the Part 70 Operating Permit for this source has not been issued yet, the approval of this Significant Source Modification will allow the source to construct and operate.

Federal Rule Applicability

- (a) This minor modification does not involve a pollutant-specific emissions unit with the potential to emit after control in an amount equal to or greater than 100 tons per year. Therefore, the requirements of 40 CFR Part 64, Compliance Assurance Monitoring, are not applicable.
- (b) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.
- (c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this proposed modification.

State Rule Applicability - Individual Facilities

326 IAC 2-4.1-1 (New Source Toxics Control)

The potential to emit (PTE) of combined hazardous air pollutants (HAPs) from the 20 natural gas-fired burners is less than twenty-five (25) tons per year and the potential to emit (PTE) of any single HAP is less than ten (10) tons per year. See page 2 of Appendix A of the TSD for detailed calculations. Therefore, the requirements of this rule do not apply.

326 IAC 5-1 (Opacity Emissions 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:

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

This rule is not applicable to the 20 natural gas-fired burners because while the units will be constructed after January 1, 1980, the potential uncontrolled VOC emissions are less than twenty-five (25) tons per year.

326 IAC 7-1.1 (Sulfur dioxide emission limitations)

This rule is not applicable to the 20 natural gas-fired burners because the potential uncontrolled SO₂ emissions are less than twenty-five (25) tons per year.

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.

There are no compliance monitoring requirements applicable to this modification.

Conclusion

The construction and operation of the 20 natural gas-fired burners shall be subject to the conditions of the attached proposed Significant Source Modification No. 003-12830-00036.

Indiana Department of Environmental Management Office of Air Quality

Addendum to the Technical Support Document for a Significant Source Modification to a Part 70 Operating Permit

Source Name:	General Motors Corporation
Source Location:	12200 Lafayette Center Road, Roanoke, IN 46783
County:	Allen
SIC Code:	3711
Operation Permit No.:	T 003-5959-00036
Significant Source Modification No.:	SSM 003-12830-00036
Permit Reviewer:	Patrick T. Brennan

On December 9, 2000, the Office of Air Quality (OAQ) had a notice published in the Fort Wayne Journal Gazette, Fort Wayne, Indiana, stating that General Motors Corporation had applied for a Significant Source Modification to a Part 70 Operating Permit to construct twenty (20) natural gas-fired burners in the paint booth air supply houses. The notice also stated that OAQ proposed to issue a Significant Source Modification and provided information on how the public could review the proposed Significant Source Modification and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this Significant Source Modification to a Part 70 Operating Permit should be issued as proposed.

Applicant Comments:

On January 4, 2001, George Kioultzopoulos of General Motors Corporation, submitted comments on the proposed Significant Source Modification to the Part 70 Operating Permit. The comments are as follows: The permit language, if changed, has deleted language as ~~strikeouts~~ and new language **bolded**.

Comment 1:

Section A.2: Change description to read:

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

Twenty (20) natural gas-fired burners known as MOD 1 through MOD 10 air supply house burners (each mod air supply house contains two burners) with emissions exhausted through the booth stacks which are denoted as S04, each burner is rated at 12.6 million British thermal units per hour.

Response 1:

The equipment description in Section A.2 has been revised as follows:

Twenty (20) natural gas-fired burners, known as MOD 1 through MOD 10 **air supply house burners** (each mod **air supply house** contains two burners), ~~located in the paint booth air supply houses,~~ with emissions exhausted through **the booth stacks which are denoted as S04**, each burner **is** rated at 12.6 million British thermal units per hour.

Comment 2:

Section D.1: Change description to read:

Twenty (20) natural gas-fired burners known as MOD 1 through MOD 10 air supply house burners (each mod air supply house contains two burners) with emissions exhausted through the booth stacks which is denoted as S04, each burner is rated at 12.6 million British thermal units per hour.

Response 2:

The equipment description in Section A.2 has been revised as follows:

Twenty (20) natural gas-fired burners, known as MOD 1 through MOD 10 **air supply house burners** (each mod **air supply house** contains two burners), ~~located in the paint booth air supply houses,~~ with emissions exhausted through **the booth stacks which are denoted as S04**, each burner is rated at 12.6 million British thermal units per hour.

Public Comments:

On January 2, 2001, Stephen A. Loeschner, resident, submitted comments on the proposed Significant Source Modification to the Part 70 Operating Permit. The comments are as follows: The permit language, if changed, has deleted language as ~~strikeouts~~ and new language **bolded**.

This is written comment in re modification permit draft 003-12830-00036, General Motors, Allen County, Indiana ("GM, 12830") under cover of [40 CFR] Part 70 title page.

To avoid Best Available Control Technology ("BACT") and many other permitting requirements that are part of the 42 USC 7470 et seq., 40 CFR 52.21 and 326 IAC 2-2 Prevention of Significant Deterioration ("PSD") program, the Indiana Department of Environmental Management ("DEM") relied on the 40 ton per year ("tpy") nitrogen oxides ("NO_x") threshold of 40 CFR 52.21(b)(23)(i) and 326 IAC 2-2-1(w)(2), and it imposed a natural gas ("gas") fuel limitation of 610 million [standard] cubic feet ("scf") per year in 12830 para. D.1.1. I believe DEM made a typographical error in reference, "3/98" should be "7/98" in Appendix A to the 12830 Technical Support Document ("TSD").

DEM applied the USEPA publication AP-42, Volume I, 5th edition, Chapter 1.4, Supplement D, July 1998 ("AP-42"), emission factor of 100 pounds NO_x per million scf gas to conclude that the annual calculated estimated emission of 30.5 tpy of NO_x, being less than 40, was sufficient to avoid PSD permit requirements. DEM used the carbon monoxide ("CO"), formaldehyde ("H₂CO"), and hexane factors from the same document (Tables 1.4-1, -2 and -3).

This is placing a lot of faith in AP-42; faith that may be excessive. For the same document that has the 100 pounds NO_x per million scf gas has 0.075 pounds H₂CO, 1.8 pounds hexane, 2.6 pounds pentane, 2.1 pounds butane, 1.6 pounds propane, 3.1 pounds ethane, and 2.3 pounds methane (all per million scf gas). The C4 - C6 compounds are presumed to be the sum of all isomers.

You need not add many of those to exceed 5.5 pounds of hydrocarbons ("HC") per million scf gas; yet 5.5 pounds is the AP-42 "VOC" emission factor. For example, the C3 - C5 non-methane HC sum to 6.3 pounds. In law, regulation and or rule, Volatile Organic Compounds exclude legion HC. Are any of the C3 - C6 excluded? If there is 1.8 pounds of hexane expected, there surely are

significant heptanes too. Are isomers of heptane VOC? What about unsaturated HC like propene and butenes? It reasonably appears that AP-42 is a self-impeaching document. There is no reason to place more confidence in the AP-42 NO_x factor than the AP-42 VOC factor. The actual NO_x factor may be in the area of 200 - 250 pounds per million scf gas.

In simple terms, H₂CO is half-burned methane, a very much expected product of incomplete combustion. Methane is the principal component of gas. What all the other constituents of gas are is rather unknown, however moderate amounts of ethane and ethylene are expected. The alkane normal hexane and the several other hexane isomers may appear as a tiny part of gas, but due to their condensing at several pipeline pressures and temperatures and various pipeline liquid removal traps, not much is expected in gas. None the less, hexanes may be in gas, and when passed through the burner to be combusted, a tiny fraction of the tiny original may be emitted with no reaction having taken place. It may also be possible for some of the other portions of gas to be reassembled into hexanes within the combustion process. And, a molecule of hexane is more than 2.86 times the weight of a molecule of H₂CO giving an appearance skew to a weight-based factor.

The AP-42 factors and DEM's application of them may be entirely correct. However, all of those possibilities do not rise to a 24:1 weight ratio favorable to hexane over H₂CO. It is reasonably DEM's duty to inquire into the improbable chemistry, and to offer technical explanation for the apparent inconsistency. The amounts of totally unburned C₂ - C₆ HC and the lack of mention of aldehydes as classes, other than H₂CO (and absence of acetaldehyde, propionaldehyde, and other 42 USC 7412(b)(1) hazardous air pollutants ("HAP")), is of concern in placing trust in AP-42 no matter that DEM and scores of other permitting agencies use it as a "safe harbor" in decision making. The validity of the CO, NO_x, VOC, H₂CO and C₂ - C₆ HC and oxy-HC data should be revisited to assure confidence and or correct error.

I find nowhere within 12830 a NO_x chemical test of the actual equipment; a satisfactory NO_x emission versus quantity of fuel ratio. DEM is to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. As written, 12830 makes a legal mockery of that requirement. The absence is arbitrary, capricious and an abuse of discretion directly contumacious of 40 CFR 70.6(c), for without testing, there is no evidence whatsoever that there ever was compliance.

Absent those limits and tests, there is no reason to believe that the actual NO_x emission from burning 610 million scf gas will not exceed 40 tons. Thus, this GM modification should be subject to all (inclusive) of the PSD program requirements and DEM be required to do BACT analysis of control strategies and costs for several levels of control in accordance with USEPA guidance; the 1990 New Source Review Workshop Manual.

The "Actual Emissions" table on 12830 TSD page 3 reflects 1998 data. Why was 1999 data not supplied? Provide it if it is available now. And for both years: The 1998 117 tons total site NO_x seems rather low. How was it derived? How many million scf gas were used by GM? What percentage of the combustion effluent therefrom passed through continuous NO_x emission monitor(s)? What was their aggregate record? Given the 3+ significant digits presented for 1998 CO and VOC, why is something similar not presented for HAP rather than the cryptic >10 tpy single, >25 tpy total? What is the DEM policy for concealing the actual HAP quantities, as this characteristic is common to many DEM TSD's? What chemical(s) are >10 tpy GM HAP?

OAQ Response:

This comment questions the general validity of the AP-42 emission factors, plus asks some specific questions. The OAQ responses are as follows:

AP-42

The US EPA publishes emission factors in its Compilation of Air Pollution Emissions Factors, Publication No. AP-42. This document was first published in 1972 as the primary compilation of EPA's emission factor information. It has been continually revised and updated since then, as new data and information become available. AP-42 is the primary source of information for Federal, State and local agencies, consultants and industry to develop inventories and quantify emissions of air pollutants for various industrial sources, for ambient air impact analyses and State Implementations Plans (SIPs). Section 1.4 of AP-42, Natural Gas Combustion, is published by the Emission Factor Inventory Group (EFIG) of the EPA Office of Air Quality Planning and Standards (OAQPS).

Section 1.4 of AP-42 was updated in 1998 to incorporate newly available data for emissions from natural gas combustion. This new information included improved volatile organic compound (VOC) and particulate matter (PM) emission factors, and a review of new data for the remaining criteria pollutants. The section also included an expanded hazardous air pollutant emission factor list, in response to the upcoming NESHAP for natural gas combustion.

In developing the revised Section 1.4 of AP-42, EPA reviewed all available references containing natural gas emission factors, and rated the quality of the information in each reference on an A, B, C and D scale. In evaluating the quality of a data set, the EPA relied on four criteria; 1) the representativeness of the source operation, 2) the test methods and sampling procedures, 3) the sampling and process data itself, i.e., were there large variations or was the data consistent, and 4) the degree of detail provided for the data analysis and emission factor calculations. There was no specific formula to weigh the scores on the four criteria, but the most emphasis was given to item 2, the test methods and sampling procedures, and item 3, the sampling and process data quality.

Only those references given an overall rating of A were included in the revised analysis. This consisted of 42 data sets.

AP-42 is generally considered to provide a conservative estimate of source emissions in lieu of actual stack test data. The IDEM Office of Air Quality believes that use of these emission factors is sufficient to protect the public health and ensure compliance with both Federal and State air regulations. The introduction to AP-42 states that these factors are "assumed to be representative of long-term averages," such as those utilized to determine PSD applicability.

It is beyond the scope of the OAQ permitting process to reevaluate the scientific basis of a particular AP-42 emission factor unless OAQ has specific reservations regarding the factors. OAQ has no such reservations regarding use of the AP-42 factors for natural gas combustion.

VOC Emission Estimates

The commenter cites the apparent inconsistency in AP-42 when VOC emissions are estimated using the "VOC" emission factor as opposed to calculating and summing the individual speciated components. On this basis, the commenter questions whether AP-42 is a "self-impeaching" document. OAQ believes that a more complete understanding of the data and methods which underlie the AP-42 estimates will prove useful.

Specifically, the emission rate estimate cited for "VOC" is the average of all of the acceptable results of tests of this source type where total VOC emissions were quantified, likely without speciation. Likewise, the emissions estimates cited for each of the "speciated organic compounds" is the average of the acceptable results of the tests of this source type where that specific "species" was quantified.

Since the tests which yield results for specific "species" are merely a subset of the tests which yield results for total VOC, it is unlikely that the estimates from the two methods would produce an exact correlation. This is not "self-impeaching" but rather reflects the limitations of statistical methods when applied to limited data sets.

Potential HAP Emissions

The commenter expresses a concern that various components in the natural gas supply, as well as numerous products of incomplete combustion, are Hazardous Air Pollutants (HAP) which may represent a concern to the community.

IDEM is aware of the potential for HAP emissions from the incomplete combustion of natural gas. However, IDEM is aware of no post-process control devices which cost-effectively reduce HAP emissions from natural gas combustion. In fact, natural gas afterburners are the most common post-process control devices to reduce HAPs. It would obviously be redundant, and highly energy intensive, to consider natural gas afterburners on this process.

Based upon the AP-42 emission factors, the potential HAPs emissions from the combustion of 30.5 million standard cubic feet of natural gas in the air booth supply houses are as follows:

HAPs Emissions From 20 Natural Gas Fired Burners	Limited Potential To Emit (tons/year)
Benzene	0.00064
Dichlorobenzene	0.00037
Formaldehyde	0.02287
Hexane	0.54894
Toluene	0.00104
Lead	0.00015
Cadmium	0.00034
Chromium	0.00042
Manganese	0.00012
Nickel	0.00064
Total HAPs	0.57550

Source Testing

Source testing is not required for the natural gas fired burners permitted in this significant source modification. OAQ requires source testing only if stipulated by an applicable NESHAP or NSPS, if the source is subject to 326 IAC 6-1 (nonattainment area particulate limitations), if a control device is required to meet the requirements of a specific rule or a synthetic minor limit, or if no applicable emission factor exists for the process. None of these criteria are applicable to this modification. An applicable AP-42 emission factor does exist, and OAQ believes that factor provides adequate assurance that the source will comply with the limit of 30.5 tons of NO_x per twelve (12) consecutive month period. In addition, the source has the option of conducting a stack test if they are not in agreement with the emission factors utilized by the OAQ in the permitting process. The source has not objected to use of the AP-42 factors.

BACT Analysis

The General Motors Corporation is an existing major source. The source has agreed to limit natural gas usage from the twenty (20) natural gas-fired burners to 610 million standard cubic feet per consecutive 12 month period, which is the equivalent of 30.5 tons of NO_x emissions per year. Because the NO_x emissions from this modification are less than the 40 ton per year NO_x PSD significance level, the requirements of 326 IAC 2-2 do not apply. Therefore a PSD review and Best Available Control Technology (BACT) analysis are not required.

Actual Emissions/Natural Gas Usage

Actual emissions from calendar year 1998 were used in the preparation of the Technical Support Document for the draft permit package. 1998 was the most recent year available at the time the draft permit was prepared. The applicant subsequently submitted revised 1998 emissions calculations, as well as emissions for 1999. The revised 1998 emissions were lower than previously reported in the TSD. The 1999 actual emissions are very similar to the values in the TSD.

The revised actual emissions data are listed in the table below.

Pollutant	Actual Emissions (tons/year)	
	1998	1999
PM	33.8	44.7
PM ₁₀	33.8	44.7
SO ₂	0.36	0.55
VOC	1021	1418
CO	23.3	35.2
NO _x	81.9	118

The annual NO_x emissions were calculated from natural gas usage using AP-42 emission factors. Plant wide natural gas usage was 1204.8 mmcf in 1998, and 1817.6 mmcf in 1999. This usage was spread among a variety of facilities including boilers, space heaters, drying ovens, and VOC control devices such as thermal incinerators and catalytic oxidizers. NO_x emissions from these facilities are calculated using mix of AP-42 emissions factors, which can be found in the annual air emission statement submitted by the source.

The applicant has also submitted revised emissions of HAPs, which were reported as >10 tons of a single HAP, and > 25 tons of combined HAPs in the TSD. The revised emissions are as follows:

Hazardous Air Pollutant	Actual Emissions (tons/year)	
	1998	1999
Xylene	133	43.1
Toluene	46.4	13.6
Methanol	27.4	7.39
MEK	3.03	3.95
Ethyl Benzene	35.6	5.45
MIK	10.6	7.64
Total HAPs	260	82.8

Date of AP-42 Revision

The comment is correct, Section 1.4 of AP-42 was revised in July 1998, not March 1998 as indicated in the legend to the emissions calculation spreadsheet used in Appendix A to the TSD.

IDEM OAQ Changes

Upon further review, the OAQ has decided to make the following changes to the Significant Source Modification to a Part 70 Operating Permit: The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language is **bolded**):

1. As of January 1, 2001, the name of the IDEM Office of Air Management (OAM) has been changed to the IDEM Office of Air Quality (OAQ). All references in the permit to the Office of Air Management (OAM) have been changed to the Office of Air Quality (OAQ).
2. The NO_x limit in Condition D.1.1 has been revised to make specific reference to the emission factors used. The revised condition and revised reporting form are as follows.

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

D.1.1 NO_x [326 IAC 2-2]

- (a) **The natural gas throughput to the twenty (20) natural gas-fired burners shall be limited such that NO_x emissions are less than thirty and five tenths (30.5) tons per consecutive twelve (12) month period. Therefore, the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) do not apply.**
- (b) **The emission factors for natural gas combustion approved by IDEM shall be taken from Chapter 1.4 of U.S. EPA publication AP-42, Compilation of Air Pollution Emission Factors, July 1998. The current emission factor for uncontrolled emissions from natural gas combustion sources less than 100 MMBtu per hour heat input is 100 pounds of NO_x per million standard cubic feet of natural gas. Based upon this factor, 30.5 tons of NO_x is equivalent to combustion of six hundred and ten (610) million cubic feet of natural gas.**

- (c) **Natural gas throughput to the twenty (20) natural gas-fired burners shall therefore be limited to six hundred and ten (610) million cubic feet of natural gas per 12 consecutive month period. In the event that the natural gas combustion factors in AP-42 are revised, the source shall make appropriate adjustments to the allowable natural gas throughput to ensure that NO_x emissions are less than thirty and five tenths (30.5) tons per year per consecutive twelve (12) month period.**

~~The natural gas throughput to the twenty (20) natural gas-fired burners shall be limited to six hundred and ten (610) million cubic feet per twelve (12) consecutive month period, equivalent to NO_x emissions of thirty and five tenths (30.5) tons per year. Therefore, the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) do not apply.~~

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 Office of Air Quality
 COMPLIANCE DATA SECTION**

Part 70 Source Modification Quarterly Report

Source Name: General Motors Corporation
 Source Address: 12200 Lafayette Center Road, Roanoke, IN 46783
 Mailing Address: 12200 Lafayette Center Road, Roanoke, IN 46783
 Source Modification No.: 003-12830-00036
 Facility: Twenty (20) natural gas-fired burners, known as MOD 1 through MOD 10 (each mod contains two burners)
 Parameter: Natural gas fuel usage
 Limit: ~~Total 610 million cubic feet per twelve (12) consecutive month period~~

The natural gas throughput to the twenty (20) natural gas-fired burners shall be limited such that NO_x emissions are less than thirty and five tenths (30.5) tons per consecutive twelve (12) month period.

The emission factors for natural gas combustion approved by IDEM shall be taken from Chapter 1.4 of U.S. EPA publication AP-42, Compilation of Air Pollution Emission Factors, July 1998. The current emission factor for uncontrolled emissions from natural gas combustion sources less than 100 MMBtu per hour heat input is 100 pounds of NO_x per million standard cubic feet of natural gas. Based upon this factor, 30.5 tons of NO_x is equivalent to combustion of six hundred and ten (610) million cubic feet of natural gas.

Natural gas throughput to the twenty (20) natural gas-fired burners shall therefore be limited to six hundred and ten (610) million cubic feet of natural gas per 12 consecutive month period. In the event that the natural gas combustion factors in AP-42 are revised, the source shall make appropriate adjustments to the allowable natural gas throughput to ensure that NO_x emissions are less than thirty and five tenths (30.5) tons per year per consecutive twelve (12) month period.

YEAR: _____

Month	Natural Gas Usage (MMCF)	Natural Gas Usage (MMCF)	Natural Gas Usage (MMCF)
	This Month	Previous 11 Months	12 Month Total

9 No deviation occurred in this month.
 9 Deviation/s occurred in this month.
 Deviation has been reported on: _____
 Submitted by: _____
 Title/Position: _____
 Signature: _____
 Date: _____
 Phone: _____

Attach a signed certification to complete this report.

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100**

**Company Name: General Motors Corporation
Address City IN Zip: 12200 Lafayette Center Road, Roanoke, IN 46783
SSM: 003-12830
Pit ID: 003-00036
Reviewer: Patrick Brennan
Date: October 5, 2000**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
252.0	2207.5

	Pollutant					
Emission Factor in lb/MMCF	PM 7.6	PM10 7.6	SO2 0.6	NOx 100.0 *see below	VOC 5.5	CO 84.0
Potential Emission in tons/yr	8.39	8.39	0.66	110.38	6.07	92.72

Note: NOx emissions will be limited to 30.5 tons per year. This limit is equivalent to a natural gas throughput of 610 MMCF/yr.

This limitation is calculated as follows:

$$(30.5 \text{ TPY (limited NOx PTE)}) / (110.38 \text{ TPY (NOx PTE)}) * 2207.5 \text{ MMCF/year (potential NG throughput)} = 610 \text{ MMCF/yr (limited NG throughput)}$$

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

PM emission factors are condensable and filterable.

$$\text{Potential Throughput (MMCF)} = \text{Heat Input Capacity (MMBtu/hr)} \times 8,760 \text{ hrs/yr} \times 1 \text{ MMCF/1,000 MMBtu}$$

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

$$\text{Emission (tons/yr)} = \text{Throughput (MMCF/yr)} \times \text{Emission Factor (lb/MMCF)} / 2,000 \text{ lb/ton}$$

See page 2 for HAPs emissions calculations.

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100**

HAPs Emissions

**Company Name: General Motors Corporation
Address City IN Zip: 12200 Lafayette Center Road, Roanoke, IN 46783
SSM: 003-12830
Pit ID: 003-00036
Reviewer: Patrick Brennan
Date: October 5, 2000**

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	0.00	0.00	0.08	1.99	0.00

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	0.00	0.00	0.00	0.00	0.00

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.