FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
and
INDIANAPOLIS OFFICE OF ENVIRONMENTAL SERVICES

Allison Transmission, General Motors Corporation
Eagle Creek Technology Center
6040 West 62nd Street
Indianapolis, Indiana 46278

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit 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 2-8 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.

Operation Permit No.: F097-15984-00333	
Issued by: Originally signed by: John B. Chavez, Administrator Indianapolis Office of Environmental Services	Issuance Date: July 2, 2003 Expiration Date: July 2, 2008

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SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) and City of Indianapolis Office of Environmental Services (OES). The information describing the source contained in conditions A.1 through A.3 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 permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates stationary diesel, natural gas, and gasoline engine test cells operation.

Authorized individual:	Richard J. Luke, General Director - Indianapolis Operations
Source Address:	6040 West 62nd Street, Indianapolis, Indiana 46278
Mailing Address:	4700 W. 10th Street (M-29), Indianapolis, IN 46222
General Source Phone:	317-242-3666
SIC Code:	8731
Source Location Status:	Marion Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit (FESOP) Minor Source under PSD Minor Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

The source consists of the following permitted emission units and pollution control devices:

Six (6) Transmission Test Cells, identified as Emission Units EC130, EC131, EC132, EC133, EC134, and EC135, using Diesel Fuel, Gasoline, or Natural Gas Reciprocating Engines. The emissions from each test cell EC130 - EC135 are exhausted out stacks EC130 - EC135 respectively.

The test cells EU EC131, EC132, EC133, and EC134 were constructed in 1992. According to Interim Permit 097-15984i-00333, issued on September 19, 2002, the test cells EU EC131, EC132, EC133, and EC134 were modified in 2002, to allow gasoline engines usage alternatively with diesel engines; the test cell E130 was constructed in 2002, and the test cell E135 is planned to be constructed in 2003.

Engines of a fuel type and size up to the sizes listed in the table below can be used in any one of the individual test cells mentioned above.

Type of Fuel	Maximum Unit Capacity (HP)	Heat Input (MMBtu/hr)
Gasoline	340	3.68
Diesel	400	2.77
Natural Gas	400	2.47

A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

(a) Two (2) natural gas-fired boilers with heat input equal or less than (10) million Btu per hour, identified as Emission Units B-1 and B-2, 2.396 MMBtu/hr each.

(b) Storage tanks emitting less than one (1) ton per year of a single HAP and less than fifteen (15) pounds per day of VOC:

(1) one (1) 2,000 gallon gasoline above ground storage tank, identified as GC-1;

(2) one (1) 3,000 gallon diesel oil underground storage tank, identified as DC-1.

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ), and Indianapolis Office of Environmental Services (OES) for a Federally Enforceable State Operating Permit (FESOP).

A.5 Prior Permits Superseded [326 IAC 2-1.1-9.5]

(a) All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either

(1) incorporated as originally stated,

(2) revised, or

(3) deleted

by this permit.

(b) All previous registrations and permits are superseded by this permit.

SECTION B GENERAL CONDITIONS

B.1 Permit No Defense [IC 13]

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a FESOP under 326 IAC 2-8.

B.2 Definitions [326 IAC 2-8-1]

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

B.3 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5]

This permit is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date.

B.4 Enforceability [326 IAC 2-8-6]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, OAQ, OES, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Termination of Right to Operate [326 IAC 2-8-9] [326 IAC 2-8-3(h)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-9.

B.6 Severability [326 IAC 2-8-4(4)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.7 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]

This permit does not convey any property rights of any sort, or any exclusive privilege.

B.8 Duty to Provide Information [326 IAC 2-8-4(5)(E)]

(a) The Permittee shall furnish to IDEM, OAQ, and OES within a reasonable time, any information that IDEM, OAQ, and OES, may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1). Upon request, the Permittee shall also furnish to IDEM, OAQ, and OES copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1 When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.9 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAQ and OES may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

B.10 Compliance with Permit Conditions [326 IAC 2-8-4(5)(A)] [326 IAC 2-8-4(5)(B)]

(a) The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for:

(1) Enforcement action;

(2) Permit termination, revocation and reissuance, or modification; and

(3) Denial of a permit renewal application.

(b) It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(c) An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

B.11 Certification [326 IAC 2-8-3(d)] [326 IAC 2-8-4(3)(C)(i)] [326 IAC 2-8-5(1)]

(a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by an authorized individual 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) An authorized individual is defined at 326 IAC 2-1.1-1(1).

B.12 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

(a) 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 this permit, including emission limitations, standards, or work practices. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in letter form no later than April 15 of each year to:

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

and

Indianapolis Office of Environmental Services
2700 South Belmont Avenue,
Indianapolis, Indiana 46221

(b) The annual compliance certification report required by this permit 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 and OES on or before the date it is due.

(a) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and

(5) Such other facts as specified in Sections D of this permit, IDEM, OAQ and OES may require to determine the compliance status of the source.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.13 Preventive Maintenance Plan [326 IAC 1-6-3] [326 IAC 2-8-4(9)] [326 IAC 2-8-5(a)(1)]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, 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; and

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

If due to circumstances beyond the Permittee's control, the PMPs 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

and

Indianapolis Office of Environmental Services
2700 South Belmont Avenue,
Indianapolis, Indiana 46221

The PMP extension notification does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) The Permittee shall implement the PMPs, including any required record keeping, as necessary to ensure that failure to implement a PMP does not cause or contribute to an exceedance of any limitation on emissions or potential to emit.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ and OES upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ and OES. IDEM, OAQ and OES may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMP does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.14 Emergency Provisions [326 IAC 2-8-12]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation, except as provided in 326 IAC 2-8-12.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describes the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ and OES within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

IDEM, OAQ:
Telephone No.: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section) or,
Telephone No.: 317-233-5674 (ask for Compliance Section)

Facsimile No.: 317-233-5967

OES:
Telephone No.: 317-327-2234
Facsimile No.: 317-327-2274

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

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

and

Indianapolis Office of Environmental Services
2700 South Belmont Avenue,
Indianapolis, Indiana 46221

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-8-4(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) IDEM, OAQ and OES, may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ and OES, by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.

(g) Operations may continue during an emergency only if the following conditions are met:

(1 If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

(2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:

(A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and

(B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

(h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]

(a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provision), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported 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

and

Indianapolis Office of Environmental Services
2700 South Belmont Avenue,
Indianapolis, Indiana 46221

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does need to be included in this report.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).

(b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

B.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-8-4(5)(C)] [326 IAC 2-8-7(a)] [326 IAC 2-8-8]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a FESOP modification, revocation and

reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if the IDEM, OAQ or OES determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]

(c) Proceedings by the IDEM, OAQ and OES to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the IDEM, OAQ and OES, at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ and OES may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

B.17 Permit Renewal [326 IAC 2-8-3(h)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and OES and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

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

and

Indianapolis Office of Environmental Services
2700 South Belmont Avenue,
Indianapolis, Indiana 46221

(b) Timely Submittal of Permit Renewal [326 IAC 2-8-3]

(1) A timely renewal application is one that is:

(A) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(B) 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 and OES on or before the date it is due.

(2) If IDEM, OAQ and OES upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied.

(c) Right to Operate After Application for Renewal [326 IAC 2-8-9]
If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ and OES takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ and OES, any additional information identified as needed to process the application.

B.18 Permit Amendment or Revision [326 IAC 2-8-10] [326 IAC 2-8-11.1]

(a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit 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

and

Indianapolis Office of Environmental Services
2700 South Belmont Avenue,
Indianapolis, Indiana 46221

Any such application shall be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) The Permittee may implement the administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.19 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

(a) The Permittee may make any change or changes at this source that are described in 326 IAC 2-8-15(b) through (d), without prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any approval required by 326 IAC 2-8-11.1 has been obtained;

(3) The changes do not result in emissions which exceed the emissions allowable

under this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

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

and

Indianapolis Office of Environmental Services
2700 South Belmont Avenue,
Indianapolis, Indiana 46221

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

(5) The Permittee maintains records on-site which document, on a rolling five (5) year basis, all such changes and emissions trading that are subject to 326 IAC 2-8-15(b) through (d) and makes such records available, upon reasonable request, to public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ and OES in the notices specified in 326 IAC 2-8-15(b)(2), (c)(1), and (d).

(b) Emission Trades [326 IAC 2-8-15(c)]
The Permittee may trade increases and decreases in emissions in the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(c).

(c) Alternative Operating Scenarios [326 IAC 2-8-15(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ or U.S. EPA is required.

B.20 Permit Revision Requirement [326 IAC 2-8-11.1]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-8-11.1.

B.21 Inspection and Entry [326 IAC 2-8-5(a)(2)] [IC 13-14-2-2] [IC 13-30-3-1]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ OES, and U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) As authorized by the Clean Air Act, IC 13-14-22, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) As authorized by the Clean Air Act, IC 13-14-22, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) As authorized by the Clean Air Act, IC 13-14-22, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) As authorized by the Clean Air Act, IC 13-14-22, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.22 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

(a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application 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

and

Indianapolis Office of Environmental Services
2700 South Belmont Avenue
Indianapolis, Indiana 46221

The application which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.

(b) Failure to pay may result in administrative enforcement action, or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4320 (ask for OAQ, I/M & Billing Section), to determine the appropriate permit fee.

B.24 Advanced Source Modification Approval [326 IAC 2-8-4(11)] [326 IAC 2-1.1-9]

(a) The requirements to obtain a permit revision under 326 IAC 2-8-11.1 are satisfied by this permit for the proposed emission units, control equipment or insignificant activities in Sections A.2 and A.3.

(b) Pursuant to 326 IAC 2-1.1-9 any permit authorizing construction may be revoked if construction of the emission unit has not commenced within eighteen (18) months from the date of issuance of the permit, or if during the construction work is suspended for a continuous period of one (1) year or more.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emissions Limitations and Standards [326 IAC 2-8-4(1)]

C.1 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

(1) The potential to emit any regulated pollutant from the entire source shall be limited to less than one-hundred (100) tons per twelve (12) consecutive month period. This limitation shall also make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

(2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and

(3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(b) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(c) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.2 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 permit:

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 thirty percent (30%) 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.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2(3)]
The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and in 326 IAC 9-1-2.

C.5 Fugitive Dust Emissions [326 IAC 6-4]
The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

C.6 Operation of Equipment [326 IAC 2-8-5(a)(4)]
Except as otherwise provided by statute, rule or in this permit, all air pollution control equipment listed in this permit 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.

C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]
The Permittee shall comply with the applicable requirements of 326 IAC 14-10, 326 IAC 18, and 40 CFR 61.140.

Testing Requirements [326 IAC 2-8-4(3)]

C.8 Performance Testing [326 IAC 3-6]

(a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, 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 permit, 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

and

Indianapolis Office of Environmental Services
2700 South Belmont Avenue,
Indianapolis, Indiana 46221

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ and OES not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ and OES if the source submits to IDEM, OAQ and OES a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.9 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

C.10 Compliance Monitoring [326 IAC 2-8-4(3)] [326 IAC 2-8-5(a)(1)]

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. If required by Section D, 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

and

Indianapolis Office of Environmental Services
2700 South Belmont Avenue,
Indianapolis, Indiana 46221

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

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Unless otherwise specified in the approval for the new emissions unit, compliance monitoring for new emission units or emission units added through a permit revision shall be implemented when operation begins.

C.11 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing performed required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60 Appendix B, 40 CFR 63 or other approved methods as specified in this permit.

Corrective Actions and Response Steps [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

C.12 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) These ERPs shall be submitted for approval to:

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

and

Indianapolis Office of Environmental Services
2700 South Belmont Avenue,
Indianapolis, Indiana 46221

within ninety (90) days from the date of issuance of this permit.

(c) If the ERP is disapproved by IDEM, OAQ and OES, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.

(d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.

(e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.

(f) Upon direct notification by IDEM, OAQ and OES that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.13 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]

If a regulated substance, as defined in the 40 CFR 68, is present at a source in more than a threshold quantity, source must comply with the applicable requirements of 40 CFR 68.

C.14 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4] [326 IAC 2-8-5]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ and OES within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.

(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 and OES that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.

(c) IDEM, OAQ and OES reserve the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

C.15 Emission Statement [326 IAC 2-6] [326 IAC 2-8-4(3)]

(a) The Permittee shall submit an emission statement certified pursuant to the requirements of 326 IAC 2-6. This statement must be received in accordance with the compliance

schedule specified in 326 IAC 2-6-3 and must comply with the minimum requirements specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8). The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

and

Indianapolis Office of Environmental Services
Air Compliance
2700 South Belmont Avenue,
Indianapolis, Indiana 46221

The emission statement does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) The emission statement required by this permit 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 and OES on or before the date it is due.

C.16 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

(a) Records of all required data, reports and support information required by this permit 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 physically present or electronically accessible 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 OES Administrator makes a request for records to the Permittee, the Permittee shall furnish the records to the OES Administrator within a reasonable time.

(b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.17 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

(a) The source shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "authorized individual" as defined by 326 IAC2-1.1-1(1).

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

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

and

Indianapolis Office of Environmental Services
Air Compliance
2700 South Belmont Avenue,
Indianapolis, Indiana 46221

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit 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 and OES on or before the date it is due.

(d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(e) The first report covered the period commencing on the date of issuance of the original FESOP and ended on the last day of the reporting period. All subsequent reporting periods shall be based on calendar years.

Stratospheric Ozone Protection

C.18 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with the standards for recycling and emissions reduction:

(a) Persons opening appliances for maintenance, service, repair or disposal must comply with the required practices pursuant to 40 CFR 82.156

(b) Equipment used during the maintenance, service, repair or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

(c) Persons performing maintenance, service, repair or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION D.1 FACILITY OPERATION CONDITIONS

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

Facility Description [326 IAC 2-8-4(10)]:

(a) Six (6) Transmission Test Cells, identified as Emission Units EC130, EC131, EC132, EC133, EC134, and EC135, using Diesel Fuel, Gasoline, or Natural Gas Reciprocating Engines. The emissions from each test cell EC130 - EC135 are exhausted out stacks EC130 - EC135 respectively.

The test cells EU EC131, EC132, EC133, and EC134 were constructed in 1992. According to Interim Permit 097-15984i-00333, issued on September 19, 2002, the test cells EU EC131, EC132, EC133, and EC134 were modified in 2002, to allow gasoline engines usage alternatively with diesel engines; the test cell E130 was constructed in 2002, and the test cell E135 is planned to be constructed in 2003.

Engines of a fuel type and size up to the sizes listed in the table below can be used in any one of the individual test cells mentioned above.

Type of Fuel	Maximum Unit Capacity (HP)	Heat Input (MMBtu/hr)
Gasoline	340	3.68
Diesel	400	2.77
Natural Gas	400	2.47

(The information describing the process contained in this facility description box is descriptive

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.1.1 Carbon Monoxide (CO) and Nitrogen Oxides (NOx) [326 IAC 2–8-4]

Pursuant to 326 IAC 326 2-8-4, the source wide NOx and CO emissions shall be limited to less than one hundred (100) tons per year such that it does not fall within any of the categories listed in 326 IAC 2-7-2(a) and that assure compliance with all applicable requirements at the time of FESOP issuance (See Emissions Calculations, Appendix A). The following limits shall apply to assure compliance with this rule:

(a) Carbon Monoxide (CO)

The input of gasoline to the engines used in test cells Emission Units EC130 - EC135 shall be limited to less than 345,440 gallons per twelve (12) consecutive month period with compliance determined at the end of each month, which is equivalent to CO emissions of less than 95.0 tons per year from the transmissions test cells EU EC130 - EC135 and less than 100 tons per year sourcewide. Compliance with the potential to emit limitation makes 326 IAC 2-7 (Part 70 Permit Program) not applicable.

These limits are structured such that when including emissions from insignificant activities, the total source CO emissions remain below one hundred (100) tons per twelve (12) consecutive month period. The source wide unrestricted potential to emit of an individual HAP or combination of HAPs does not exceed the thresholds listed in 326 IAC 2-7-1(22), thus the source does not have major potential to emit for

HAPs. Limiting source wide emissions of CO will further limit the potential to emit of an individual HAP or combination of HAPs. This renders the requirements of 326 IAC 2-7 (Part 70 Permit Program) not applicable.

For purposes of determining compliance based on CO emissions (See calculations, Appendix A):

(1) Each gallon of diesel fuel shall be equivalent to 0.281 gallons of gasoline;

(2) Each 1,000 cubic feet of natural gas shall be equivalent to 1.173 gallons of gasoline.

(b) Nitrogen Oxides (NO_x) Emissions Limitations
The input of diesel fuel to the engines used in test cells Emission Units EC130 - EC135 shall be limited to less than 282,957 gallons per twelve (12) consecutive month period with compliance determined at the end of each month, which is equivalent to NO_x emissions of less than 95.0 tons per year from the transmissions test cells EU EC130 - EC136 and less than 100 tons per year sourcewide. Compliance with the potential to emit limitation makes 326 IAC 2-7 (Part 70 Permit Program) not applicable.

These limits are structured such that when including emissions from insignificant activities, the total source NO_x emissions remain below one hundred (100) tons per twelve (12) consecutive month period. The source wide unrestricted potential to emit of an individual HAP or combination of HAPs does not exceed the thresholds listed in 326 IAC 2-7-1(22), thus the source does not have major potential to emit for HAPs. Limiting source wide emissions of NO_x will further limit the potential to emit of an individual HAP or combination of HAPs. This renders the requirements of 326 IAC 2-7 (Part 70 Permit Program) not applicable.

The addition of natural gas to the list of permitted fuels does not increase the potential to emit NOx because diesel fuel is the worst case fuel for this pollutant (see calculations, Appendix A).

For purposes of determining compliance based on NO_x emissions (See calculations, Appendix A):

(1) Each gallon of gasoline shall be equivalent to 0.331 gallons of diesel fuel;

(2) Each 1,000 cubic feet of natural gas shall be equivalent to 0.360 gallons of diesel fuel.

D.1.2 Preventive Maintenance Plan [326 IAC 2-8-4(9)]
A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities.

Compliance Determination Requirements

D.1.3 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]
Within 720 days after issuance of this FESOP, in order to demonstrate compliance with Condition D.1.1, the Permittee shall perform initial CO and NOx testing for a test cell (at least one of Emission Units EC130 - EC135) with Gasoline engines, utilizing methods as approved by the Commissioner and OES Administrator. During the stack test the emission rates based on manufacturer emission factors for NOx and CO are to be verified (no more than 9.5 g/hp-hr for NOx and 22.0 g/hp-hr for CO). Testing shall be conducted in accordance with Section C-Performance Testing.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.1.4 Record Keeping Requirements

(a) To document compliance with Condition D.1.1, the Permittee shall maintain records of the amount of diesel fuel and gasoline (in gallons), and natural gas (in cubic feet) used by the reciprocating engines in test cells EC130 - EC135. Records neecessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.

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

D.1.5 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.1 shall be submitted to the addresses 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 “authorized individual” as defined by 326 IAC 2-1.1-1(1).

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

(a) Two (2) natural gas-fired boilers with heat input equal or less than (10) million Btu per hour, identified as Emission Units B-1 and B-2, 2.396 MMBtu/hr each.

(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 2-8-4(1)]

D.2.1 Particulate [326 IAC 6-2]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), PM emissions from existing natural gas boilers Emission Units B-1 and B-2, constructed after September 21, 1983, shall be limited to 0.6 lb/MMBtu.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
and
INDIANAPOLIS OFFICE OF ENVIRONMENTAL SERVICES

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) CERTIFICATION

Source Name: Allison Transmission, General Motors Corporation Eagle Creek Technology Center
Source Address: 6040 West 62nd Street, Indianapolis, Indiana 46278
Mailing Address: 4700 W. 10th Street (M-29), Indianapolis, IN 46222
FESOP No.: F097-15984-00333

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

Please check what document is being certified:

9 Annual Compliance Certification Letter

9 Test Result (specify) _____

9 Report (specify) _____

9 Notification (specify) _____

9 Affidavit (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 BRANCH
P.O. Box 6015
100 North Senate Avenue
Indianapolis, Indiana 46206-6015
Phone: 317-233-5674
Fax: 317-233-5967

and

INDIANAPOLIS OFFICE OF ENVIRONMENTAL SERVICES
Air Compliance
2700 South Belmont Avenue
Indianapolis, Indiana 46221
Phone: 317-327-2234
Fax: 317-327-2274

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) EMERGENCY OCCURRENCE REPORT

Source Name: Allison Transmission, General Motors Corporation Eagle Creek Technology Center
Source Address: 6040 West 62nd Street, Indianapolis, Indiana 46278
Mailing Address: 4700 W. 10th Street (M-29), Indianapolis, IN 46222
FESOP No.: F097-15984-00333

This form consists of 2 pages **Page 1 of 2**

9 This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Quality (OAQ), within four (**4**) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and
- The Permittee must submit notice in writing or by facsimile within two (**2**) working days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A **Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____
Title / Position: _____
Date: _____
Phone: _____

A certification is not required for this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION
and
INDIANAPOLIS OFFICE OF ENVIRONMENTAL SERVICES
FESOP Usage Report

(Submit Report Quarterly

Source Name: Allison Transmission, General Motors Corporation Eagle Creek Technology Center
Source Address: 6040 West 62nd Street, Indianapolis, Indiana 46278
Mailing Address: 4700 W. 10th Street (M-29), Indianapolis, IN 46222
FESOP No.: F097-15984-00333
Facility: Transmission test cells EU EC130 - EC135
Parameter: Diesel fuel, gasoline, and natural gas consumption
Limit: 345,440 gallons of gasoline (CO emissions); 282,957 gallons of diesel fuel (NOx Emissions)

Month	Fuel	Column 1	Column 2	Column 1 + Column 2
		This Month	Previous 11 Months	12 Month Total
Month 1	Diesel fuel (gal)			
	Gasoline (gal)			
	Natural Gas (1,000 cf)			
	Total equivalent diesel fuel (gal)			
	Total equivalent gasoline (gal)			
Month 2	Diesel fuel, gal			
	Gasoline, gal			
	Natural Gas, 1,000 cf			
	Total equivalent diesel fuel (gal)			
	Total equivalent gasoline (gal)			
Month 3	Diesel fuel, gal			
	Gasoline, gal			
	Natural Gas, 1,000 cf			
	Total equivalent diesel fuel (gal)			
	Total equivalent gasoline (gal)			

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.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION
and
INDIANAPOLIS OFFICE OF ENVIRONMENTAL SERVICES

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Allison Transmission, General Motors Corporation Eagle Creek Technology Center
Source Address: 6040 West 62nd Street, Indianapolis, Indiana 46278
Mailing Address: 4700 W. 10th Street (M-29), Indianapolis, IN 46222
FESOP No.: F097-15984-00333
Facility: Transmission test cells EU EC130 - EC135

Months:_____ to _____ Year: _____

This form consists of 2 pages **Page 1 of 2**

This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. Deviations that are required to be reported by an applicable requirement shall be reported according to the schedule stated in the applicable requirement and do not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Page 2 of 2

Permit Requirement	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed By: _____

Title/Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

Indiana Department of Environmental Management
Office of Air Management
and
Indianapolis Office of Environmental Services

Addendum to the
Technical Support Document (TSD) for a Federally Enforceable State Operating Permit (FESOP)

Source Name:	**Allison Transmission, General Motors Corporation Eagle Creek Technology Center**
Source Location:	**6040 West 62nd Street, Indianapolis, Indiana 46268**
County:	**Marion**
Permit No.:	**F097-15984-00333**
SIC Code:	**8731**
Permit Reviewer:	**Boris Gorlin**

On May 22, 2002, the Indianapolis Office of Environmental Services (OES) had a notice published in the Indianapolis Star, Indianapolis, Indiana, stating that the Allison Transmission General Motors Corporation Eagle Creek Technology Center had applied for a Federally Enforceable State Operating Permit (FESOP) to operate transmissions test cells, utilizing reciprocating diesel, gasoline, and natural gas engines. The notice also stated that the OES proposed to issue a permit for this operation and provided information on how the public could review the proposed permit 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 permit should be issued as proposed.

The TSD will remain as it originally appeared when published. OAQ and OES prefer that the Technical Support Document reflects the permit that was on public notice. Changes to the permit or technical support material that occur after the permit has been published are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision (underlined language has been added, the language with a line through it has been deleted). The Table of Contents and numbering have been revised, as needed.

Written comments were received from the **Applicant (Allison Transmission, General Motors Corporation)** on June 12, 2003. These comments and OES responses, including changes to the permit, are as follows.

Comment 1:

Facility Name (throughout all documents) – the official name of the facility should be noted as Allison Transmission, General Motors Corporation.

Response 1:

The following changes were made to the Permit title page, FESOP Certification form, FESOP Emergency Occurrence Report form, FESOP Usage (Quarterly) Report form, FESOP Quarterly Report form:

~~GMC~~ Allison Transmission**,** ~~Division~~ **General Motors Corporation** Eagle Creek Technology Center

Comment 2:

Condition A.1 (General Information) – the source description should be changed to read "… stationary diesel, **natural gas,** and gasoline engine test cells operation".

Response 2:

The following change was made to the Permit Condition A.1:

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates stationary diesel**, natural gas,** and gasoline engine test cells operation.

Comment 3:

Condition A.1 (Source Address) – the zip code for the facility should be identified as 46278 rather than 46268. This change should be made throughout the permit and Technical Support Document (TSD) including the cover page of the permit, the reporting forms, and the Source Background and Description at the beginning of the TSD.

Response 3:

The following changes were made to the Permit title page, Permit Condition A.1, and Report forms:

6040 West 62nd Street, Indianapolis, Indiana ~~46268~~ **46278**

Comment 4:

Condition A.2 – This condition contains a description of the permitted emission units, and provides a table that identifies maximum unit capacity and heat input for each of three fuel types. Condition A.2 relates the table to the six test cells with the description, "The engines listed in the table below can be used in any one of the individual test cells mentioned above". Allison believes that the intent of this condition is to provide it with the flexibility to switch engines in and out of the test cells as long as no engine larger than that specified is used in the test cell. As currently written, Allison believes it could be construed that engines **only** of the size specified could be used in the cell. Allison suggests replacing the sentence description above with the following to better describe this flexibility:

"Engines of a fuel type and size up to the sizes listed in the table below can be used in any one of the individual test cells mentioned above."

This description should also be inserted in reference to the same table in the Facility Description of Section D.1 and in the TSD.

Response 4:

The following changes were made in the Permit Condition A.2:

Six (6) Transmission Test Cells, identified as Emission Units EC130, EC131, EC132, EC133, EC134, and EC135, using Diesel Fuel, Gasoline, or Natural Gas Reciprocating Engines. The emissions from each test cell EC130 - EC135 are exhausted out stacks EC130 - EC135 respectively.

~~The engines listed in the table below can be used in any one of the individual test cells mentioned above.~~

Engines of a fuel type and size up to the sizes listed in the table below can be used in any one of the individual test cells mentioned above.

Comment 5:

Condition A.3 – this condition identifies certain insignificant activities at the plant, including two natural gas-fired boilers and one gasoline storage tank. Allison does not believe that the gasoline storage tank needs to be listed in this condition, as there are no applicable requirements for this unit. Allison suggests that reference to the gasoline storage tank in this condition be deleted. In the event that the Office of Environmental Services (OES) wishes to maintain a reference to the gasoline storage tank in this condition, Allison suggests that one (1) 3,000 gallons underground diesel oil storage tank also be identified in this condition, for consistency purposes. In addition, Allison notes that the gasoline storage tank has a volume of 2,000 gallons rather than 1,000 gallons (this correction should be noted in the Technical Support Document as well).

Response 5:

All insignificant units need to be listed in the FESOP (Condition A.3), with and without specifically applicable rules, because all are included in the source's PTE determination.

Regarding addition of the diesel oil storage tank and gasoline tank capacity correction, the following changes were made in the Condition A.3:

.....

(b) Storage tanks emitting less than one (1) ton per year of a single HAP and less than fifteen (15) pounds per day of VOC: ~~one (1) 1,000 gallon gasoline above ground storage tank, identified as GC-1.~~

(1) one (1) 2,000 gallon gasoline above ground storage tank, identified as GC-1;

(2) one (1) 3,000 gallon diesel oil underground storage tank, identified as DC-1.

Comment 6:

Condition B.8(a) – General Motors has submitted comments on other Title V permits in Indiana suggesting that paragraph (a) of Condition B.8 be deleted. The Indiana Department of Environmental Management (IDEM) has agreed to this change in these instances, and GM believes that the most current Title V permit template should reflect this change. Allison requests that paragraph (a) of Condition B.8 be deleted.

Response 6:

The duty to supplement an application is not an ongoing requirement after the permit is issued; therefore, (a) has been removed from B.8 (Duty to Supplement and Provide Information).

Permit Condition B.8 was modified as follows:

B.8 Duty to ~~Supplement and~~ Provide Information ~~[326 IAC 2-8-3(f)]~~ [326 IAC 2-8-4(5)(E)] ~~[326 IAC 2-8-5(a)(4)]~~

(a) ~~The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to:~~

~~Indiana Department of Environmental Management~~
~~Permits Branch, Office of Air Quality~~

~~100 North Senate Avenue, P.O. Box 6015~~
~~Indianapolis, Indiana 46206-6015~~

~~and~~

~~Indianapolis Office of Environmental Services~~
~~2700 South Belmont Avenue,~~
~~Indianapolis, Indiana 46221~~

~~The submittal by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).~~

~~(b)~~**(a)** The Permittee shall furnish to IDEM, OAQ and OES within a reasonable time, any information that IDEM, OAQ and OES may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1). Upon request, the Permittee shall also furnish to IDEM, OAQ and OES copies of records required to be kept by this permit.

~~(c)~~**(b)** For information furnished by the Permittee to IDEM, OAQ the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1 When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

Comment 7:

Condition D.1.1 – this condition creates fuel limits that equate to emission limits of 98.24 tons per year for carbon monoxide (CO) and 97.9 tons per year for nitrogen oxides (NOx). Appendix A of the TSD notes that these values, when added to the potential to emit for insignificant activities, gives the plant potential emissions of 100 tons per year of CO and 100 tons per year of NOx. Allison is concerned that the addition of any combustion device, regardless of whether it was significant or not, would cause potential emissions to exceed 100 tons per year of CO and NOx, and could only be accommodated through a reopening of the FESOP to change the fuel limits in the permit. In order to provide ECTC with greater flexibility to add insignificant combustion units in the future, Allison requests that the fuel limits be modified to correspond to emission rates of 95 tons per year for CO and 95 tons per year of NOx. Allison believes that this would require that the gasoline throughput limit in Condition D.1.1(a) be changed to 345,429 gallons per twelve consecutive months, and that the diesel fuel limit in Condition D.1.1(b) be changed to 282,960 gallons per twelve consecutive months. This change should also be reflected in the TSD and Appendix A.

Response 7:

At the reduced NOx and CO emissions limit of 95.0 tons per year, the new fuel consumption limits will be as following:

Diesel fuel (NOx emission limit of 95.0 ton/yr):
Potential fuel throughput x (95.0 ton/yr / Potential emission, ton/yr) = 970,608 gal/yr x (95.0 ton/yr / 325.87 ton/hr) = **282,957 gal/yr**;

Gasoline (CO emission limit of 95.0 ton/yr):
Potential fuel throughput (gal/yr) x (95.0 ton/yr / Potential emission, ton/yr) = 1,572,527 gal/yr x (95.0 ton/yr / 432.46 ton/hr) = **345,440 gal/yr**.

The following changes were made in Permit Condition D.1.1 and FESOP Quarterly Usage Report to reflect reduced fuel consumption limits, such that the limited CO and NOx PTE shall be less than 95 tons per year (instead of 98.24 and 97.9 ton/yr respectively):

D.1.1 Carbon Monoxide (CO) and Nitrogen Oxides (NOx) [326 IAC 2–8-4]

Pursuant to 326 IAC 326 2-8-4, the source wide NOx and CO emissions shall be limited to less than one hundred (100) tons per year such that it does not fall within any of the categories listed in 326 IAC 2-7-2(a) and that assure compliance with all applicable requirements at the time of FESOP issuance (See Emissions Calculations, Appendix A). The following limits shall apply to assure compliance with this rule:

(a) Carbon Monoxide (CO)

The input of gasoline to the engines used in test cells Emission Units EC130 - EC135 shall be limited to less than ~~357,210~~ **345,440** gallons per twelve (12) consecutive month period with compliance determined at the end of each month, which is equivalent to CO emissions of less than ~~98.24~~ **95.0** tons per year from the transmissions test cells EU EC130 - EC136 and less than 100 tons per year sourcewide. Compliance with the potential to emit limitation makes 326 IAC 2-7 (Part 70 Permit Program) not applicable.

.....

(b) Nitrogen Oxides (NO_x) Emissions Limitations

The input of diesel fuel to the engines used in test cells Emission Units EC130 - EC135 shall be limited to less than ~~291,598~~ **282,957** gallons per twelve (12) consecutive month period with compliance determined at the end of each month, which is equivalent to NO_x emissions of less than ~~97.9~~ **95.0** tons per year from the transmissions test cells EU EC130 - EC136 and less than 100 tons per year sourcewide. Compliance with the potential to emit limitation makes 326 IAC 2-7 (Part 70 Permit Program) not applicable.

.....

FESOP Usage Report

.....

Limit: ~~357,210~~ **345,440** gallons of gasoline (CO emissions), ~~291,598~~ **282,957** gallons of diesel fuel (NOx Emissions)

.....

Comment 8:

Condition D.1.3 – the first sentence of this condition states that performance testing is necessary for CO and NOx to verify the CO and NOx emission factors. The second sentence of this condition, however, also includes a reference to verifying volatile organic compound (VOC) emission factors during this testing. Allison requests that the reference to VOC emission factors in the second sentence be removed. Such testing is not necessary to demonstrate that potential VOC emissions are less than 100 tons per year.

Response 8:

VOC potential to emit will be effectively limited by limiting the constraining pollutants - CO and NOx. Limited sourcewide VOC potential emissions calculated using the AP-42 emission factors is 42.5 ton/yr, using manufacturer specified emission factor - 13.5 ton/yr.

The diesel engines potential and limited emissions were calculated using the AP-42 emission factors.

Therefore, stack testing is not necessary to demonstrate compliance with less than 100 tons per year of VOC (diesel and gasoline engines) and NOx emissions (diesel engines) FESOP limits.

The following changes were made to the Permit Condition D.1.3:

D.1.3 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

Within 720 days after issuance of this FESOP, in order to demonstrate compliance with Condition D.1.1, the Permittee shall perform initial CO and NOx testing for a test cell (at least one of Emission Units EC130 - EC135) with ~~Diesel Fuel and~~ Gasoline engines, ~~(one of each)~~ utilizing methods as approved by the Commissioner **and OES Administrator**. During the stack test the emission rates based on manufacturer emission factors for NOx and CO are to be verified (~~diesel engines: 0.0310 lb/hr-hp for NOx, 0.00668 lb/hr-hp for CO, and 0.00251 lb/hr-hp for VOC; gasoline engines:~~ **no more than** 9.5 g/hp-hr for NOx, **and** 22.0 g/hp-hr for CO). ~~This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration.~~ Testing shall be conducted in accordance with Section C- Performance Testing.

Comment 9:

FESOP Reporting Forms – the proposed permit contains a FESOP Usage Report (submitted quarterly) that summarizes fuel consumption each month and a FESOP Quarterly Report that summarizes NOx and CO emissions each month. The FESOP Quarterly Report summary of NOx and CO emissions appears to require the inclusion of emissions from insignificant activities to demonstrate that the FESOP limit of 100 tons per year for CO and NOx are met each year. Allison believes that the fuel limits set in Condition D.1.1 and reported on the FESOP fuel usage quarterly report should be adequate to demonstrate that the FESOP limit has not been exceeded (particularly if the CO and NOx limits are reduced to 95 tons per year as suggested under Comment #8 above). Allison requests that the requirement to report CO and NOx emissions quarterly from the facility be removed.

Response 9:

Fuel consumption limits are practically enforceable limits allowing the source to demonstrate compliance with the FESOP emission limits. In absence of continuous monitoring systems monitoring and reporting fuel consumption is the most reliable method of compliance demonstration. Mass emissions numbers of CO and NOx are calculated based on fuel consumption. Therefore, fuel consumption quarterly reporting (with equivalency numbers for NOx and CO emission calculations) is sufficient to demonstrate compliance.

The FESOP Quarterly Report was deleted, the following pages were renumbered. The following change was made to the Table of Contents:

.....

Comment 10:

Technical Support Document (New Emission Units and Pollution Control Equipment Receiving New Source Review Approval) – this section describes two test cells (test cells EC134 and EC135) and states that these units "… were constructed in 2002 according to Interim Permit 097-15984i-00333…." For the record, Allison notes that only one of these test cells has been constructed to date. In addition, Allison wishes to note for the record that the four existing test cells have actually been designated as Test Cell Emission Units EC131, EC132, EC133, and EC134. The newly constructed cell is designated as EC130, with the yet to be constructed test cell designated as EC135. Finally, Allison notes that in

addition to approving the construction of two new test cells, Interim Permit 097-15984i-00333 also approved the modification of four existing test cells to accommodate gasoline-fired engines.

Response 10:

The following changes were made to the Permit Condition A.2 and D.1:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

The source consists of the following permitted emission units and pollution control devices:

~~(a)~~ Six (6) Transmission Test Cells, identified as Emission Units EC130, EC131, EC132, EC133, EC134, and EC135, using Diesel Fuel, Gasoline, or Natural Gas Reciprocating Engines. The emissions from each test cell EC130 - EC135 are exhausted out stacks EC130 - EC135 respectively.

The test cells EU EC131, EC132, EC133, and EC134 were constructed in 1992. According to Interim Permit 097-15984i-00333, issued on September 19, 2002, the test cells EU EC131, EC132, EC133, and EC134 were modified in 2002, to allow gasoline engines usage alternatively with diesel engines; the test cell E130 was constructed in 2002, and the test cell E135 is planned to be constructed in 2003.

.....

SECTION D.1 FACILITY OPERATION CONDITIONS

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

As noted in the preamble to this document, OAQ and OES prefer the Technical Support Document to reflect the permit that was on public notice; therefore, the TSD will remain as it originally appeared when published. However, the following changes should be made to the TSD:

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

(3) four (4) Transmission Test Cells, identified as Emission Units ~~EC130,~~ EC131, EC132, ~~and~~ EC133, **and EC134,** using Diesel Fuel, Gasoline, or Natural Gas Reciprocating Engines. The emissions from each test cell ~~EC130,~~ EC131, EC132, ~~and~~ EC133, **and EC134** are exhausted out stacks ~~EC130,~~ EC131, EC132, ~~and~~ EC133, **and EC134** respectively.

The test cells ~~EC130,~~ EC131, EC132, ~~and~~ EC133, **and EC134** were constructed in 1992. **According to Interim Permit 097-15984i-00333, issued on September 19, 2002, the test cells EU EC131, EC132, EC133, and EC134** ~~and~~ **were** modified in 2002, **to allow gasoline engines usage alternatively with diesel engines.**

.....

New Emission Units and Pollution Control Equipment Receiving New Source Review Approval

The application includes information relating to the permitting approval for the operation of the following new equipment pursuant to 326 IAC 2-8-4(11):

(b) two (2) Transmission Test Cells, identified as Emission Units ~~EC134~~ **EC130** and EC135. The emissions from each test cell ~~EC134~~ **EC130** and EC135 are exhausted out stacks ~~EC134~~ **EC130** and EC135 respectively. **The t**~~T~~est cell~~s~~ Emission Unit~~s~~ ~~EC134~~ **EC130 was constructed in 2002, the Test Cell** ~~and~~ EC135 **will be constructed in 2003,** ~~were constructed in 2002~~ according to Interim Permit 097-15984I-00333, issued on September 19, 2002. The engines listed in the table below can be used in any one of the individual test cells mentioned above.

.....

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (Inches)	Flow Rate (acfm)	Temperature (^{0}F)
EC130 - EC135	Diesel, Gasoline, and Natural Gas Engines Testing	43	~~10~~ **8**	1,100	400

.....

Existing Approvals

(a) SSOA 097-9955-00333, issued on November 9, 1998,

(c) SSOA 097-15901-00333, issued on July 5, 2002, replacing the SSOA 097-9555 **(change of ownership from Schwitzer Group to Allison Transmission),** ~~gasoline fuel was added for being used in the existing four test cells, along with diesel fuel),~~ and

(d) Interim Permit 097-15984i-00333, issued on September 29, 2002, approving construction of two (2) new test cells ~~EC134~~ **EC130** and EC135**, and allowing gasoline engines usage along with existing diesel engines.**

==========

Upon further review, OAQ and OES made the following changes to the Permit.

The following changes were made to the Table of Contents in order to make it complete, clear, and correct.

TABLE OF CONTENTS

B.19 Operational Flexibility [326 IAC 2-8-15] **[326 IAC 2-8-11.1]**
B.20 Permit Revision Requirement [326 IAC 2-8-11.1]
B.21 Inspection and Entry [326 IAC 2-8-5(a)(2)] [IC 13-14-2-2] **[IC 13-30-3-1]**
B.22 Transfer of Ownership or ~~Operation~~ **Operational Control** [326 IAC 2-8-10]

.....

Corrective Actions and Response Steps [326 IAC 2-8-4] [326 IAC 2-8-5]
C.12 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]
C.13 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68~~.215~~]
C.14 Actions Related to Noncompliance Demonstrated by a Stack Test **[326 IAC 2-8-4] [326 IAC2-8-5]**

.....

.....

Emission Limitations and Standards [326 IAC 2-8-4(1)]
D.2.1 Particulate [326 IAC 6-2]

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Permit Condition B.13 (b) was revised to clarify that required record keeping needs to be implemented as well as the rest of the plan to ensure that failure to implement a PMP does not cause or contribute to an exceedance of any limitation on emissions or potential to emit. Also, (c) has been revised to clarify that OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The following changes were made to Condition B.13:

B.13 Preventive Maintenance Plan [326 IAC 1-6-3] [326 IAC 2-8-4(9)] [326 IAC 2-8-5(a)(1)]

.....

(b) The Permittee shall implement the PMPs**, including any required record keeping,** as necessary to ensure that failure to implement a PMP does not cause or contribute to a**n** ~~violation~~ **exceedance** of any limitation on emissions or potential to emit.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ and OES upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ and OES. IDEM, OAQ and OES may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or ~~contributes to any violation~~ **is primary contributor to an** exceedance of any limitation on emissions or potential to emit. The PMP does not require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).

(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 OES Administrator makes a request for records to the Permittee, the Permittee shall furnish the records to the Administrator within a reasonable time~~

==========

For clarity, additional rule cite was added to Condition B.21.

B.21 Inspection and Entry [326 IAC 2-8-5(a)(2)] [IC 13-14-2-2] **[IC 13-30-3-1]**

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ OES, and U.S. EPA, or an authorized representative to perform the following:

(A) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) ~~H~~**As authorized by the Clean Air Act, IC 13-14-22, IC 13-17-3-2, and IC 13-30-3-1, h**ave access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) ~~I~~**As authorized by the Clean Air Act, IC 13-14-22, IC 13-17-3-2, and IC 13-30-3-1, i**nspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) ~~S~~**As authorized by the Clean Air Act, IC 13-14-22, IC 13-17-3-2, and IC 13-30-3-1, s**ample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) ~~U~~**As authorized by the Clean Air Act, IC 13-14-22, IC 13-17-3-2, and IC 13-30-3-1, u**tilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

==========

Condition C.13 was revised to make it more straightforward, and the condition requires the source to comply with the applicable requirements of 40 CFR 68 if a regulated substance is present at a source in more than a threshold quantity.

C.13 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68.~~215~~]

If a regulated substance, ~~subject to~~ **as defined in the** 40 CFR 68, is present at a source in more than a threshold quantity, ~~40 CFR 68 is an applicable requirement and the Permittee shall submit:~~

~~(a) A compliance schedule for meeting the~~ **source must comply with the applicable** requirements of 40 CFR 68~~; or~~

~~(b) As a part of the annual compliance certification submitted under 326 IAC 2-7-6(5), a certification statement that the source is in compliance with all the requirements of 40~~

~~CFR 68, including the registration and submission of a Risk Management Plan (RMP); and~~ .

In order to clarify which documents need to be certified by an authorized individual, the following update of the Condition C.14 was made:

C.14 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4] [326 IAC 2-8-5]

.....

The **response action** documents submitted pursuant to this condition do require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

==========

It is acceptable for records to be electronically accessible instead of being physically present at a source; therefore, the following update of the Condition C.16 was made:

C.16 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

(a) Records of all required data, reports and support information **required by this permit** 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~~ **physically present or electronically accessible** 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 OES Administrator makes a request for records to the Permittee, the Permittee shall furnish the records to the OES Administrator within a reasonable time.

.....

The limits in 326 IAC 6-2-4 are for PM emissions; therefore, the following change was made to Condition D.2.1:

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.2.1 Particulate [326 IAC 6-2]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), ~~particulate~~ **PM** emissions from existing natural gas boilers Emission Units B-1 and B-2, constructed after September 21, 1983, shall be limited to 0.6 lb/MMBtu.

Indiana Department of Environmental Management
Office of Air Quality
and
City of Indianapolis
Office of Environmental Services

Technical Support Document (TSD) for a Federally Enforceable State Operating Permit (FESOP)

Source Background and Description

Source Name:	**GMC Allison Transmission Division Eagle Creek Technology Center**
Source Location:	**6040 West 62nd Street, Indianapolis, Indiana 46268**
County:	**Marion**
SIC Code:	**8731**
Operation Permit No.:	**F097-15984-00333**
Permit Reviewer:	**Boris Gorlin**

The Indiana Department of Environmental Management Office of Air Quality (OAQ) and Indianapolis Office of Environmental Services (OES) have reviewed a FESOP application from GMC Allison Transmission Division Eagle Creek Technology Center relating to the construction and operation of transmissions test cells, utilizing reciprocating diesel, gasoline, and natural gas engines.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

(a) four (4) Transmission Test Cells, identified as Emission Units EC130, EC131, EC132, and EC133, using Diesel Fuel, Gasoline, or Natural Gas Reciprocating Engines. The emissions from each test cell EC130, EC131, EC132, and EC133 are exhausted out stacks EC130, EC131, EC132, and EC133 respectively.

The test cells EU EC130, EC131, EC132, and EC133 were constructed in 1992 and modified in 2002, according to Interim Permit 097-15984i-00333, issued on September 19, 2002, to be able to implement both gasoline and diesel engines in each cell.

The engines listed in the table below can be used in any one of the individual test cells mentioned above.

Type of Fuel	Maximum Unit Capacity (HP)	Heat Input (MMBtu/hr)
Gasoline	340	3.68
Diesel	400	2.77
Natural Gas	400	2.47

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

New Emission Units and Pollution Control Equipment Receiving New Source Review Approval

The application includes information relating to the permitting approval for the operation of the following new equipment pursuant to 326 IAC 2-8-4(11):

(a) two (2) Transmission Test Cells, identified as Emission Units EC134 and EC135. The emissions from each test cell EC134 and EC135 are exhausted out stacks EC134 and EC135 respectively. Test cells Emission Units EC134 and EC135 were constructed in 2002 according to Interim Permit 097-15984I-00333, issued on September 19, 2002. The engines listed in the table below can be used in any one of the individual test cells mentioned above.

Type of Fuel	Maximum Unit Capacity (HP)	Heat Input (MMBtu/hr)
Gasoline	340	3.68
Diesel	400	2.77
Natural Gas	400	2.47

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (Inches)	Flow Rate (acfm)	Temperature (^{0}F)
EC130 - EC135	Diesel, Gasoline, and Natural Gas Engines Testing	43	10	1,100	400

Insignificant Activities

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

(a) Two (2) natural gas-fired boilers with heat input equal or less than (10) million Btu per hour, identified as Emission Units B-1 and B-2, 2.396 MMBtu/hr each.

(b) Storage tanks emitting less than one (1) ton per year of a single HAP and less than fifteen (15) pounds per day of VOC: one (1) 1,000 gallon gasoline above ground storage tank, identified as GC-1.

Existing Approvals

(a) SSOA 097-9955-00333, issued on November 9, 1998,

(b) SSOA 097-15901-00333, issued on July 5, 2002, replacing the SSOA 097-9555 (gasoline fuel was added for being used in the existing four test cells, along with diesel fuel), and

(c) Interim Permit 097-15984i-00333, issued on September 29, 2002, approving construction of two (2) new test cells EC134 and EC135.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Administrator that the FESOP 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 administratively incomplete FESOP application for the purposes of this review was received on August 16, 2002. Additional information received on December 4, 2002, December 20, 2002, and February 19, 2003 made the FESOP application administratively complete.

A notice of completeness letter was mailed to the source (through electronic mail) on December 20, 2002.

Emission Calculations

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

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source, excluding the emission limits that were contained in the previous FESOP.

Pollutant	Unrestricted Potential Emissions (tons/yr)
PM	7.11
PM-10	7.11
SO_2	6.49
VOC	59.09
CO	434.2
NO_x	328.0

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

HAP's	Unrestricted Potential Emissions (tons/yr)
SINGLE AND COMBINED	Less than 10

(a) The potentials to emit (as defined in 326 IAC 2-1.1-1(16)) of Carbon Monoxide and Nitrogen Oxides are equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

(b) Pursuant to 326 IAC 2-8, this source, otherwise required to obtain a Title V permit, has agreed to accept a permit with federally enforceable limits that restrict PTE to below Title V emission levels. Therefore, this source will be issued a Federally Enforceable State Operating Permit (FESOP).

(c) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (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 emissions are not counted toward determination of PSD and Emission Offset applicability.

Potential to Emit After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any

control equipment is considered enforceable only after issuance of this Federally Enforceable State Operating Permit and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit After Issuance (tons/year)						
Process/emission unit	PM	PM-10	SO_2	VOC	CO	NO_X	HAPs
Six (6) Transmission Test Cells, identified as Emission Units EC130, EC131, EC132, EC133, EC134, and EC135 using Diesel Fuel, Gasoline, or Natural Gas Reciprocating Engines	6.95	6.95	6.47	13.40	98.24	97.90	0.00
Boilers EU B-1 and B-2	0.16	0.16	0.01	0.12	1.76	2.10	0.00
Total PTE After Issuance, less than:	7.11	7.11	6.48	13.52	less than 100.0	Less than 100.0	Less than 10 (single and combined)

County Attainment Status

The source is located in Marion County.

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

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Marion County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Marion County has been classified as attainment or unclassifiable for PM10, SO_2, NOx, CO, and lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21. Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Federal Rule Applicability

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

(1) The natural gas fired boilers EU B-1 and B-3 are not subject to the NSPS 40 CFR Part 60, Subpart Dc because their maximum heat input capacity is less than 10 MMBtu/hr.

(2) The 1,000 gallon gasoline above ground storage tank, identified as GC-1, constructed in 1990, is not subject to NSPS 40 CFR 60, Subpart Kb, because its storage capacity is less than 40,000 gallons.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14 and 40 CFR Part 63) applicable to this source, because it does not belong to one of specific categories that emit (or have the potential to emit) one or more hazardous air pollutants listed in 40 CFR 63 pursuant to section 112(b) or the Clean Air Act.

State Rule Applicability - Entire Source

326 IAC 1-6-3 (Preventive Maintenance Plan)

This source is subject to 326 IAC 1-6-3, because it is one of the sources specified in 326 IAC 1-6-1 (Malfunctions), as a source required to obtain a permit under 326 IAC 2-5.1 (Construction of New Sources). Pursuant to 326 IAC 1-6-3, the Permittee shall prepare and maintain a preventive maintenance plan.

326 IAC 1-7 (Stack Height Provisions)

This source is not subject to 326 IAC 1-7 because its potential Particular Matter and SO_2 emissions are each less than 25 tons per year.

326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)

This source has the potential to emit greater than 250 tons per year of CO and NOx. Therefore, it is a major source pursuant to 326 IAC 2-2-1(y)(2). However, the NOx and CO emissions are limited to less than 100 tons per year; therefore, 326 IAC 2-2 shall not apply .

326 IAC 6-1-2 (Particulate emission limitations)

This rule is not applicable to this source because the sourcewide particulate matter potential emissions are less than 100 tons per year and actual emissions are less than 10 tons per year.

326 IAC 6-3 (Process Operations)

This rule does not apply to this source because liquid and gaseous fuels and combustion air will not be considered process weight as defined pursuant to 326 IAC 1-2-59 (“Process Weight; Weight Rate” Defined).

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

326 IAC 7-1.1 applies to emission units with potential to emit greater than 10 pounds per hour or 25 tons per year. Emission Units EC 130 - EC135 each have potential to emit SO_2 less than 25 tons per year, or 10 pounds per hour; therefore, 326 IAC 7-1.1 is not applicable.

326 IAC 8-1-6 (General Provisions relating to VOC rules)

New Emission Units EC134 and EC135 are not subject to provisions of 326 IAC 8 -1-6 (General Provisions relating to VOC rules) because their potential VOC emissions are each less than 25 tons per year. No other 326 IAC 8 rules apply to this source.

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than ten (10) tons per year of NOx and is located in Marion county. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Opacity Limitations)

This source is located in Marion County. Therefore, 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 thirty percent (30%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-2(2).

(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 2-8-4 (FESOP)

Pursuant to this rule, source wide emissions of NOx and CO shall be limited to less than one hundred (100) tons per year such that it does not fall within any of the categories listed in 326 IAC 2-7-2(a) and that assure compliance with all applicable requirements at the time of FESOP issuance (See Emissions Calculations, Appendix A). The following limits shall apply to assure compliance with this rule:

(a) Carbon Monoxide (CO)

The input of gasoline to the engines used in test cells Emission Units EC130 - EC135 shall be limited to less than 357,210 gallons per twelve (12) consecutive month period with compliance determined at the end of each month, which is equivalent to CO emissions of less than 98.24 tons per year from the transmissions test cells EU EC130 - EC136 and less than 100 tons per year sourcewide. Compliance with the potential to emit limitation makes 326 IAC 2-7 (Part 70 Permit Program) not applicable.

These limits are structured such that when including emissions from insignificant activities, the total source CO emissions remain below one hundred (100) tons per twelve (12) consecutive month period. The source wide unrestricted potential to emit of an individual HAP or combination of HAPs does not exceed the thresholds listed in 326 IAC 2-7-1(22), thus the source does not have major potential to emit for HAPs. Limiting source wide emissions of CO will further limit the potential to emit of an individual HAP or combination of HAPs. This renders the requirements of 326 IAC 2-7 (Part 70 Permit Program) not applicable.

For purposes of determining compliance based on CO emissions (See calculations, Appendix A):

(1) Each gallon of diesel fuel shall be equivalent to 0.281 gallons of gasoline;

(2) Each 1,000 cubic feet of natural gas shall be equivalent to 1.173 gallons of gasoline.

(b) Nitrogen Oxides (NO_x) Emissions Limitations

The input of diesel fuel to the engines used in test cells Emission Units EC130 - EC135 shall be limited to less than 291.598 gallons per twelve (12) consecutive month period with compliance determined at the end of each month, which is equivalent to NO_x emissions of less than 97.9 tons per year from the transmissions test cells EU EC130 - EC136 and less than 100 tons per year sourcewide. Compliance with the potential to emit limitation makes 326 IAC 2-7 (Part 70 Permit Program) not applicable.

These limits are structured such that when including emissions from insignificant activities, the total source NO_x emissions remain below one hundred (100) tons

per twelve (12) consecutive month period. The source wide unrestricted potential to emit of an individual HAP or combination of HAPs does not exceed the thresholds listed in 326 IAC 2-7-1(22), thus the source does not have major potential to emit for HAPs. Limiting source wide emissions of NO_x will further limit the potential to emit of an individual HAP or combination of HAPs. This renders the requirements of 326 IAC 2-7 (Part 70 Permit Program) not applicable.

The addition of natural gas to the list of permitted fuels does not increase the potential to emit NOx because diesel fuel is the worst case fuel for this pollutant (see calculations, Appendix A).

For purposes of determining compliance based on NO_x emissions (See calculations, Appendix A):

(1) Each gallon of gasoline shall be equivalent to 0.331 gallons of diesel fuel;

(2) Each 1,000 cubic feet of natural gas shall be equivalent to 0.360 gallons of diesel fuel.

326 IAC 6-4-1 (Fugitive Dust Emissions)

Pursuant to 326 IAC 6-4-1, the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

State Rule Applicability - Individual Facilities

326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)

Pursuant to 326 IAC 6-2-4, particulate emissions from existing boilers, located in Marion County, constructed after September 21, 1983, are limited by the following equation:

$$Pt = 1.09 / Q^{0.26}$$

where: Pt = Pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input;
Q = Total source maximum operating capacity rating in million Btu per hour (MMBTU/hr) heat input.

$$Pt = 1.09 / 4.8^{0.26} = 0.725 \text{ lb/MMBTU}.$$

For Q less than 10 MMBTU/hr, Pt shall not exceed 0.6, which is less than the number, calculated by the above formula. Therefore, the natural gas boilers B-1 and B-2 particulate emissions shall not exceed 0.6 lb/MMBTU.

Testing Requirements

Within 720 days after issuance of this FESOP, in order to demonstrate compliance with Condition D.1.1, the Permittee shall perform CO and NOx testing for a test cell (at least one of Emission Units EC130 - EC135) with Diesel Fuel and Gasoline engines (one of each) utilizing methods as approved by the Commissioner. During the stack test the emission rates based on manufacturer emission factors for NOx, CO, and VOC, are to be verified (diesel engines: 0.0310 lb/hr-hp for NOx, 0.00668 lb/hr-hp for CO, and 0.00251 lb/hr-hp for VOC; gasoline engines: 9.5 g/hp-hr for NOx, 22.0 g/hp-hr for CO, and 3.0 g/hr-hr for VOC). This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration.

Compliance Requirements

Permits issued under 326 IAC 2-8 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, OAQ, and OES in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. 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.

Compliance monitoring for emission units EC130 - EC135, B-1, and B-2 is not required by this permit, since these emission units consist of individual test cells and small (insignificant activity) boilers with a relatively small emission of PM, SO_2 and VOC, and these emission units appear to be well below the applicable emissions limitations. Compliance with the NOx and CO limits can be demonstrated by records of fuel consumption.

Conclusion

The operation of this transmissions testing facility shall be subject to the conditions of the attached proposed FESOP No.: F097-15984-00333.

Appendix A: Emission Calculations
Internal Combustion Engines
Six 400 HP (2.8 MMBtu/hr) Engines

Company Name: **Allison Transmission Division GMC Eagle Creek Technology Center**
Address, City IN Zip: **6040 W 62nd Street, Indianapolis, IN 46268**
Permit: **F097-15984-00333**
Reviewer: **Boris Gorlin**

Diesel Fuel

Emissions calculated based on output rating (hp)

Horsepower (hp), (6 engines, 400 hp each)
2400.0

Diesel Engines (6)	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	2.20E-03	2.05E-03	3.10E-02	2.51E-03	6.68E-03
Potential Emission in lb/hr	5.28	4.92	74.40	6.03	16.03
Potential Emission in ton/yr	23.13	21.55	**325.87**	26.43	70.22

			Increase:	
Diesel (4 engines):	217.2	46.8	NOx	CO
Diesel (6 engines):	325.9	70.2	108.6	-
Gasoline (6 Engines):	186.7	432.5	-	385.7

	PM10	SO2	NOx	VOC	CO
Boilers Potential Emission, unlimited, ton/yr	**0.160**	**0.013**	**2.099**	**0.115**	**1.763**

Total (Diesel Engines+ Boilers), ton/yr	23.29	21.56	**327.97**	26.54	71.98
6 Diesel Engines, limited, ton/yr, less than:	6.95	**6.47**	**97.90**	7.94	21.10
Total Limited, ton/yr, less than:	7.11	6.49	**100.00**	8.06	22.86

Fuel Limit Calculation (gal/year) - Diesel Fuel

Heat Input Capacity (6 engines, 2.77 MMBtu/hr each)	Diesel Fuel Heat Input Value, Btu/gal	Diesel Fuel Potential Throughput,
MMBtu/hr	**150,000**	**970,608**

16.62	PM10	SO2	NOx	VOC	CO
6 Diesel Engines, limited, ton/yr	6.948	6.474	**97.901**	7.940	21.096
Total PTE (diesel engines & boilers), limited, ton/yr, less than:	7.107	6.487	**100.0**	8.055	22.859

Diesel Fuel throughput, limited, kgal/yr (less than): **291.598**

Methodology

Emission Factors are from AP42, Tables 3.3-1 and 3.3-2.
Emission (lb/hr) = Engines Output Rating (hp) x Emission Factor (lb/hp-hr)] x 8,760 (hr/yr) / (2,000 lb/ton)
Emission (tons/yr) = Emission (lb/hr) x 8,760 (hr/yr)
Potential Fuel Throughput (gal/yr) = Heat Input Capacity (MMBtu/hr) x 10^6 (Btu/MMBtu) x 8,760 (hr/yr) / Heat Input Value (Btu/gal)
Fuel Throughput Limit = Potential Fuel Throughput (gal/yr) x **[**Limited CO Emissions (ton/yr) / Potential CO Emissions (ton/yr)**]**

Equivalency Factors Calculation	**Emission Factors, lb/gal**		**Diesel fuel rates**		**Gasoline rates**		**Natural Gas**
	Diesel Fuel	**Gasoline**	***21.66***	hp-hr/gal	***123,000***	Btu/gal	lb/MMcf
NOx	0.671	0.238	***0.031***	lb NOx/hp-hr	***1.931***	lb NOx/MMBtu	***327.1***
CO	0.145	0.550	***0.00668***	lb CO/hp-hr	***4.472***	lb CO/MMBtu	***817.7***

Fuel Conversion Factors:		**X**	**Y**	**Z_d**	**Z_g**
1 gal of **Gasoline** = **X** gal of **Diesel** fuel	For NOx:	**0.354**	**-**	**0.487**	**-**
1 gal of **Diesel** fuel = **Y** gal of **Gasoline**	For CO:	**-**	**0.263**	**-**	**1.487**
1,000 cf of **Nat. Gas** = **Z_d** gal of **Diesel** fuel					
1,000 cf of **Nat. Gas** = **Z_g** gal of **Gasoline**					

	NOx	**CO**
1 gallon Diesel Fuel =	-	**0.281** gallons Gasoline
1 gallon Gasoline =	**0.331** gallons Diesel Fuel	-
1,000 cf Natural Gas =	-	**1.173** gallons Gasoline
	0.360 gallons Diesel Fuel	-

Appendix A: Emission Calculations
Internal Combustion Engines
Six 340 HP (3.68 MMBtu/hr) Engines

Company Name:	**Allison Transmission Division GMC Eagle Creek Technology Center**
Address, City IN Zip:	**6040 W 62nd Street, Indianapolis, IN 46268**
Permit:	**F097-15984-00333**
Reviewer:	**Boris Gorlin**

Gasoline

Emissions calculated based on output rating (hp)

Heat Output (6 engines, 340 HP each)	Heat Input (6 engines, 3.68 MMBtu/hr each)
Horsepower (hp)	MMBtu/hr
2040.0	**22.1**

	AP-42, Table 3.3-1		Manufacturer's Data		
	PM/PM10	SO2	NOx	VOC	CO
Emission Factor, lb/unit	7.21E-04	5.91E-04	9.5	3.0	22.0
Units	lb/hr-hr	lb/hr-hr	g/hp-hr	g/hp-hr	g/hp-hr
Potential Emission in **lb/hr**	1.471	1.206	42.64	13.46	98.74
Potential Emission in **ton/yr**	6.442	5.281	**186.75**	58.97	**432.46**

	PM10	SO2	NOx	VOC	CO
Boilers Potential Emission, unlimited, ton/yr	**0.160**	**0.013**	**2.099**	**0.115**	**1.763**
Total (Gasoline + Boilers), ton/yr	6.60	5.29	**188.84**	59.09	**434.2**

	Gasoline Heat Input Value	Gasoline Potential Throughput
Fuel Limit Calculation (kgal/year) - Gasoline	Btu/gal	gal/year
	123,000	**1,572,527**

	PM10	SO2	NOx	VOC	CO
6 Gasoline Engines, limited, ton/yr	1.463	1.200	42.420	13.396	**98.24**
Total PTE (Gasoline engines & boilers), limited, ton/yr, less than:	1.623	1.212	44.519	13.511	**100.00**
Gasoline throughput, limited, kgal/yr (less than):		**357.210**			

Methodology

Potential Througput (hp-hr/yr) = hp * 8760 hr/yr

When necessary, an average brake-specific fuel consumpton (BSFC) of 7,000 Btu/hp-hr was used to convert from lb/MMBtu to lb/hp-hr.

Emission Factors are from AP42 (Supplement B 10/96), Table 3.3-1 for PM/PM10 and SO2; Manufacturer specifications - for Nox, CO, and VOC.

Emission (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)

Emission (tons/yr) = [Potential Throughput (hp-/hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

Fuel Throughput Limit = [Limited CO Emissions (ton/yr) / Potential CO Emissions (ton/yr)] x [Potential Fuel Throughput (gal/yr)]

Gasoline rates	
123,000	Btu/gal
1.931	lb NOx/MMBtu
4.472	lb CO/MMBtu

Appendix A: Emission Calculations

Company Name: **Allison Transmission Division GMC Eagle Creek Technology Center**
Address, City IN Zip: **6040 W 62nd Street, Indianapolis, IN 46268**
Permit: **F097-15984-00333**
Reviewer: **Boris Gorlin**

Natural Gas

Emissions calculated based on heat input rating (MMBtu/hr)

6 Internal Combustion Engines, 400 hp, 2.47 MMBtu/hr each)

One (1) Engine

Pollutant	Maximum Rate (units/hr)	Emission Factors (lb/unit)	Potential Emissions (ton/yr)
PM	2.47 MMBtu/hr	0.00008 lb/MMBtu	0.001
PM10	2.47 MMBtu/hr	0.010 lb/MMBtu	0.108
SO_2	0.0024 MMcf/hr	0.6 lb/MMcf	0.006
NOx	400 hp	0.9 g/hp-hr	3.469
VOC	400 hp	0.9 g/hp-hr	3.469
CO	400 hp	2.25 g/hp-hr	8.67
Formaldehyde	2.47 MMBtu/hr	0.0528 lb/MMBtu	0.1304

Six (6) engines combined

Pollutant	Maximum Rate (units/hr)	Emission Factors (lb/unit)	Potential Emissions (ton/yr)
PM	14.82 MMBtu/hr	0.00008 lb/MMBtu	0.005
PM10	14.82 MMBtu/hr	0.010 lb/MMBtu	0.649
SO_2	0.0144 MMcf/hr	0.6 lb/MMBtu	0.038
NOx	2,400 hp	0.9 g/hp-hr	20.814
VOC	2,400 hp	0.9 g/hp-hr	20.814
CO	2,400 hp	2.25 g/hp-hr	52.03
Formaldehyde	14.82 MMBtu/hr	0.0528 lb/MMBtu	0.7825

Methodology

Emission Factors for NOx, VOC, and CO - provided by engines manufacturer.

Emission Factors for SO2 - from AP-42, Section 1.4; for PM, PM10, and Formaldehyde - from AP-42, Section 3.2 (4-cycle, lean burn).

Emission (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)

Emission (tons/yr) = [Potential Throughput (hp-/hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

NOTE: Assume that the heating value of natural gas is 1,020 Btu/Cubic Foot.

Potential fuel throughput:	One Engine		Six Engines	
2.47 (MMBtu/hr) *10^-6 (MMBtu/MMcf)/ 1,020 (btu/cf) =	0.0024	MMcf/hr	0.0145	MMcf/hr
	21.21	MMcf/yr	127.28	MMcf/yr

Emission Rates:

NOx	**327.1**	**lb/MMcf**
CO	**817.7**	**lb/MMcf**

Appendix A: Emission Calculations

Company Name:	**GMC Allison Transmission Division Eagle Creek Technology Center**
Address, City IN Zip:	**6040 W 62nd Street, Indianapolis, IN 46268**
Permit:	**F097-15984-00333**
Reviewer:	**Boris Gorlin**

Two (2) boilers identified as BG-888-WF-WB-MO-UL, each with a heat input capacity 2.396 MMBtu/hr.

Natural Gas

Heat Input Capacity	Potential Throughput
Total MMBtu/hr	MMCF/yr
4.792	**41.98**

Pollutant	PM	PM10	SO_2*	NOx	VOC	CO
Emission Factor in lb/MMSCF	7.6	7.6	0.6	100.0	5.5	84.0
Potential Emission in tons/yr	0.160	0.160	0.013	2.099	0.115	1.763

Methodology

*Assumes sulfur content is natural gas of 2,000 grains/106 scf. The SO_2 emission factor in this table can be converted to other natural gas sulfur contents by multiplying the SO_2 emission factor by the ratio of the site-specific sulfur content (grains/106 scf) to 2,000 grains/106 scf.

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-03-006-03, Supplement D 3/98

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

HAPs

	Benzene	Butane	Ethane	Formaldehyde	Hexane	Pentane	Propane
Emission Factor in lb/MMSCF	2.10E-03	2.1E+00	3.1E+00	7.5E-02	1.8E+00	2.6E+00	1.6E+00
Potential Emission in tons/yr	0.0000	0.0441	0.0651	0.0016	0.0378	0.0546	0.0336

	Toluene	Barium	Cadmium	Chromium	Molybdenum	Nickel	Vanadium	Zinc
Emission Factor in lb/mmBtu	3.4E-03	4.4E-03	1.1E-03	1.4E-03	1.1E-03	2.1E-03	2.3E-03	2.9E-02
Potential Emission in tons/yr	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0006

HAPs emissions were calculated form HAP emission factors greater than 10E-03

	HAPs - VOC	HAPs - Metals
Total, ton/yr:	0.00165	0.00078