



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant
DATE: April 24, 2006
RE: Valeo Engine Cooling, Inc. / 031-21314-00014
FROM: Nisha Sizemore
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

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

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

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

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

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

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

Enclosures
FNPER.dot 03/23/06



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**NEW SOURCE REVIEW AND
FEDERALLY ENFORCEABLE STATE
OPERATING PERMIT (FESOP)
OFFICE OF AIR QUALITY**

**Valeo, Inc., Engine Cooling Automotive Division
1100 East Barachel Lane
Greensburg, Indiana 47240**

(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.

The Permittee must comply with all conditions of this permit. Noncompliance with any provision of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; and denial of a permit renewal application. 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. 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.

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. This permit also addresses new source review requirements and is intended to fulfill the new source review procedures and permit revision requirements pursuant to 326 IAC 2-8-11.1, applicable to those conditions.

Operation Permit No.: F031-21314-00014	
Issued by: Origin signed by Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: April 24, 2006 Expiration Date: April 24, 2011

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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). 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 a stationary fabrication plant producing automobile condensers, radiators, and cooling modules.

Authorized individual:	Site Director
Source Address:	1100 East Barachel Lane, Greensburg, Indiana 47240
Mailing Address:	1100 East Barachel Lane, Greensburg, Indiana 47240
General Source Phone:	(812) 663-8541
SIC Code:	3714
Source Location Status:	Decatur
Source Status:	Attainment for all criteria pollutants Federally Enforceable State Operating Permit (FESOP) Minor Source, under PSD; Minor Source, Section 112 of the Clean Air Act Not in 1 of 28 Source Categories

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:

- (a) One (1) 6 mm Condenser process, constructed in 1989, with a capacity of 300 aluminum cores per hour, using a wet scrubber (CE-3) as control, and exhausting at stack PE-3. This line consists of:
- (1) One (1) solder line (EU-3) installed in 1989, modified in 1996, and consisting of one (1) fluxer, one (1) natural gas-fired solder oven with a maximum heat input capacity of 1.65 MMBtu per hour, and a water quench station;
 - (2) One (1) natural gas-fired Rogers dry off oven with a maximum heat input capacity of 1.60 MMBtu per hour;
 - (3) One (1) electrostatic powder paint booth (identified as paint booth #3) and filter system installed in 1992, with maximum usage of 8.25 pounds of powder paint per hour;
 - (4) One (1) natural gas fired paint dry off oven with a maximum heat input capacity of 1.50 MMBtu per hour;
 - (5) One (1) paint hook burn off oven, with a maximum heat input capacity of 0.475 MMBtu per hour, and exhausting at stack PE-28; and
 - (6) Miscellaneous assembly and testing equipment.
- (b) One (1) NOCOLOK radiator, condenser and charge air cooler manufacturing process consisting of the following:
- (1) Core assembly process consisting of associated fin mills, core builders, tube mills, turbulators, and other related equipment using evaporative oils at 2.4 pounds of VOC per gallon of oil or less. The equipment under the core assembly

process is not stationary and can be moved from one location to another within the facility depending on the production needs.

- (2) One (1) braze line #1 constructed in 1991 with a maximum capacity of 200 aluminum cores (2,000 pounds per hour) and consisting of the following:
 - (A) One (1) natural gas-fired core conditioning oven with a maximum heat input capacity of 3.2 MMBtu per hour and exhausting at stack PE-20;
 - (B) One (1) spray fluxer with a maximum capacity of 11 pounds of flux per hour;
 - (C) One (1) natural gas-fired flux dry-off oven a maximum heat input capacity of 1.2 MMBtu per hour and exhausting at stack PE-22; and
 - (D) One (1) nitrogen electric braze oven and cool down station exhausting at stacks PE-23 and PE-24, respectively.
- (3) One (1) braze line #2 constructed in 1995 with a maximum capacity of 250 aluminum cores (3,800 pounds per hour) and consisting of the following:
 - (A) One (1) natural gas-fired core conditioning oven with a maximum heat input capacity of 4.0 MMBtu per hour and exhausting at stack PE-31;
 - (B) One (1) spray fluxer with a maximum capacity of 11 pounds of flux per hour;
 - (C) One (1) natural gas-fired flux dry-off oven a maximum heat input capacity of 1.5 MMBtu per hour and exhausting at stack PE-34; and
 - (D) One (1) nitrogen electric braze oven and cool down station exhausting at stacks PE-35 and PE-36, respectively.
- (4) One (1) braze line #3 constructed in 1996 with a maximum capacity of 250 aluminum cores (3,800 pounds per hour) and consisting of the following:
 - (A) One (1) natural gas-fired core conditioning oven with a maximum heat input capacity of 4.0 MMBtu per hour and exhausting at stack PE-44;
 - (B) One (1) spray fluxer with a maximum capacity of 11 pounds of flux per hour;
 - (C) One (1) natural gas-fired flux dry-off oven a maximum heat input capacity of 1.5 MMBtu per hour and exhausting at stack PE-47; and
 - (D) One (1) nitrogen electric braze oven and cool down station exhausting at stacks PE-48 and PE-49, respectively.
- (5) One (1) braze line #5 constructed in 1997 with a maximum capacity of 130 aluminum cores (2,250 pounds per hour) and consisting of the following:
 - (A) One (1) natural gas-fired core conditioning oven with a maximum heat input capacity of 2.5 MMBtu per hour and exhausting at stack PE-59;
 - (B) One (1) spray fluxer with a maximum capacity of 11 pounds of flux per hour;

- (C) One (1) natural gas-fired flux dry-off oven a maximum heat input capacity of 1.5 MMBtu per hour and exhausting at stack PE-62; and
 - (D) One (1) nitrogen electric braze oven and cool down station exhausting at stacks PE-63 and PE-64, respectively.
- (6) One (1) braze line #6 constructed in 1997 with a maximum capacity of 500 aluminum cores (7,500 pounds per hour) and consisting of the following:
- (A) One (1) natural gas-fired core conditioning oven with a maximum heat input capacity of 4.0 MMBtu per hour and exhausting at stack PE-600A, B;
 - (B) One (1) spray fluxer with a maximum capacity of 11 pounds of flux per hour;
 - (C) One (1) natural gas-fired flux dry-off oven a maximum heat input capacity of 1.5 MMBtu per hour and exhausting at stack PE-602; and
 - (D) One (1) nitrogen electric braze oven and cool down station exhausting at stacks PE-603A and PE-603B, respectively.
- (7) One (1) braze line #7 constructed in 2000 with a maximum capacity of 130 aluminum cores (2,250 pounds per hour) and consisting of the following:
- (A) One (1) natural gas-fired core conditioning oven with a maximum heat input capacity of 2.5 MBtu per hour and exhausting at stack PE-59;
 - (B) One (1) spray fluxer with a maximum capacity of 11 pounds of flux per hour;
 - (C) One (1) natural gas-fired flux dry-off oven a maximum heat input capacity of 1.5 MBtu per hour and exhausting at stack PE-702; and
 - (D) One (1) nitrogen electric braze oven and cool down station exhausting at stacks PE-703A and PE-703B, respectively.
- (8) Two (2) electrostatic powder paint booths and filter system (identified as (paint booth #1 and paint booth #2). Paint booth#1 has a maximum usage rate of 12 pounds of paint per hour, and paint booth #2 has a maximum usage rate of 23 pounds of paint per hour.
- (9) Two (2) natural gas-fired paint dry-off ovens each with a maximum heat input capacity of 1.5 MMBtu per hour and exhausting at stacks PE-29 and PE-605, respectively.
- (10) One (1) natural gas-fired paint hook burn-off oven with a maximum heat input capacity of 0.475 MMBtu per hour and exhausting at stack PE-28
- (11) Three (3) robotic arc welders, with a combined maximum electrode consumption of 2.1 pounds per hour.
- (c) One (1) NOCOLOK prototype process used for providing test parts for customer testing and consisting of:
- (1) Core assembly process using fin mills, core builders, tube mills, and other related equipment using evaporative oils at 2.4 pounds of VOC per gallon of oil or less;

- (2) One (1) spray fluxer with a maximum capacity of 11 pounds of flux per hour;
 - (3) One (1) natural gas-fired flux dry-off oven a maximum heat input capacity of 0.4 MMBtu per hour;
 - (4) One (1) nitrogen electric braze oven and cool down station; and
 - (5) Miscellaneous assembly and test equipment.
- (d) One (1) mechanical radiator manufacturing process (EU-53) consisting of the following:
- (1) Two (2) fin press lines (P0 and P1) each with a maximum usage rate of 3.29 pounds of evaporative oils hour or 4.7 pounds of VOC per gallon of oil or less;
 - (2) Two (2) expanders which use 1.3 pounds of VOC per gallon of oil or less; and
 - (3) Miscellaneous assembly and testing equipment.

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

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, each with a maximum heat input capacity of 1.7 MMBtu per hour. These boilers were installed in 2001. [326 IAC 6-2-4]
- (b) Brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3]
- (c) Combustion source flame safety purging on startup.
- (d) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons. [326 IAC 12] [40 CFR 60, Subpart Kb]
- (e) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.
- (f) Application of oils, greases, lubricants, or other nonvolatile materials applied as temporary protective coatings.
- (g) Machining where an aqueous cutting coolant continuously floods the machining interface.
- (h) Cleaners and solvents having a vapor pressure equal to less than 2 kPa; 15 mm Hg; or 2 psi measured at 38 degrees C (100 degrees F).
- (i) Closed loop heating and cooling system.
- (i) Forced and induced draft cooling tower system not regulated under a NESHAP.
- (k) Quenching operations used with heat treating processes.
- (l) Heat exchanger cleaning and repair.
- (m) Process vessel degassing and cleaning to prepare for internal repairs.
- (n) Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]
- (o) Purging of gas lines and vessels that is related to routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process.

- (p) Equipment used to collect any material that might be released during a malfunction, process upset, or spill cleanup, including catch tanks, temporary liquid separators, tanks and fluid handling equipment.
- (q) Blow-down for any of the following: sight glass, boiler, compressors, pumps, and cooling tower.
- (r) On-site fire and emergency response training approved by the department.
- (s) Stationary fire pumps.

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) for a Federally Enforceable State Operating Permit (FESOP).

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]

- (a) 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) If IDEM, OAQ, upon receiving a timely and complete renewal 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, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

B.4 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

- (a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or
- (b) the emission unit to which the condition pertains permanently ceases operation.

B.5 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 the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

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, within a reasonable time, any information that IDEM, OAQ, 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, 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 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 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. One (1) certification may cover multiple forms in one (1) submittal.
- (c) An authorized individual is defined at 326 IAC 2-1.1-1(1).

B.11 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 July 1 of each year to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

- (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, on or before the date it is due.
- (c) 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, 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.12 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
Indianapolis, Indiana 46204-2251

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

- (b) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs do not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation, Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.13 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, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

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

- (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
Indianapolis, Indiana 46204-2251

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) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ, 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, 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.14 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to and issued pursuant to permitting programs approved into the state implementation plan have been either
- (1) incorporated as originally stated,
 - (2) revised under 326 IAC 2-7-10.5, or
 - (3) deleted under 326 IAC 2-7-10.5.
- (b) All previous registrations and permits are superseded by this permit.

B.15 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 2-7-3 and 326 IAC 2-7-4(a).

B.16 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
Indianapolis, Indiana 46204-2251

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 not 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.17 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 IDEM, OAQ 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 IDEM, OAQ, 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 Permittee by IDEM, OAQ, at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ, may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

B.18 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 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
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:
 - (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) 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 2-7 until IDEM, OAQ, 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, any additional information identified as being needed to process the application.

B.19 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
Indianapolis, Indiana 46204-2251
- 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.20 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 limitations provided in 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
Indianapolis, Indiana 46204-2251

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, on a rolling five (5) year basis, which document all such changes and emissions trades that are subject to 326 IAC 2-

8-15(b) through (d). The Permittee shall make such records available, upon reasonable request, to public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ, 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 emissions increases and decreases at 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.
- (d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.21 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.22 Source Modification Requirement [326 IAC 2-8-11.1]

A modification, construction, or reconstruction is governed by 326 IAC 2 and 326 IAC 2-7-10-5.

B.23 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC13-30-3-1]

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, 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 13-14-2-2, 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 13-14-2-2, 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 13-14-2-2, 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 13-14-2-2, 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.24 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
Indianapolis, Indiana 46204-2251

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.25 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 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.26 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.

B.27 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314][326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 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, except particulate matter (PM), 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.3 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:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.4 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.5 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.6 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.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
 - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
 - (2) If there is a change in the following:
 - (A) Asbestos removal or demolition start date;
 - (B) Removal or demolition contractor; or
 - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (e) **Procedures for Asbestos Emission Control**
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1 emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Demolition and renovation**
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Accredited Asbestos Inspector**
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Accredited Asbestos inspector is not federally enforceable.

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
Indianapolis, Indiana 46204-2251

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 not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ, if the Permittee submits to IDEM, OAQ, 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
Indianapolis, Indiana 46204-2251

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

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

C.13 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

- (a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:
 - (1) initial inspection and evaluation;
 - (2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or
 - (3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - (1) monitoring results;
 - (2) review of operation and maintenance procedures and records;
 - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall maintain the following records:
 - (1) monitoring data;
 - (2) monitor performance data, if applicable; and
 - (3) corrective actions taken.

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, 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 that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves 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 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

- (a) Records of all required monitoring 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 Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner 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.16 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

- (a) The Permittee 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
Indianapolis, Indiana 46204-2251
- (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, 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, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

Stratospheric Ozone Protection

C.17 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

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

- (a) One (1) 6 mm Condenser process, constructed in 1989, with a capacity of 300 aluminum cores per hour, using a wet scrubber (CE-3) as control, and exhausting at stack PE-3. This line consists of:
- (1) One (1) solder line (EU-3) installed in 1989, modified in 1996, and consisting of one (1) fluxer, one (1) natural gas-fired solder oven with a maximum heat input capacity of 1.65 MMBtu per hour, and a water quench station;
 - (2) One (1) natural gas-fired Rogers dry off oven with a maximum heat input capacity of 1.60 MMBtu per hour;
 - (3) One (1) electrostatic powder paint booth (identified as paint booth #3) and filter system installed in 1992, with maximum usage of 8.25 pounds of powder paint per hour;
 - (4) One (1) natural gas fired paint dry off oven with a maximum heat input capacity of 1.50 MMBtu per hour;
 - (5) One (1) paint hook burn off oven, with a maximum heat input capacity of 0.475 MMBtu per hour, and exhausting at stack PE-28; and
 - (6) Miscellaneous assembly and testing equipment.

(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.1.1 Particulate [326 IAC 6-3-2]

- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emissions from the one (1) 6 mm Condenser process shall not exceed 4.90 pounds per hour when operating at a process weight rate of 2,625 pounds per hour.

The pound per hour limitation was calculated as follows:

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

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

D.1.2 Particulate Control

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. Therefore, the wet scrubber and the cartridge filter system for particulate control shall be in operation and control emissions from the one (1) 6 mm condenser process and one (1) electrostatic powder paint booth (identified as paint booth #3) at all times that the one (1) 6 mm condenser process and one (1) electrostatic powder paint booth are in operation, respectively.

SECTION D.2

FACILITY OPERATION CONDITIONS

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

- (b) One (1) NOCLOK radiator, condenser and charge air cooler manufacturing process consisting of the following:
 - (1) Core assembly process consisting of associated fin mills, core builders, tube mills, turbulators, and other related equipment using evaporative oils at 2.4 pounds of VOC per gallon of oil or less. The equipment under the core assembly process is not stationary and can be moved from one location to another within the facility depending on the production needs.
 - (2) One (1) braze line #1 constructed in 1991 with a maximum capacity of 200 aluminum cores (2,000 pounds per hour) and consisting of the following:
 - (A) One (1) natural gas-fired core conditioning oven with a maximum heat input capacity of 3.2 MMBtu per hour and exhausting at stack PE-20;
 - (B) One (1) spray fluxer with a maximum capacity of 11 pounds of flux per hour;
 - (C) One (1) natural gas-fired flux dry-off oven a maximum heat input capacity of 1.2 MMBtu per hour and exhausting at stack PE-22; and
 - (D) One (1) nitrogen electric braze oven and cool down station exhausting at stacks PE-23 and PE-24, respectively.
 - (3) One (1) braze line #2 constructed in 1995 with a maximum capacity of 250 aluminum cores (3,800 pounds per hour) and consisting of the following:
 - (A) One (1) natural gas-fired core conditioning oven with a maximum heat input capacity of 4.0 MMBtu per hour and exhausting at stack PE-31;
 - (B) One (1) spray fluxer with a maximum capacity of 11 pounds of flux per hour;
 - (C) One (1) natural gas-fired flux dry-off oven a maximum heat input capacity of 1.5 MMBtu per hour and exhausting at stack PE-34; and
 - (D) One (1) nitrogen electric braze oven and cool down station exhausting at stacks PE-35 and PE-36, respectively.
 - (4) One (1) braze line #3 constructed in 1996 with a maximum capacity of 250 aluminum cores (3,800 pounds per hour) and consisting of the following:
 - (A) One (1) natural gas-fired core conditioning oven with a maximum heat input capacity of 4.0 MMBtu per hour and exhausting at stack PE-44;
 - (B) One (1) spray fluxer with a maximum capacity of 11 pounds of flux per hour;
 - (C) One (1) natural gas-fired flux dry-off oven a maximum heat input capacity of 1.5 MMBtu per hour and exhausting at stack PE-47; and
 - (D) One (1) nitrogen electric braze oven and cool down station exhausting at stacks PE-48 and PE-49, respectively.
 - (5) One (1) braze line #5 constructed in 1997 with a maximum capacity of 130 aluminum cores (2,250 pounds per hour) and consisting of the following:

SECTION D.2

FACILITY OPERATION CONDITIONS

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

- (A) One (1) natural gas-fired core conditioning oven with a maximum heat input capacity of 2.5 MMBtu per hour and exhausting at stack PE-59;
 - (B) One (1) spray fluxer with a maximum capacity of 11 pounds of flux per hour;
 - (C) One (1) natural gas-fired flux dry-off oven a maximum heat input capacity of 1.5 MMBtu per hour and exhausting at stack PE-62; and
 - (D) One (1) nitrogen electric braze oven and cool down station exhausting at stacks PE-63 and PE-64, respectively.
- (6) One (1) braze line #6 constructed in 1997 with a maximum capacity of 500 aluminum cores (7,500 pounds per hour) and consisting of the following:
- (A) One (1) natural gas-fired core conditioning oven with a maximum heat input capacity of 4.0 MMBtu per hour and exhausting at stack PE-600A, B;
 - (B) One (1) spray fluxer with a maximum capacity of 11 pounds of flux per hour;
 - (C) One (1) natural gas-fired flux dry-off oven a maximum heat input capacity of 1.5 MMBtu per hour and exhausting at stack PE-602; and
 - (D) One (1) nitrogen electric braze oven and cool down station exhausting at stacks PE-603A and PE-603B, respectively.
- (7) One (1) braze line #7 constructed in 2000 with a maximum capacity of 130 aluminum cores (2,250 pounds per hour) and consisting of the following:
- (A) One (1) natural gas-fired core conditioning oven with a maximum heat input capacity of 2.5 MBtu per hour and exhausting at stack PE-59;
 - (B) One (1) spray fluxer with a maximum capacity of 11 pounds of flux per hour;
 - (C) One (1) natural gas-fired flux dry-off oven a maximum heat input capacity of 1.5 MBtu per hour and exhausting at stack PE-702; and
 - (D) One (1) nitrogen electric braze oven and cool down station exhausting at stacks PE-703A and PE-703B, respectively.
- (8) Two (2) electrostatic powder paint booths and filter system (identified as (paint booth #1 and paint booth #2). Paint booth#1 has a maximum usage rate of 12 pounds of paint per hour, and paint booth #2 has a maximum usage rate of 23 pounds of paint per hour.
- (9) Two (2) natural gas-fired paint dry-off ovens each with a maximum heat input capacity of 1.5 MMBtu per hour and exhausting at stacks PE-29 and PE-605, respectively.
- (10) One (1) natural gas-fired paint hook burn-off oven with a maximum heat input capacity of 0.475 MMBtu per hour and exhausting at stack PE-28
- (11) Three (3) robotic arc welders, with a combined maximum electrode consumption of 2.1 pounds per hour.
- (c) One (1) NOCOLOK prototype process used for providing test parts for customer testing and consisting of:

SECTION D.2

FACILITY OPERATION CONDITIONS

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

- (1) Core assembly process using fin mills, core builders, tube mills, and other related equipment using evaporative oils at 2.4 pounds of VOC per gallon of oil or less;
 - (2) One (1) spray fluxer with a maximum capacity of 11 pounds of flux per hour;
 - (3) One (1) natural gas-fired flux dry-off oven a maximum heat input capacity of 0.4 MMBtu per hour;
 - (4) One (1) nitrogen electric braze oven and cool down station; and
 - (5) Miscellaneous assembly and test equipment.
- (d) One (1) mechanical radiator manufacturing process (EU-53) consisting of the following:
- (1) Two (2) fin press lines (P0 and P1) each with a maximum usage rate of 3.29 pounds of evaporative oils hour or 4.7 pounds of VOC per gallon of oil or less;
 - (2) Two (2) expanders which use 1.3 pounds of VOC per gallon of oil or less; and
 - (3) Miscellaneous assembly and testing equipment.

(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 VOCs and HAPs [326 IAC 2-8]

Pursuant to 326 IAC 2-8 (FESOP):

- (a) The VOC input from the evaporating oil usage in the one (1) NOCOLOK radiator, condenser, and charge air cooler manufacturing process and one (1) mechanical radiator process shall be limited to less than eighty-seven (87) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) Any change or modification that will increase the potential to emit of a single HAP equal to or greater than ten (10) tons per year shall require prior approval from IDEM, OAQ.
- (c) Any change or modification that will increase the potential to emit of combination of HAPs equal to or greater than twenty-five (25) tons per year shall require prior approval from IDEM, OAQ.

Compliance with D.2.1(a) in combination with the potential to emit of VOC from all other units under this section and all units listed in Sections D.1 and D.3 ensures that VOC emissions from the entire source will be less than ninety-nine (99) tons per year and renders the requirements of 326 IAC 2-7 (Part 70 Permit) not applicable.

D.2.2 VOC [326 IAC 8-1-6 (BACT)]

Pursuant to 326 IAC 8-1-6 (BACT), for the one (1) NOCOLOK radiator, condenser, and charge air cooler manufacturing process, the Permittee shall:

- (a) The VOC input from the evaporating oil usage used in the one (1) NOCOLOK radiator, condenser, charge air cooler manufacturing process shall be limited to less than eighty-seven (87) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

- (b) Use oils which contain no more than 2.4 pounds of VOC per gallon of oil utilized on all fin mills, tube mills and turbulator; and
- (c) Use a micro-coat application system on all fin mills, tube mills, and turbulator to minimize oil usage.

D.2.3 VOC [326 IAC 4-2-2]

Pursuant to 326 IAC 4-2-2 (Incinerators) the paint hook burn-off oven shall:

- (a) Consist of primary and secondary chambers or the equivalent;
- (b) Be equipped with a primary burner unless burning wood products;
- (c) Comply with 326 IAC 5-1 and 326 IAC 2;
- (d) Be maintained, operated, and burn waste in accordance with the manufacturer's specifications or an operation and maintenance plan as specified in 326 IAC 4-2-2(c); and
- (e) Not emit particulate matter in excess of five-tenths (0.5) pounds of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to fifty percent (50%) excess air for incinerators.

If any of the above requirements are not met, the Permittee shall stop charging the incinerator until adjustments are made that address the underlying cause of the deviation.

D.2.4 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.

D.2.5 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 and any control devices.

Compliance Determination Requirements

D.2.6 Volatile Organic Compounds (VOC)[326 IAC 8-1-2][326 IAC 8-1-4]

Compliance with the VOC content and input limitations contained in Conditions D.2.1(a) and D.2.2 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

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

D.2.7 Record Keeping Requirements

- (a) To document compliance with Conditions D.2.1(a) and D.2.2, the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC content and VOC usage limits established in Conditions D.2.1(a) and D.2.2. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.
 - (1) The VOC content of each evaporating oils used;
 - (2) The amount of evaporating oils usage at one (1) NOCOLOK radiator, condenser, and charge air cooler manufacturing process and one (1) mechanical radiator

manufacturing process. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used; and

- (3) The total VOC usage for each month at one (1) NOCOLOK radiator, condenser, and charge air cooler manufacturing process and one (1) mechanical radiator manufacturing process.

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

D.2.8 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.2.1(a) and D.2.2 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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).'

SECTION D.3

FACILITY OPERATION CONDITIONS

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

- (a) Two (2) natural gas-fired boilers, each with a maximum heat input capacity of 1.7 MMBtu per hour. These boilers were installed in 2001. [326 IAC 6-2-4]

(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.3.1 Particulate [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), PM emissions from the each of the two (2) natural gas-fired boilers shall not exceed 0.6 lbs PM per MMBtu.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) CERTIFICATION

Source Name: Valeo, Inc., Engine Cooling Automotive Division
Source Address: 1100 East Barachel Lane, Greensburg, Indiana 47240
Mailing Address: 1100 East Barachel Lane, Greensburg, Indiana 47240
FESOP No.: 031-21314-00014

**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:

- Annual Compliance Certification Letter
- Test Result (specify)_____
- Report (specify)_____
- Notification (specify)_____
- Affidavit (specify)_____
- 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
100 North Senate Avenue
Indianapolis, Indiana 46204-2251
Phone: 317-233-5674
Fax: 317-233-5967**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
EMERGENCY OCCURRENCE REPORT**

Source Name: Valeo, Inc., Engine Cooling Automotive Division
Source Address: 1100 East Barachel Lane, Greensburg, Indiana 47240
Mailing Address: 1100 East Barachel Lane, Greensburg, Indiana 47240
FESOP No.: 031-21314-00014

This form consists of 2 pages

Page 1 of 2

- | |
|---|
| <input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12) <ul style="list-style-type: none">• 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**

FESOP Quarterly Report

Source Name: Valeo, Inc., Engine Cooling Automotive Division
Source Address: 1100 East Barachel Lane, Greensburg, Indiana 47240
Mailing Address: 1100 East Barachel Lane, Greensburg, Indiana 47240
FESOP No.: 031-21314-00014
Facility: One (1) NOCOLOK radiator, condenser, and charge air cooler manufacturing process, one (1) mechanical radiator manufacturing process
Parameter: VOC
Limit: Less than eighty-seven (87) tons per twelve (12) consecutive month period, with compliance determined at the end of each month

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	VOC	VOC	VOC
	This month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
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**

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

Source Name: Valeo, Inc., Engine Cooling Automotive Division
Source Address: 1100 East Barachel Lane, Greensburg, Indiana 47240
Mailing Address: 1100 East Barachel Lane, Greensburg, Indiana 47240
FESOP No.: 031-21314-00014

Months: _____ to _____ Year: _____

Page 1 of 2

<p>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. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does 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".</p>	
<input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
<input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
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 Quality**

Addendum to the
Technical Support Document (TSD)
for a New Source Review and
Federally Enforceable State Operating Permit

Source Background and Description

Source Name:	Valeo, Inc., Engine Cooling Automotive Division
Source Location:	1100 East Barachel Lane, Greensburg, Indiana 47240
County:	Decatur
SIC Code:	3714
Operation Permit No.:	031-21314-00014
Permit Reviewer:	ERG/SD

On March 18, 2006 the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) had a notice published in the Greensburg Daily News, Greensburg, Indiana, stating that Valeo, Inc., Engine Cooling Automotive Division had applied for a New Source Review and Federally Enforceable State Operating Permit to operate a stationary fabrication plant producing automobile condensers, radiators, and cooling modules. The notice also stated that IDEM, OAQ 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.

On April 10, 2006, Valeo, Inc., Engine Cooling Automotive Division submitted comments on the proposed New Source Review and Federally Enforceable State Operating Permit. The summary of the comments and responses are shown below. Deleted text is shown in ~~strikeout~~ and new text is shown in **bold**. The Table of Contents has been updated as necessary.

Comment 1:

The Permittee requested to revise the heat input capacity of the dry off ovens listed as items (a)(2) and (a)(4) under Section A.2(a)(2) and A.2.(a)(4) from 0.16 and 0.15 MMBtu/hour to 1.60 and 1.50 MMBtu/hour, respectively, because the heat input rates in the draft permit were not correct for these units.

Response to Comment 1:

Section A.2 and D.1 have been revised as shown. The potential to emit table has been updated after the revisions to the dry off ovens. These revisions do not change any of the applicable requirements currently included in the permit. No changes were made to the Technical Support Document (TSD) because IDEM, OAQ prefers that the TSD reflect the permit that was on public notice. Changes to the permit or to the technical support material that occur after public notice are documented in this Addendum to the TSD. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision.

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:

- (a) One (1) 6 mm Condenser process, constructed in 1989, with a capacity of 300 aluminum cores per hour, using a wet scrubber (CE-3) as control, and exhausting at stack PE-3. This line consists of:
 - ...
 - (2) One (1) natural gas-fired Rogers dry off oven with a maximum heat input capacity of ~~0.46~~**1.60** MMBtu per hour;
 - ..
 - (4) One (1) natural gas fired paint dry off oven with a maximum heat input capacity of ~~0.45~~**1.50** MMBtu per hour;
 - ...
- (b) One (1) NOCOLOK radiator, condenser and charge air cooler manufacturing process consisting of the following:
 - ...
 - (10) One (1) natural gas-fired paint hook ~~burn-off~~**burn-off** oven with a maximum heat input capacity of 0.475 MMBtu per hour and exhausting at stack PE-28

...

SECTION D.1 FACILITY OPERATION CONDITIONS

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

- (a) One (1) 6 mm Condenser process, constructed in 1989, with a capacity of 300 aluminum cores per hour, using a wet scrubber (CE-3) as control, and exhausting at stack PE-3. This line consists of:
 - ...
 - (2) One (1) natural gas-fired Rogers dry off oven with a maximum heat input capacity of ~~0.46~~**1.60** MMBtu per hour;
 - ...
 - (4) One (1) natural gas fired paint dry off oven with a maximum heat input capacity of ~~0.45~~**1.50** MMBtu per hour;
 - ...

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

Emission Unit	Potential to Emit (tons/year)						
	PM	PM10	SO ₂	VOC	CO	NO _x	HAPs
6 mm Condenser Process	1.88	1.88	0.0	5.56	0.0	0.0	5.56
Mechanical Radiator Manufacturing Process (2 Fin Press Lines)	0.0	0.0	0.0	Less than 87 tons per twelve (12) consecutive month period, with compliance determined at the end of each month	0.0	0.0	0.0
NOCOLOK Manufacturing Process consisting of:							
Core Assembly Process	0.0	0.0	0.0		0.0	0.0	0.0
6 Natural Gas-Fired Core Conditioning Ovens	0.16	0.66	0.05		7.29	8.67	1.63E-01
6 Spray Fluxers	0.97	0.97	0.0		0.0	0.0	0.0
6 Natural Gas-Fired Flux Dry-Off Ovens	0.08	0.31	0.02		3.39	4.04	7.60E-02
6 Electric Braze Ovens with Cooling Stations	19.8	19.8	0.0		0.0	0.0	0.0
3 Powder Paint Booths	4.15	4.15	0.0		0.0	0.0	0.0
2 Paint Dry-Off Ovens	0.02 0.03	0.10	0.01	0.07	4.08 1.12	4.29 1.33	2.42E-02 2.50E-02
1 Paint Burn-Off Oven	9.41	9.41	1.22E-03	2.04E-01	1.12E-02	1.71E-01	3.84E-03
2 Natural Gas-Fired Boilers	0.03	0.11	0.01	0.08	1.23	1.46	2.75E-02
1 Solder Oven	1.35E-02	5.38E-02	4.25E-03	3.90E-02	5.95E-01	7.09E-01	1.33E-02
3 Robotic Welders	6.65E-01	6.65E-01	0.0	0.0	0.0	0.00	5.86E-02
NOCOLOK Prototype	0.0	0.0	0.0	6.31	0.0	0.0	0.0
Total PTE After Issuance	37.2	38.1	0.10	Less than 99	13.67	16.23	5.93

Comment 2:

The Permittee requested to revise the emission unit description in item A.2(b)(10) from “paint hook bun-off oven” to “paint hook burn-off oven”.

Response to Comment 2:

Section A.2 (b)(10) and emission unit description in Section D.2 have been revised as shown.

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:

...

- (b) One (1) NOCOLOK radiator, condenser and charge air cooler manufacturing process consisting of the following:

...

- (10) One (1) natural gas-fired paint hook ~~burn-off~~ **burn-off** oven with a maximum heat input capacity of 0.475 MMBtu per hour and exhausting at stack PE-28

SECTION D.2

FACILITY OPERATION CONDITIONS

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

- (b) One (1) NOCOLOK radiator, condenser and charge air cooler manufacturing process consisting of the following:

...

- (10) One (1) natural gas-fired paint hook ~~burn-off~~ **burn-off** oven with a maximum heat input capacity of 0.475 MMBtu per hour and exhausting at stack PE-28

...

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

Comment 3:

The Permittee has requested to combine the quarterly reports to show compliance with Conditions D.2.1(a) and D.2.2(a) since compliance with Condition D.2.1(a) will ensure compliance with Condition with D.2.2(a). The submission of one report will allow a reduction in paperwork and minimize confusion when reporting.

Response to Comment 3:

IDEM, OAQ agrees with the above request and has combined the quarterly reports to show compliance with Conditions D.2.1(a) and D.2.2(a). The first Quarterly Report has been retained and the second Quarterly Report has been deleted

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

FESOP Quarterly Report

Source Name: Valeo, Inc., Engine Cooling Automotive Division
 Source Address: 1100 East Barachel Lane, Greensburg, Indiana 47240
 Mailing Address: 1100 East Barachel Lane, Greensburg, Indiana 47240
 FESOP No.: 031-21314-00014
 Facility: One (1) NOCOLOK radiator, condenser, and charge air cooler manufacturing process.
 Parameter: VOG
 Limit: Less than eighty-seven (87) tons per twelve consecutive month period, with compliance determined at the end of each month.

YEAR: _____

Month	Column 1		Column 2		Column 1 + Column 2	
	VOG		VOG		VOG	
	This Month		Previous 11 Months		12 Month Total	
Month 1						
Month 2						
Month 3						

_____ No deviation occurred in this quarter.
 _____ Deviation/s occurred in this quarter.
 _____ 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**

Technical Support Document (TSD) for a Federally Enforceable State Operating Permit
(FESOP) and New Source Review

Source Background and Description

Source Name:	Valeo, Inc., Engine Cooling Automotive Division
Source Location:	1100 East Barachel Lane, Greensburg, Indiana 47240
County:	Decatur
SIC Code:	3714
Operation Permit No.:	031-21314-00014
Permit Reviewer:	ERG/SD

The Office of Air Quality (OAQ) has reviewed a FESOP and New Source Review application from Valeo, Inc. Engine Cooling Automotive Division relating to the operation of a fabrication plant producing automobile condensers, radiators, and cooling modules.

History

Valeo, Inc. was issued Part 70 Permit No. 031-7017-00014 on March 28, 2000. The Permittee submitted an application on June 25, 2004 requesting permission to operate their existing fabrication plant producing automobile condensers, radiators, and cooling modules pursuant to 326 IAC 2-8 (Federally Enforceable State Operating Permit (FESOP)).

Permitted Emission Units and Pollution Control Equipment

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

- (a) One (1) 6 mm Condenser process, constructed in 1989, with a capacity of 300 aluminum cores per hour, using a wet scrubber (CE-3) as control, and exhausting at stack PE-3. This process consists of:
- (1) One (1) solder line (EU-3) installed in 1989, modified in 1996, and consisting of one (1) fluxer, one (1) natural gas-fired solder oven with a maximum heat input capacity of 1.65 MMBtu per hour, and a water quench station;
 - (2) One (1) natural gas-fired Rogers dry off oven with a maximum heat input capacity of 0.16 MMBtu per hour;
 - (3) One (1) electrostatic powder paint booth (identified as paint booth #3) and filter system installed in 1992, with maximum usage of 8.25 pounds of powder paint per hour;
 - (4) One (1) natural gas fired paint dry off oven with a maximum heat input capacity of 0.15 MMBtu per hour;
 - (5) One (1) paint hook burn off oven, with a maximum heat input capacity of 0.475 MMBtu per hour, and exhausting at stack PE-28; and
 - (6) Miscellaneous assembly and testing equipment.

- (b) One (1) NOCOLOK radiator, condenser and charge air cooler manufacturing process consisting of the following:
 - (1) Core assembly process consisting of associated fin mills, core builders, tube mills, turbulators, and other related equipment using evaporative oils at 2.4 pounds of VOC per gallon of oil or less. The equipment under the core assembly process is not stationary and can be moved from one location to another within the facility depending on the production needs.
 - (2) One (1) braze line #1 constructed in 1991 with a maximum capacity of 200 aluminum cores (2,000 pounds per hour) and consisting of the following:
 - (A) One (1) natural gas-fired core conditioning oven with a maximum heat input capacity of 3.2 MMBtu per hour and exhausting at stack PE-20;
 - (B) One (1) spray fluxer with a maximum capacity of 11 pounds of flux per hour;
 - (C) One (1) natural gas-fired flux dry-off oven a maximum heat input capacity of 1.2 MMBtu per hour and exhausting at stack PE-22; and
 - (D) One (1) nitrogen electric braze oven and cool down station exhausting at stacks PE-23 and PE-24, respectively.
 - (3) One (1) braze line #2 constructed in 1995 with a maximum capacity of 250 aluminum cores (3,800 pounds per hour) and consisting of the following:
 - (A) One (1) natural gas-fired core conditioning oven with a maximum heat input capacity of 4.0 MMBtu per hour and exhausting at stack PE-31;
 - (B) One (1) spray fluxer with a maximum capacity of 11 pounds of flux per hour;
 - (C) One (1) natural gas-fired flux dry-off oven a maximum heat input capacity of 1.5 MMBtu per hour and exhausting at stack PE-34; and
 - (D) One (1) nitrogen electric braze oven and cool down station exhausting at stacks PE-35 and PE-36, respectively.
 - (4) One (1) braze line #3 constructed in 1996 with a maximum capacity of 250 aluminum cores (3,800 pounds per hour) and consisting of the following:
 - (A) One (1) natural gas-fired core conditioning oven with a maximum heat input capacity of 4.0 MMBtu per hour and exhausting at stack PE-44;
 - (B) One (1) spray fluxer with a maximum capacity of 11 pounds of flux per hour;
 - (C) One (1) natural gas-fired flux dry-off oven a maximum heat input capacity of 1.5 MMBtu per hour and exhausting at stack PE-47; and
 - (D) One (1) nitrogen electric braze oven and cool down station exhausting at stacks PE-48 and PE-49, respectively.
 - (5) One (1) braze line #5 constructed in 1997 with a maximum capacity of 130 aluminum cores (2,250 pounds per hour) and consisting of the following:
 - (A) One (1) natural gas-fired core conditioning oven with a maximum heat input capacity of 2.5 MMBtu per hour and exhausting at stack PE-59;

- (B) One (1) spray fluxer with a maximum capacity of 11 pounds of flux per hour;
 - (C) One (1) natural gas-fired flux dry-off oven a maximum heat input capacity of 1.5 MMBtu per hour and exhausting at stack PE-62; and
 - (D) One (1) nitrogen electric braze oven and cool down station exhausting at stacks PE-63 and PE-64, respectively.
- (6) One (1) braze line #6 constructed in 1997 with a maximum capacity of 500 aluminum cores (7,500 pounds per hour) and consisting of the following:
- (A) One (1) natural gas-fired core conditioning oven with a maximum heat input capacity of 4.0 MMBtu per hour and exhausting at stack PE-600A, B;
 - (B) One (1) spray fluxer with a maximum capacity of 11 pounds of flux per hour;
 - (C) One (1) natural gas-fired flux dry-off oven a maximum heat input capacity of 1.5 MMBtu per hour and exhausting at stack PE-602; and
 - (D) One (1) nitrogen electric braze oven and cool down station exhausting at stacks PE-603A and PE-603B, respectively.
- (7) One (1) braze line #7 constructed in 2000 with a maximum capacity of 130 aluminum cores (2,250 pounds per hour) and consisting of the following:
- (A) One (1) natural gas-fired core conditioning oven with a maximum heat input capacity of 2.5 MBtu per hour and exhausting at stack PE-59;
 - (B) One (1) spray fluxer with a maximum capacity of 11 pounds of flux per hour;
 - (C) One (1) natural gas-fired flux dry-off oven a maximum heat input capacity of 1.5 MBtu per hour and exhausting at stack PE-702; and
 - (D) One (1) nitrogen electric braze oven and cool down station exhausting at stacks PE-703A and PE-703B, respectively.
- (7) Two (2) electrostatic powder paint booths and filter system (identified as (paint booth #1 and paint booth #2). Paint booth#1 has a maximum usage rate of 12 pounds of paint per hour, and paint booth #2 has a maximum usage rate of 23 pounds of paint per hour.
- (8) Two (2) natural gas-fired paint dry-off ovens each with a maximum heat input capacity of 1.5 MMBtu per hour and exhausting at stacks PE-29 and PE-605, respectively.
- (9) One (1) natural gas-fired paint hook bun-off oven with a maximum heat input capacity of 0.475 MMBtu per hour and exhausting at stack PE-28
- (10) Three (3) robotic arc welders, with a combined maximum electrode consumption of 2.1 pounds per hour.
- (c) One (1) NOCOLOK prototype process used for providing test parts for customer testing and consisting of:

- (1) Core assembly process using fin mills, core builders, tube mills, and other related equipment using evaporative oils at 2.4 pounds of VOC per gallon of oil or less;
 - (2) One (1) spray fluxer with a maximum capacity of 11 pounds of flux per hour;
 - (3) One (1) natural gas-fired flux dryoff oven a maximum heat input capacity of 0.4 MMBtu per hour;
 - (4) One (1) nitrogen electric braze oven and cool down station; and
 - (5) Miscellaneous assembly and test equipment.
- (d) One (1) mechanical radiator manufacturing process (EU-53) consisting of the following:
- (1) Two (2) fin press lines (P0 and P1) each with a maximum usage rate of 3.29 pounds of evaporative oils hour or 4.7 pounds of VOC per gallon of oil or less;
 - (2) Two (2) expanders which use 1.3 pounds of VOC per gallon of oil or less; and
 - (3) Miscellaneous assembly and testing equipment.

Unpermitted Emission Units and Pollution Control Equipment

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

New Emission Units and Pollution Control Equipment Receiving Advanced Source Modification Approval

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

Two (2) turbulator mills and two (2) fin mills in the core assembly process, which is part of the one (1) NOCOLOK radiator, condenser, and charge air cooler manufacturing process. Note: These units are included in item (b)(1) of Permitted Emission Units and Pollution Control Equipment of this permit.

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, each with a maximum heat input capacity of 1.7 MMBtu per hour. These boilers were installed in 2001. [326 IAC 6-2-4]
- (b) Brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3]
- (c) Combustion source flame safety purging on startup.
- (d) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons. [326 IAC 12] [40 CFR 60, Subpart Kb]
- (e) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.
- (f) Application of oils, greases, lubricants, or other nonvolatile materials applied as temporary protective coatings.
- (g) Machining where an aqueous cutting coolant continuously floods the machining interface.

- (h) Cleaners and solvents having a vapor pressure equal to less than 2 kPa; 15 mm Hg; or 2 psi measured at 38 degrees C (100 degrees F).
- (i) Closed loop heating and cooling system.
- (i) Forced and induced draft cooling tower system not regulated under a NESHAP.
- (k) Quenching operations used with heat treating processes.
- (l) Heat exchanger cleaning and repair.
- (m) Process vessel degassing and cleaning to prepare for internal repairs.
- (n) Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]
- (o) Purging of gas lines and vessels that is related to routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process.
- (p) Equipment used to collect any material that might be released during a malfunction, process upset, or spill cleanup, including catch tanks, temporary liquid separators, tanks and fluid handling equipment.
- (q) Blow-down for any of the following: sight glass, boiler, compressors, pumps, and cooling tower.
- (r) On-site fire and emergency response training approved by the department.
- (s) Stationary fire pumps.

Existing Approvals

The Permittee has been operating under Part 70 Permit No.: 031-7017-00014 issued March 28, 2000, and the following approvals:

- (a) First Administrative Amendment No.: 031-14621-00014, issued September 20, 2001;
- (b) First Re-Opening No.: 031-13178-00014, issued January 15, 2002;
- (c) First Minor Source Modification No.: 031-19333-00014, issued September 2, 2004; and
- (d) First Minor Permit Modification No.: 031-19521-00014, issued October 27, 2004.

Note the source is transitioning to a FESOP. All conditions from previous approvals were incorporated into this FESOP except the following:

- (a) T031-7017-00014, issued March 28, 2000:

Condition D.1.2: The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance testing with the PM limit specified in Condition D.1.2 shall be determined by a performance test conducted in accordance with Section C- Performance Testing.

Condition D.2.2: The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance testing with the PM limit specified

in Condition D.2.2 shall be determined by a performance test conducted in accordance with Section C- Performance Testing.

Condition D.3.2: Testing of these facilities is not specifically required by the permit. However, if testing is required, compliance shall be determined by a performance test conducted in accordance with Section C- Performance Testing. This does not preclude testing requirements on this facility under 326 IAC 2-7-5 and 326 IAC 2-7-6.

Reason not incorporated: Testing is not required for any of the PM emitting facilities because the PM emissions before control from the entire source are not significant. No testing is required for VOC and HAPs because compliance with the FESOP limits can be demonstrated by keeping records of the monthly usage of VOC and HAPs, and maintaining MSDS.

(b) T031-7017-00014, issued March 28, 2000:

Condition D.3.1:

- (1) The VOC input from the evaporating oil usage on each of the Presses P0, P1, P2, and P3 shall be less than twenty-five (25) tons per twelve (12) month consecutive period. Therefore, the best available control technology (BACT) requirement in 326 IAC 8-1-6 (New Facilities: General Reduction Requirements) does not apply.
- (2) Any change or modification which may increase the potential VOC emissions from the equipment covered above must be approved by the Office of Air Quality (OAQ) before such change may occur.

Reason not incorporated: The Permittee has indicated that it operates only two fin press lines (P0 and P1) at Valeo, both constructed in 1996. The mechanical radiator manufacturing process consisting of two (2) fin press lines (P0 and P1) are not subject to the provisions of 326 IAC 8-1-6 because each press has potential VOC emissions equal to 14.4 tons per year. The potential VOC emissions have never exceeded 25 tons per year threshold for these two press lines. Therefore, this condition was removed from the permit. However, any change or modification that would result in potential VOC emissions equal to or greater than twenty-five (25) tons per year from any of the two (2) fin press lines shall obtain prior approval from IDEM, OAQ. Fin press lines P2 and P3 were removed from the plant in 2001 and 2004, respectively.

(c) Condition D.3.3: To document compliance with Condition D.3.1, the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limits established in Condition D.3.1.

- (1) Records of amount of evaporating oil usage,
- (2) Percent VOC of evaporating oil, and
- (3) VOC emissions per month.
- (4) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

Reason not incorporated: The mechanical radiator manufacturing process (EU-53) consisting of two (2) fin press lines (P0 and P1) is now included under Section D.2. The record keeping requirements are discussed in Condition D.2.

Air Pollution Control Justification as an Integral Part of the Process

The company has submitted the following justification such that the cartridge filter system be considered as an integral part of the three (3) electrostatic powder paint booths:

- (a) The first cartridge filter system used in conjunction with the three (3) electrostatic powder paint booths (at one (1) NOCOLOK radiator, condenser and charge air cooler manufacturing process, and one (1) 6 mm Condenser process) recycle and recover 99% of the fugitive powder (PM/PM10) lost when powder coating. The filters are automatically cleaned by a reverse-pulse of compressed air. This allows the powder to fall into the reclaim hopper and is mixed with the new powder paint prior to its application to the product. Large particles that clog the paint applicator guns are removed via a sieve and are collected in a waste drum for disposal as solid waste. A second filter system with efficiency at 95% is used for the air leaving the powder paint booths. The paint collected by the second filter system is not reused.
- (b) The first cartridge filter system collects 6.0 pounds of paint per hour on NOCOLOK paint booth #1, 11.5 pounds of paint per hour on NOCOLOK paint booth #2, and 4.13 pounds of paint per hour on the one (1) 6 mm Condenser process. Each booth operates 7,200 hours per year (24 hours per day, 6 days per week, 50 weeks per year). The powder paint is collected in the reclaim hopper and is mixed with the new powder paint prior to its application to the product. The cost of powder paint used at Valeo is equal to \$1.91 per pound. Therefore, the annual savings are equal to:

NOCOLOK paint booth #1:

6.0 pounds of recovered paint per hour * \$1.91 per pound paint * 7,200 hours per year = \$82,512 per year.

NOCOLOK paint booth #2:

11.5 pounds of recovered paint per hour * 1.91 per pound paint * 7,200 hours per year = \$158,148 per year.

One (1) 6 mm Condenser Process:

4.13 pounds of recovered paint per hour * 1.91 per pound paint * 7,200 hours per year = \$56,795 per year.

- (c) The first filter system utilizes twelve (12) cartridges per unit per year and four (4) air filters per unit per year. Cartridges are \$100 each while filters are \$168 each. The annual cost of cartridges and filters to capture powder coating on all three (3) booths is equal to \$5,616; the combined operation and maintenance cost is equal to \$4,000 per year.
- (d) Based on the above discussion, there is a significant cost savings as compared to the cost of the controls. Therefore, IDEM, OAQ has evaluated the justifications and agreed that the first cartridge filter system will be considered as an integral part of the powder paint booths. Therefore, the permitting level will be determined using the potential to emit after the first cartridge filter system but before the second filter system. Operating conditions in the proposed permit will specify that the first cartridge filter system shall operate at all times when the powder paint booths are in operation.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the FESOP with New Source Review 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 complete FESOP application for the purposes of this review was received on June 25, 2004. Additional information was received on June 16, 2005. Note: During source review, the Permittee provided a revised list of emission units in order to identify three main manufacturing process and eliminate individual line designations.

Emission Calculations

See Appendix A of this document for detailed emission calculations (Appendix A, pages 1 through 22).

Potential to Emit

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

Pollutant	Potential to Emit (tons/year)
PM	37.2
PM10	38.1
SO ₂	0.10
VOC	133
CO	13.6
NO _x	16.2

HAPs	Potential to Emit (tons/year)
Methanol	5.56
Benzene	3.38E-04
Dichlorobenzene	1.93E-04
Formaldehyde	1.20E-02
Hexane	2.90E-01
Toluene	5.46E-04
Mn	9.55E-03
Ni	3.45E-02
Cr	1.46E-02
Total	5.93

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of VOC is equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7. The source will be issued a FESOP because the source will limit its emissions below the Title V levels.
- (b) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD applicability.

Potential to Emit After Issuance

The source has opted to operate its facility under the provisions of 326 IAC 2-8 (FESOP). 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 FESOP and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Emission Unit	Potential to Emit (tons/year)						
	PM	PM10	SO ₂	VOC	CO	NO _x	HAPs
6 mm Condenser Process	1.88	1.88	0.0	5.56	0.0	0.0	5.56
Mechanical Radiator Manufacturing Process (2 Fin Press Lines)	0.0	0.0	0.0	Less than 87 tons per twelve (12) consecutive month period, with compliance determined at the end of each month	0.0	0.0	0.0
NOCOLOK Manufacturing Process consisting of:							
Core Assembly Process	0.0	0.0	0.0		0.0	0.0	0.0
6 Natural Gas-Fired Core Conditioning Ovens	0.16	0.66	0.05		7.29	8.67	1.63E-01
6 Spray Fluxers	0.97	0.97	0.0		0.0	0.0	0.0
6 Natural Gas-Fired Flux Dry-Off Ovens	0.08	0.31	0.02		3.39	4.04	7.60E-02
6 Electric Braze Ovens with Cooling Stations	19.8	19.8	0.0		0.0	0.0	0.0
3 Powder Paint Booths	4.15	4.15	0.0	0.0	0.0	0.0	0.0
2 Paint Dry-Off Ovens	0.02	0.10	0.01	0.07	1.08	1.29	2.42E-02
1 Paint Burn-Off Oven	9.41	9.41	1.22E-03	2.04E-01	1.12E-02	1.71E-01	3.84E-03
2 Natural Gas-Fired Boilers	0.03	0.11	0.01	0.08	1.23	1.46	2.75E-02
1 Solder Oven	1.35E-02	5.38E-02	4.25E-03	3.90E-02	5.95E-01	7.09E-01	1.33E-02
3 Robotic Welders	6.65E-01	6.65E-01	0.0	0.0	0.0	0.00	5.86E-02
NOCOLOK Prototype	0.0	0.0	0.0	6.31	0.0	0.0	0.0
Total PTE After Issuance	37.2	38.1	0.10	Less than 99	13.6	16.2	5.93

Note 1: The potential to emit of VOC from the one (1) NOCOLOK radiator, condenser, charge air cooler manufacturing process and one (1) mechanical radiator manufacturing process (EU-53) shall be limited to less than 87 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

County Attainment Status

The source is located in Decatur County.

Pollutant	Status
PM10	Attainment
PM2.5	Attainment
SO ₂	Attainment
NO ₂	Attainment
1-hour Ozone	Attainment
8-hour Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Decatur County has been classified as unclassifiable or attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM2.5 emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10

emissions as a surrogate for PM2.5 emissions. See the State Rule Applicability – Entire Source.

- (b) Volatile organic compounds (VOC) and Nitrogen Oxides are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Decatur 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. See the State Rule Applicability – Entire Source.
- (c) Decatur County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source.

Source Status

Existing Source PSD, Part 70, or FESOP Definition (emissions after controls, based on 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	37.2
PM10	38.1
SO ₂	0.09
VOC	Less than 99
CO	13.2
NO _x	15.7
Single HAP	Less than 10
Combination HAPs	Less than 25

This existing source is not a major stationary source (under PSD) because no regulated pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories.

Federal Rule Applicability

- (a) The requirements of the New Source Performance Standards, 40 CFR Part 60, Subparts Da, Db, and Dc (326 IAC 12) are not included in this permit for the two (2) 1.70 MMBtu per hour natural gas-fired boilers because they have heat input capacities that are less than 10 MMBtu per hour.
- (b) The requirements of the New Source Performance Standards, 40 CFR 60, Subpart E – Standards of Performance for Incinerators are not included in this permit for the source because the paint burn-off does not burn more than 50 percent of municipal type waste as defined in 40 CFR 60.51(b), Subpart E.
- (c) The requirements of the New Source Performance Standard, 40 CFR 60.110b, Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction or Modification Commenced After July 23, 1984 are not included in this permit for the storage tanks with capacities of 1,000 gallons because their capacities are less than 75 cubic meters (19,813 gallons).

Note: In the recent revisions to 40 CFR 60, Subpart Kb promulgated on October 15, 2003, EPA raised the tank capacity applicability threshold from 40 cubic meters to 75 cubic meters. However, 326 IAC 12 and 326 IAC 1-1-3 specifically state that the July 1, 2002 version of 40 CFR 60, Subpart Kb must be applied to storage tanks in Indiana. Storage tanks with capacities greater than 40 cubic meters but less than 75 cubic meters will be subject to the July 1, 2002 version of this NSPS, but not subject to the revised

NSPS. A discussion of the applicability of the July 1, 2002 version of 40 CFR 60, Subpart Kb is included in the "State Rule Applicability" section of this document.

- (d) There are no other New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in this permit for this source.
- (e) The requirements of Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63, Subpart DDDDD are not included in this permit for the two (2) 1.70 MMBtu per hour natural gas-fired boilers because these units are located at a source which is minor for HAPs.
- (f) The requirements of 40 CFR 63, Subpart MMMM, National Emissions Standards for Hazardous Air Pollutants: Surface Coating of Miscellaneous Metal Parts and Products are not included in this permit for this source because the Permittee has requested to operate this source under the provisions of 326 IAC 2-8 (FESOP), which limits HAP emissions to below major source threshold levels.
- (g) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) included in this permit for this source.

State Rule Applicability – Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in Decatur County and the potential to emit of all criteria pollutants are limited to less than one hundred (100) tons per year pursuant to the provisions of 326 IAC 2-8 (FESOP). Therefore, the Permittee is not required to have an operating permit under 326 IAC 2-7 (Part 70 Program) and the provisions of 326 IAC 2-6 (Emission Reporting) do not apply.

326 IAC 2-2 (Prevention of Significant Deterioration)

Valeo, Inc. was constructed in 1989 and is not in one (1) of the twenty-eight (28) source categories. Braze Line #1, Line #2, and Line #3 were constructed in 1991, 1995 and 1996, respectively, while Braze Line #4 and Line #5 were constructed in 1997. Braze Line #6 and Line #7 were constructed in 2000. Braze Line #4 was removed in June 29, 2005. At the time the source was constructed and during the 1991 through 2000 modifications, it was a minor source under PSD because the potential to emit of PM and each criteria pollutant before controls was less than the PSD major source threshold of 250 tons per year. The source was modified in 2001 to remove a heater core line, a 3,500 gallon tank, and auxiliary solder machine and to add one (1) manifold press and two (2) natural gas fired boilers; in 2002 to add two (2) Mitsubishi fin mill lines; and in 2004 to remove one (1) manifold press, one (1) natural gas fired paint dry-off oven, and replace three (3) fin mills with one (1) fin mill, one (1) tube mill and one (1) turbulator. In their submitted application, dated November 2005, the Permittee requested the addition of two (2) fin mills and two (2) turbulators to be used in conjunction with the core assembly process under one (1) NOCOLOK manufacturing process (formerly known as NOCOLOK Line #7) and addition of two (2) robotic arc welders. After each of these modifications, the potential to emit before controls of PM and each criteria pollutants are calculated to be below the 250 tons per year PSD threshold. Therefore, the source is a minor source under PSD and is not subject to the requirements of 326 IAC 2-2.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of this existing fabrication plant producing automobile condensers, radiators, and cooling modules are not subject to the provisions of 326 IAC 2-4.1 because these facilities do not have a potential to emit equal to or greater than ten (10) tons per year of a single HAP or equal to or greater than twenty-five (25) tons per year of total HAPs.

326 IAC 2-8 (FESOP)

On June 25, 2004, the Permittee submitted an application requesting permission to operate their existing fabrication plant producing automobile condensers, radiators, and cooling modules pursuant to 326 IAC 2-8 (Federally Enforceable State Operating Permit (FESOP)), such that VOC and HAP emissions are limited to less than major threshold levels as follows:

- (a) The VOC input from the evaporating oil usage in the one (1) NOCOLOK radiator, condenser and charge air cooler manufacturing process, and one (1) mechanical radiator process shall be limited to less than eighty-seven (87) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) Any change or modification that will increase the potential to emit of a single HAP equal to or greater than ten (10) tons per year shall require prior approval from IDEM, OAQ.
- (c) Any change or modification that will increase the potential to emit of combination of HAPs equal to or greater than twenty-five (25) tons per year shall require prior approval from IDEM, OAQ.

Compliance with item (a) of this section in combination with the potential to emit of VOC from all other units at the source ensures that VOC emissions from the entire source are less than ninety-nine (99) tons per year and renders the requirements of 326 IAC 2-7 (Part 70 Permit Program) not applicable.

326 IAC 5-1 (Opacity Limitations)

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

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability – NOCOLOK Radiator, Condenser, Charge Air Cooler Manufacturing Process
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326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

The potential VOC emissions from the one (1) NOCOLOK radiator, condenser, charge air cooler manufacturing process at this source are greater than twenty-five (25) tons per year. Based on the submitted BACT analysis (see Appendix B), IDEM, OAQ has determined BACT to be equivalent to the following requirements:

- (a) The VOC input from the evaporating oil usage in the one (1) NOCOLOK radiator, condenser, charge air cooler manufacturing process shall be limited to less than eighty-seven (87) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) Use oils which contain no more than 2.4 pounds of VOC per gallon of oil utilized on all fin mills, tube mills and turbulators;
- (c) Use a micro-coat application system on all fin mills, tube mills and turbulators to minimize oil usage.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emissions from the braze ovens with cool down stations shall not exceed the pounds per hour limitations as shown in the table below.

Emission ID	Process Description	Process Weight Rate		PM Emission Limit (lbs/hour)
		(lbs/hour)	(tons/hour)	
Braze Oven Line #1	One (1) NOCOLOK radiator, condenser, and charge air cooler manufacturing process	2,000	1.00	4.10
Braze Oven Line #2		3,800	1.90	6.30
Braze Oven Line #3		3,800	1.90	6.30
Braze Oven Line #5		2,250	1.12	4.43
Braze Oven Line #6		7,500	3.75	9.93
Braze Oven Line #7		2,250	1.12	4.43

The pound per hour limitations were calculated as follows:

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

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

Based on the potential to emit calculations (see Page 8 of 22 TSD, Appendix A), the braze oven lines are in compliance with this rule.

- (b) The two (2) electrostatic powder paint booths (identified as paint booths #1 and #2) are not subject to the requirements of 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) because the particulate emissions from these two (2) powder paint booths are less than 0.551 pounds per hour each. Pursuant to 326 IAC 6-3-1(b)(14), manufacturing processes with potential emissions less than 0.551 pounds per hour are exempt from the 326 IAC 6-3-2 limitations.

The cartridge filter system used in conjunction with the two (2) electrostatic powder paint booths have been determined to be integral to the process. Therefore, the cartridge filter system shall be in operation at all times when the two (2) electrostatic powder paint booths are in operation.

- (c) The provisions of 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) are not applicable to the natural gas-fired core conditioning ovens, flux dry-off ovens and paint dry-off ovens because according to 326 IAC 6-3-2 (b)(14) manufacturing processes with potential emissions less than 0.551 pounds per hour are exempt from the provisions of this rule.

326 IAC 6-2-4 (Particulate Emissions Limitations for Sources of Indirect Heating)

The natural gas-fired core conditioning ovens, flux dry-off ovens and paint dry-off ovens are not subject to the provisions of 326 IAC 6-2-4 (Particulate Emissions Limitations for Sources of Indirect Heating) because these units are not sources of indirect heating.

State Rule Applicability – Paint Hook Burn-off Oven

326 IAC 4-2-2 (Incinerators)

The Permittee is subject to the requirements of 326 IAC 4-2-2 (Incinerators) because the paint hook burn-off ovens are used for removing dried paint from the coated racks. Pursuant to 326 IAC 4-2-2 (Incinerators), the paint hook burn-off oven shall:

- (a) Consist of primary and secondary chambers or the equivalent;
- (b) Be equipped with a primary burner unless burning wood products;

- (c) Comply with 326 IAC 5-1 and 326 IAC 2;
- (d) Be maintained, operated, and burn waste in accordance with the manufacturer's specifications or an operation and maintenance plan as specified in 326 IAC 4-2-2(c); and
- (e) Not emit particulate matter in excess of five-tenths (0.5) pounds of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to fifty percent (50%) excess air for incinerators.

If any of the above requirements are not met, the Permittee shall stop charging the incinerator until adjustments are made that address the underlying cause of the deviation.

State Rule Applicability – 6 mm Condenser Process

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

- (a) The one (1) electrostatic powder paint booth identified as paint booth #3) at the one (1) 6 mm Condenser process is not subject to the requirements of 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) because the particulate emissions from this booth are less than 0.551 pounds per hour each. Pursuant to 326 IAC 6-3-1(b)(14), manufacturing processes with potential emissions less than 0.551 pounds per hour are exempt from the 326 IAC 6-3-2 limitations.

The cartridge filter system used in conjunction with the one (1) electrostatic powder paint booth has been determined to be integral to the process. Therefore, the cartridge filter system shall be in operation at all times when the one (1) electrostatic powder paint booth is in operation.

- (b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) particulate emissions from the one (1) 6 mm Condenser process shall not exceed 4.9 pounds per hour when operating at a process weight rate of 2,625 pounds per hour.

The pound per hour limitation was calculated as follows:

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

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

The wet scrubber for particulate control shall be in operation and control emissions from the one (1) 6 mm Condenser process at all times that the one (1) 6 mm condenser process is in operation, in order to comply with this rule.

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

The one (1) 6 Condenser process is not subject to the provisions of 326 IAC 8-1-6 because it has potential VOC emissions less than 25 tons per year.

State Rule Applicability – Mechanical Radiator Process

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

The mechanical radiator process consisting of four (4) fin press lines (identified as P0, P1, P2 and P3) was constructed in 1996 and modified in 1998 to add low oil sprayers. After the 1998 modification, the combined potential to emit of VOC for the four (4) fin press lines were equal to 69 tons per year and actual VOC emissions were equal to 49 tons per year. Fin press lines P2 and P3 were removed from the plant in 2001 and 2004, respectively. The potential to emit of each fin press lines P0 and P1 are equal to 14.4 tons per year (see Appendix A). Therefore, the best available control technology (BACT) requirement in 326 IAC 8-1-6 (New Facilities; General

Reduction Requirements) do not apply. Any change or modification which may increase the potential VOC emissions from the two (2) fin press lines (P0 and P1) equal to or greater than twenty-five (25) tons per year each, must obtain prior approval from IDEM, OAQ.

State Rule Applicability – NOCOLOK Prototype Process

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

The one (1) NOCOLOK prototype process is not subject to the provisions of 326 IAC 8-1-6 because it does not have potential VOC emissions equal to or greater than 25 tons per year.

State Rule Applicability – Insignificant Activities

Natural Gas-Fired Boilers

326 IAC 6-2-4 (a) (Particulate Emissions Limitations for Sources of Indirect Heating)

The two (2) natural gas-fired boilers were installed in 2001 and have a maximum heat input capacity of 1.7 MMBtu per hour each. Therefore, pursuant to 326 IAC 6-2-4(a), the particulate emissions from each of the two (2) 1.7 MMBtu per hour boilers, which began operation after September 21, 1983, shall not exceed 0.79 lbs PM per MMBtu of heat input.

This limitation was calculated using the following equation:

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where:

Pt = Emission rate limit (lbs PM per MMBtu)

Q = Total source heat input capacity rating in million Btu per hour (3.40 MMBtu per hour)

However, according to 326 IAC 6-2-4(a), for Q less than 10 MMBtu per hour, Pt shall not exceed 0.6 lbs PM per MMBtu. Therefore, the two (2) boilers are each limited to 0.6 lbs of PM per MMBtu heat input.

Brazing equipment, cutting torches, soldering equipment, welding equipment

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

- (a) The welding equipment is not subject to the requirements of 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) because less than 625 pounds of rod or wire is consumed per day. [326 IAC 6-3-1(b)(9)]
- (b) The cutting torches are not subject to the requirements of 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) because less than 3,400 inches per hour of stock one (1) inch thickness or less is cut. [326 IAC 6-3-1(b)(10)]
- (c) The brazing and soldering equipment are not subject to the requirements of 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) because the particulate emissions from these units are less than 0.551 pounds per hour each. [326 IAC 6-3-1(b)(14)]

Volatile Liquid Storage Tanks

326 IAC 8 9-1 (Volatile Organic Liquid Storage Vessels)

The source is not located in Lake, Porter, Clark or Floyd counties. Therefore, the requirements of 326 IAC 8-9-1 do not apply.

326 IAC 12 (New Source Performance Standards)

The storage tanks are not subject to the requirements of 326 IAC 12 because they have a capacity less than 40 cubic meters (10, 567 gallons)

Testing Requirements

VOC testing is not required for the one (1) NOCLOK manufacturing process and one (1) mechanical radiator manufacturing process because compliance with the FESOP and BACT limits shall be demonstrated based on record keeping of monthly VOC usage.

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

There are no compliance monitoring requirements applicable to this source.

Conclusion

The operation of this fabrication plant producing automobile condensers, radiators, and cooling modules shall be subject to the conditions of FESOP 031-21314-00014.

**Appendix A: Emission Calculations
One (1) 6 mm Condenser Process**

Company Name: Valeo, Inc., Engine Cooling Automotive Division
Address: 1100 E. Brachel Lane, Greensburg, Indiana 47240-1200
FESOP and NSR: 031-21314
Plt ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

Emission Unit	Material Used	Emission Rate VOC/HAP (lbs/hour)	Emission Rate PM/PM10 (lbs/hour)	PTE VOC/HAP (tons/year)	PTE PM/PM10 (tons/year)
6 mm Condenser Process	Methanol flux	1.27	0.43	5.56	1.88

* Emission rate for the 6 mm condenser process is from a stack test conducted at the source on the solder scrubber in 2004, which has a efficiency of 90 %.

** Assume all PM emissions are equal to PM10.

METHODOLOGY

PTE (tons/year) = Emission rate (lbs/hour) * 8760 hours/year * 1 ton/2000 lbs

**Appendix A: Emission Calculations
Core Assembly Process**

Company Name: Valeo, Inc., Engine Cooling Automotive Division
Address: 1100 E. Brachel Lane, Greensburg, Indiana 47240-1200
FESOP and NSR: 031-21314
Plt ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

Emission Unit	Density (lbs/gal)	Max. Usage Rate (gal/hour)	PTE of VOC (lbs/hour)	PTE of VOC (tons/year)
29 Fin Mills	2.40	0.20	0.48	61.0
2 Tube Mills	2.40	0.50	1.20	10.5
1 Fin Mill	2.40	0.50	1.20	5.26
1 Turbulator	2.40	0.20	0.48	2.10
2 Mitsubishi Fin Mills	2.40	0.20	0.48	4.20
2 Turbulator	2.40	0.53	1.27	11.1
TOTAL				83.0

* Evaporative oils used in fin mills, tube mills and turbulator mill do not contain any HAPs.

METHODOLOGY

PTE of VOC (lbs/hour) = Density (lbs/gal) * Max. usage rate (gal/hour)

PTE of VOC (tons/year) = Density (lbs/gal) * Max. usage rate (gal/hour) * 8760 hours/year * 1 ton/2000 lbs

**Appendix A: Emission Calculations
 Natural Gas Combustion Only (MMBtu/hour < 100)
 Six (6) Core Conditioning Ovens**

Company Name: Valeo, Inc., Engine Cooling Automotive Division
Address: 1100 E. Brachel Lane, Greensburg, Indiana 47240-1200
FESOP and NSR: 031-21314
Plt ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

Heat Input Capacity
(MMBtu/hour)

Potential Throughput
(MMscf/year)

20.2

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	Pollutant					
	* PM	* PM10	SO ₂	** NO _x	VOC	CO
Emission Factor (lb/MMscf)	1.90	7.60	0.60	100	5.50	84.0
Potential To Emit (tons/year)	0.16	0.66	0.05	8.67	0.48	7.29

* PM emission factor is filterable PM only; and PM10 emission factor is filterable and condensable PM and PM10 combined.

**Emission factor for NOx (Uncontrolled) = 100 lb/MMSCF.

Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, and 1.4-2, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (July, 1998).

All Emission factors are based on normal firing.

METHODOLOGY

Potential throughput (MMscf/year) = Heat input capacity (MMBtu/hour) * 8760 hours/year * 1 MMscf/1020 MMBtu

PTE (tons/year) = Potential throughput (MMscf/year) * Emission factor (lb/MMscf) * 1 ton/2000 lbs

See next page for HAPs emissions calculations.

Appendix A: Emission Calculations
Natural Gas Combustion Only (MMBtu/hour < 100)
Six (6) Core Conditioning Ovens

Company Name: Valeo, Inc., Engine Cooling Automotive Division
Address: 1100 E. Brachel Lane, Greensburg, Indiana 47240-1200
FESOP and NSR: 031-21314
Plt ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor (lb/MMscf)	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential To Emit (tons/year)	1.82E-04	1.04E-04	6.51E-03	1.56E-01	2.95E-04

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor (lb/MMscf)	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential To Emit (tons/year)	4.34E-05	9.54E-05	1.21E-04	3.30E-05	1.82E-04

Methodology is the same as previous page.

The five highest organic and metal HAPs emission factors provided above are from AP-42, Chapter 1.4, Table 1.4-3 and 1.4-4 (July, 1998). Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emission Calculations
Spray Fluxers**

Company Name: Valeo, Inc., Engine Cooling Automotive Division
Address: 1100 E. Brachel Lane, Greensburg, Indiana 47240-1200
FESOP and NSR: 031-21314
Plt ID: 031-00014
Reviewer: ERG/SD
Date: November 11, 2005

Emission Unit	Emission Rate of PM/PM10 (lbs/hour)	PTE of PM/PM10 (tons/year)
6 Spray Fluxers	0.037	0.97

* Emission rate for the spray fluxers is from a stack test conducted at the source on two fluxers in 1995.

** Assume all PM emissions are equal to PM10.

METHODOLOGY

PTE of PM/PM10 (tons/year) = Emission rate (lbs/hour) * 8760 hours/year * 1 ton/2000 lbs * No of spray fluxers

**Appendix A: Emission Calculations
Natural Gas Combustion Only (MMBtu/hour < 100)
Seven (7) Flux Dry Off Ovens**

Company Name: Valeo, Inc., Engine Cooling Automotive Division
Address: 1100 E. Brachel Lane, Greensburg, Indiana 47240-1200
FESOP and NSR: 031-21314
Plt ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

Heat Input Capacity
(MMBtu/hour)

Potential Throughput
(MMscf/year)

9.10

78.2

	Pollutant					
	* PM	* PM10	SO ₂	** NO _x	VOC	CO
Emission Factor (lb/MMscf)	1.90	7.60	0.60	100	5.50	84.0
Potential To Emit (tons/year)	0.07	0.30	0.02	3.91	0.21	3.28

* PM emission factor is filterable PM only; and PM10 emission factor is filterable and condensable PM and PM10 combined.

**Emission factor for NO_x (Uncontrolled) = 100 lb/MMSCF.

Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, and 1.4-2, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (July, 1998).

All Emission factors are based on normal firing.

METHODOLOGY

Potential throughput (MMscf/year) = Heat input capacity (MMBtu/hour) * 8760 hours/year * 1 MMscf/1020 MMBtu

PTE (tons/year) = Potential throughput (MMscf/year) * Emission factor (lb/MMscf) * 1 ton/2000 lbs

See next page for HAPs emissions calculations.

Appendix A: Emission Calculations
Natural Gas Combustion Only (MMBtu/hour < 100)
Seven (7) Flux Dry Off Ovens

Company Name: Valeo, Inc., Engine Cooling Automotive Division
Address: 1100 E. Brachel Lane, Greensburg, Indiana 47240-1200
FESOP and NSR: 031-21314
Pit ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor (lb/MMscf)	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential To Emit (tons/year)	8.21E-05	4.69E-05	2.93E-03	7.03E-02	1.33E-04

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor (lb/MMscf)	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential To Emit (tons/year)	1.95E-05	4.30E-05	5.47E-05	1.48E-05	8.21E-05

Methodology is the same as previous page.

The five highest organic and metal HAPs emission factors provided above are from AP-42, Chapter 1.4, Table 1-4.2, 1.4-3 and 1.4-4 (July, 1998). Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emission Calculations
Electric Braze Ovens with Cool Down Stations**

Company Name: Valeo, Inc., Engine Cooling Automotive Division
Address: 1100 E. Brachel Lane, Greensburg, Indiana 47240-1200
FESOP and NSR: 031-21314
Plt ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

Emission Unit	Emission Rate of PM/PM10 (lbs/hour)	PTE of PM/PM10 (tons/year)	PTE of PM/PM10 (lbs/hour) for each oven with cooling station
6 Braze Ovens with	0.194	5.10	0.19
6 Cool Down Stations	0.561	14.7	0.56
Total		19.8	

* Emission rate for the braze ovens and cool down stations are from a stack test conducted at the source in 1995.

** Assume all PM emissions are equal to PM10.

METHODOLOGY

PTE of PM/PM10 (tons/year) = Emission rate (lbs/hour) * 8760 hours/year * 1 ton/2000 lbs * No of braze ovens and cool down stations

**Appendix A: Emission Calculations
Three (3) Power Paint Booths**

Company Name: Valeo, Inc., Engine Cooling Automotive Division
Address: 1100 E. Brachel Lane, Greensburg, Indiana 47240-1200
FESOP and NSR: 031-21314
Plt ID: 031-00014
Reviewer: ERG/SD
Date: November 11, 2005

Emission Units	Process Description	Max. Usage Rate of Powder Paint (lbs/hour)	Transfer Efficiency (%)	PTE of PM/PM10 Uncontrolled (tons/year)	Control Efficiency (%)	PTE of PM/PM10 Controlled (tons/year)
3 Powder Paint Booths	6 mm Condenser Process	8.25	50%	18.07	99%	0.79
	NOCOLOK Paint Booth 1	12.0	50%	26.28	99%	1.15
	NOCOLOK Paint Booth 2	23.0	50%	50.37	99%	2.21
				94.7		4.15

Assume all of the powder paint applied is equivalent to PM and PM10 emissions.

All of the powder paint is captured via a filter system and recycled for reuse. There are no VOC or HAPs emissions contained in the powder paint.

METHODOLOGY

PTE of PM/PM10 prior to filter system (tons/year) = Max. usage rate (lbs/hour) * 8760 hours/year * 1 ton/2000 lbs

PTE of PM/PM10 Uncontrolled (tons/year) = Max. usage rate (lbs/hour) * (1 - Transfer efficiency %) * 8760 hours/year * 1 ton/2000 lbs

PTE PM/PM10 (tons/year) = Max. (units/hour) * Gal of Mat (gal/unit) * Density (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)

**Appendix A: Emission Calculations
Natural Gas Combustion Only (MMBtu/hour < 100)
Two (2) Paint Dry-Off Ovens**

Company Name: Valeo, Inc., Engine Cooling Automotive Division
Address: 1100 E. Brachel Lane, Greensburg, Indiana 47240-1200
FESOP and NSR: 031-21314
Plt ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

Heat Input Capacity
(MMBtu/hour)

Potential Throughput
(MMscf/year)

3.00

25.8

	Pollutant					
	* PM	* PM10	SO₂	** NO_x	VOC	CO
Emission Factor (lb/MMscf)	1.90	7.60	0.60	100	5.50	84.0
Potential To Emit (tons/year)	0.02	0.10	7.73E-03	1.29	0.07	1.08

* PM emission factor is filterable PM only; and PM10 emission factor is filterable and condensable PM and PM10 combined.

**Emission factor for NOx (Uncontrolled) = 100 lb/MMSCF.

Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, and 1.4-2, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (July, 1998).

All Emission factors are based on normal firing.

METHODOLOGY

Potential throughput (MMscf/year) = Heat input capacity (MMBtu/hour) * 8760 hours/year * 1 MMscf/1020 MMBtu

PTE (tons/year) = Potential throughput (MMscf/year) * Emission factor (lb/MMscf) * 1 ton/2000 lbs

See next page for HAPs emissions calculations.

Appendix A: Emission Calculations
Natural Gas Combustion Only (MMBtu/hour < 100)
Two (2) Paint Dry-Off Ovens

Company Name: Valeo, Inc., Engine Cooling Automotive Division
Address: 1100 E. Brachel Lane, Greensburg, Indiana 47240-1200
FESOP and NSR: 031-21314
Pit ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor (lb/MMscf)	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential To Emit (tons/year)	2.71E-05	1.55E-05	9.66E-04	2.32E-02	4.38E-05

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor (lb/MMscf)	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential To Emit (tons/year)	6.44E-06	1.42E-05	1.80E-05	4.90E-06	2.71E-05

Methodology is the same as previous page.

The five highest organic and metal HAPs emission factors provided above are from AP-42, Chapter 1.4, Table 1-4.2, 1.4-3 and 1.4-4 (July, 1998). Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emission Calculations
Natural Gas Combustion Only (MMBtu/hour < 100)
One (1) Paint Hook Burn-Off Oven**

Company Name: Valeo, Inc., Engine Cooling Automotive Division
Address: 1100 E. Brachel Lane, Greensburg, Indiana 47240-1200
FESOP and NSR: 031-21314
Plt ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

Heat Input Capacity
(MMBtu/hour)

Potential Throughput
(MMscf/year)

0.48

4.08

	Pollutant					
	* PM	* PM10	SO₂	** NO_x	VOC	CO
Emission Factor (lb/MMscf)	1.90	7.60	0.60	100	5.50	84.0
Potential To Emit (tons/year)	3.88E-03	0.02	1.22E-03	0.20	0.01	0.17

* PM emission factor is filterable PM only; and PM10 emission factor is filterable and condensable PM and PM10 combined.

**Emission factor for NOx (Uncontrolled) = 100 lb/MMSCF.

Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, and 1.4-2, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (July, 1998).

All Emission factors are based on normal firing.

METHODOLOGY

Potential throughput (MMscf/year) = Heat input capacity (MMBtu/hour) * 8760 hours/year * 1 MMscf/1020 MMBtu

PTE (tons/year) = Potential throughput (MMscf/year) * Emission factor (lb/MMscf) * 1 ton/2000 lbs

See next page for HAPs emissions calculations.

Appendix A: Emission Calculations
Natural Gas Combustion Only (MMBtu/hour < 100)
One (1) Paint Hook Burn-Off Oven

Company Name: Valeo, Inc., Engine Cooling Automotive Division
Address: 1100 E. Brachel Lane, Greensburg, Indiana 47240-1200
FESOP and NSR: 031-21314
Pit ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor (lb/MMscf)	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential To Emit (tons/year)	4.28E-06	2.45E-06	1.53E-04	3.67E-03	6.94E-06

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor (lb/MMscf)	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential To Emit (tons/year)	1.02E-06	2.24E-06	2.86E-06	7.75E-07	4.28E-06

Methodology is the same as previous page.

The five highest organic and metal HAPs emission factors provided above are from AP-42, Chapter 1.4, Table 1-4.2, 1.4-3 and 1.4-4 (July, 1998). Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emission Calculations
One (1) Paint Hook Burn-Off Oven**

Company Name: Valeo, Inc., Engine Cooling Automotive Division
Address: 1100 E. Brachel Lane, Greensburg, Indiana 47240-1200
FESOP and NSR: 031-21314
Plt ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

Paint Hook Burn-Off Ovens	Nocolok Lines # 2 & 6	6 MM Line
Weight of dirty hook (lbs)	1.405	1.52
Weight of clean hook (lbs)	1.345	1.49
No of Carriers/ batch	NA	168
No of Hooks / batch	200	NA
Actual No of Batches/ day	1.00	1.00
Weight burned-off (lbs/ day)	12.0	5.18
PTE of PM/PM10 (lbs/hour)	1.50	0.65
PTE of PM/PM10 (tons/year)	6.57	2.84

Total in tons/year = 9.41

METHODOLOGY

Weight of PM Burned-off (lbs/day) = [Weight of dirty hooks (lbs) - Weight of clean hooks (lbs)] * No. of Hooks/ Batch * Actual no. of batches/day

PTE of PM/PM10 (lbs/hour) = Weight of PM Burned-Off (lbs/day) * 1 day/Hours of operation

PTE of PM/PM10 (tons/year) = Weight of PM Burned-Off (lbs/day) * 1 day/Hours of operation * 8760 hours/year * 1 ton/2000 lbs

**Appendix A: Emission Calculations
Mechanical Radiator Line**

Company Name: Valeo, Inc., Engine Cooling Automotive Division
Address: 1100 E. Brachel Lane, Greensburg, Indiana 47240-1200
FESOP and NSR: 031-21314
Plt ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

Process	Emission Unit	Number of Units	Oil Usage Rate per Unit (gal/hour)	Density (lbs/gal)	PTE of VOC (tons/year)
Mechanical Rad. Process	Fin Press Lines	2.0	0.70	4.70	28.8
	Expanders	2.0	0.70	1.30	7.97
Total					36.8

There is no HAPs contained in the oils used in the mechanical radiator manufacturing process.

METHODOLOGY

PTE of VOC (lbs/hour) = Number of Units * Oil usage rate per press (lbs/hour) * Weight % VOC

PTE of VOC (tons/year) = Number of Units * Oil usage rate per press (lbs/hour) * Weight % VOC * 8760 hours/year * 1 ton/2000 lbs

**Appendix A: Emission Calculations
Natural Gas Combustion Only (MMBtu/hour < 100)
Two (2) Boilers**

Company Name: Valeo, Inc., Engine Cooling Automotive Division
Address: 1100 E. Brachel Lane, Greensburg, Indiana 47240-1200
FESOP and NSR: 031-21314
Plt ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

Heat Input Capacity
(MMBtu/hour)

Potential Throughput
(MMscf/year)

3.40 (each rated at 1.7 MMBtu/hr) 29.2

	Pollutant					
	* PM	* PM10	SO₂	** NO_x	VOC	CO
Emission Factor (lb/MMscf)	1.90	7.60	0.60	100	5.50	84.0
Potential To Emit (tons/year)	0.03	0.11	0.01	1.46	0.08	1.23

* PM emission factor is filterable PM only; and PM10 emission factor is filterable and condensable PM and PM10 combined.

**Emission factor for NO_x (Uncontrolled) = 100 lb/MMSCF.

Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, and 1.4-2, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (July, 1998).

All Emission factors are based on normal firing.

METHODOLOGY

Potential throughput (MMscf/year) = Heat input capacity (MMBtu/hour) * 8760 hours/year * 1 MMscf/1020 MMBtu

PTE (tons/year) = Potential throughput (MMscf/year) * Emission factor (lb/MMscf) * 1 ton/2000 lbs

See next page for HAPs emissions calculations.

Appendix A: Emission Calculations
Natural Gas Combustion Only (MMBtu/hour < 100)
Two (2) Boilers

Company Name: Valeo, Inc. Engine Cooling Automotive Division
Address: 1100 E. Brachel Lane, Greensburg, Indiana 47240-1200
FESOP and NSR: 031-21314
Pit ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor (lb/MMscf)	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential To Emit (tons/year)	3.07E-05	1.75E-05	1.10E-03	2.63E-02	4.96E-05

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor (lb/MMscf)	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential To Emit (tons/year)	7.30E-06	1.61E-05	2.04E-05	5.55E-06	3.07E-05

Methodology is the same as previous page.

The five highest organic and metal HAPs emission factors provided above are from AP-42, Chapter 1.4, Table 1-4.2, 1.4-3 and 1.4-4 (July, 1998). Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emission Calculations
Three (3) Robotic Welders**

Company Name: Valeo, Inc., Engine Cooling Automotive Division
Address: 1100 E. Brachel Lane, Greensburg, Indiana 47240-1200
FESOP and NSR: 031-21314
Plt ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

Process	Number of Stations	Max. Electrode Consumption (lbs/hour)	* Emission Factors (lb pollutant/lb electrode)				Potential To Emit (tons/year)			
			PM/PM10	Mn	Ni	Cr	PM/PM10	Mn	Ni	Cr
Metal Inert Gas (MIG) Welding	3	2.1	2.41E-02	3.46E-04	1.25E-03	5.28E-04	6.65E-01	9.55E-03	3.45E-02	1.46E-02

* Worst case emission factors were used to estimate emissions from gas metal arc welding [AP-42, Chapter 12.19, SCC 3-09-052, (01/95)].

METHODOLOGY

PTE from Welding (tons/year) = Number of Stations * Maximum Electrode Consumption (lbs/hour) * Emission Factor (lbs Pollutant/lbs Electrode) * 8760 hours/year * 1 ton/2000 lbs

**Appendix A: Emission Calculations
Natural Gas Combustion Only (MMBtu/hour < 100)
One (1) Solder Oven**

Company Name: Valeo, Inc., Engine Cooling Automotive Division
Address: 1100 E. Brachel Lane, Greensburg, Indiana 47240-1200
FESOP and NSR: 031-21314
Plt ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

Heat Input Capacity
(MMBtu/hour)

Potential Throughput
(MMscf/year)

1.65

14.17

	Pollutant					
	* PM	* PM10	SO₂	** NO_x	VOC	CO
Emission Factor (lb/MMscf)	1.90	7.60	0.60	100	5.50	84.0
Potential To Emit (tons/year)	1.35E-02	5.38E-02	4.25E-03	7.09E-01	3.90E-02	5.95E-01

* PM emission factor is filterable PM only; and PM10 emission factor is filterable and condensable PM and PM10 combined.

**Emission factor for NOx (Uncontrolled) = 100 lb/MMSCF.

Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, and 1.4-2, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (July, 1998).

All Emission factors are based on normal firing.

METHODOLOGY

Potential throughput (MMscf/year) = Heat input capacity (MMBtu/hour) * 8760 hours/year * 1 MMscf/1020 MMBtu

PTE (tons/year) = Potential throughput (MMscf/year) * Emission factor (lb/MMscf) * 1 ton/2000 lbs

See next page for HAPs emissions calculations.

Appendix A: Emission Calculations
Natural Gas Combustion Only (MMBtu/hour < 100)
One (1) Solder Oven

Company Name: Valeo, Inc., Engine Cooling Automotive Division
Address: 1100 E. Brachel Lane, Greensburg, Indiana 47240-1200
FESOP and NSR: 031-21314
Pit ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor (lb/MMscf)	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential To Emit (tons/year)	1.49E-05	8.50E-06	5.31E-04	1.28E-02	2.41E-05

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor (lb/MMscf)	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential To Emit (tons/year)	3.54E-06	7.79E-06	9.92E-06	2.69E-06	1.49E-05

Methodology is the same as previous page.

The five highest organic and metal HAPs emission factors provided above are from AP-42, Chapter 1.4, Table 1-4.2, 1.4-3 and 1.4-4 (July, 1998). Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emission Calculations
NOCOLOK Prototype**

Company Name: Valeo, Inc., Engine Cooling Automotive Division
Address: 1100 E. Brachel Lane, Greensburg, Indiana 47240-1200
FESOP and NSR: 031-21314
Plt ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

Emission Unit	Density (lbs/gal)	Max. Usage Rate (gal/hour)	PTE of VOC (lbs/hour)	PTE of VOC (tons/year)
3 Fin Mill/Tube Mill/Turbulator	2.40	0.20	0.48	6.31

* Evaporative oils used in fin mills, tube mills and turbulator mill do not contain any HAPs.

METHODOLOGY

PTE of VOC (lbs/hour) = Density (lbs/gal) * Max. usage rate (gal/hour)

PTE of VOC (tons/year) = Density (lbs/gal) * Max. usage rate (gal/hour) * 8760 hours/year * 1 ton/2000 lbs

Emission Unit	Emission Rate of PM/PM10 (lbs/hour)	PTE of PM/PM10 (tons/year)
1 Spray Fluxer	0.037	0.16

* Emission rate for the spray fluxers is from a stack test conducted at the source on the fluxers under NOCOLOK manufacturing process in 1995.

** Assume all PM emissions are equal to PM10.

METHODOLOGY

PTE of PM/PM10 (tons/year) = Emission rate (lbs/hour) * 8760 hours/year * 1 ton/2000 lbs * No of spray fluxers

**Appendix A: Emission Calculations
Summary**

Company Name: Valeo, Inc., Engine Cooling Automotive Division
Address: 1100 E. Brachel Lane, Greensburg, Indiana 47240-1200
FESOP and NSR: 031-21314
Pit ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

UNCONTROLLED POTENTIAL TO EMIT IN TONS PER YEAR

Work Sheet ID	Emission Units	PM	PM10	SO ₂	NO _x	VOC	CO	HAPs
WS1	6 mm Condenser Process	1.88	1.88			5.56		5.56
WS2	Core Assembly Process (Fin Mills/Tube Mills/Turbulators)					83.0		
WS3	6 Core Conditioning Ovens	0.16	0.66	0.05	8.67	0.48	7.29	1.63E-01
WS4	6 Spray Fluxers	0.97	0.97					
WS5	6 Flux Dry-Off Ovens + 1 Prototype	0.07	0.30	0.02	3.91	0.21	3.28	7.35E-02
WS6	6 Braze Ovens with Cooling Stations	19.8	19.8					
WS7	3 Powder Paint Booths	4.15	4.15					
WS8	2 Paint Dry-Off Ovens	0.02	0.10	0.01	1.29	0.07	1.08	2.42E-02
WS9/WS10	1 Paint Burn-Off Oven	9.41	9.41	1.22E-03	2.04E-01	1.12E-02	1.71E-01	3.84E-03
WS11	Mechanical Radiator Process (2 fin press lines and 2 expanders)					36.8		
WS12	2 Natural Gas-Fired Boilers	0.03	0.11	0.01	1.46	0.08	1.23	2.75E-02
WS13	3 Robotic Welders (MIG)	6.65E-01	6.65E-01					5.86E-02
WS14	1 Solder Oven	1.35E-02	5.38E-02	4.25E-03	7.09E-01	3.90E-02	5.95E-01	1.33E-02
WS15	NOCOLOK Prototype					6.31		
		37.2	38.1	0.10	16.2	133	13.6	5.93

Appendix B

Best Available Control Technology (BACT) Determinations

Source Background and Description

Source Name: Valeo, Inc., Engine Cooling Automotive Division
Source Location: 1100 E. Barachel Lane, Greensburg, Indiana 47240-1200
County: Decatur
SIC Code: 3714
FESOP No.: 031-21314-00014
Permit Reviewer: ERG/SD

The Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) has performed the following Best Available Control Technology (BACT) review for the modification to the one (1) NOCOLOK radiator, condenser and charge air cooler manufacturing process (formerly known as NOCOLOK lines #1 through #7 and the two (2) Mitsubishi fin mill machines) at an existing fabrication plant producing automobile condensers, radiators, and cooling modules owned and operated by Valeo, Inc., Engine Cooling Automotive Division located at 1100 E. Barachel Lane, Greensburg, Indiana. The modification consists of adding a new VOC limit pursuant to 326 IAC 8-1-6 (BACT) for the one (1) NOCOLOK manufacturing process.

Pursuant to 326 IAC 8-1-6 (New Facilities; General Reduction Requirements), BACT is required for all facilities constructed after January 1, 1980 that have potential VOC emissions of equal to or greater than twenty-five (25) tons per year and are not regulated by other rules in 326 IAC 8. Based on the calculations (see Appendix A) and the analysis of applicable state regulations (see State Rule Applicability section of TSD), the modification at this source is subject to the requirements of 326 IAC 8-1-6.

IDEM, OAQ conducts BACT analyses in accordance with the *“Top-Down” Best Available Control Technology* process, which outlines the steps for conducting a top-down BACT analysis. Those steps are listed below:

- (a) Identify all potentially available control options;
- (b) Eliminate technically infeasible control options;
- (c) Rank remaining control technologies by control effectiveness;
- (d) Evaluate the most effective controls and document the results as necessary; and
- (e) Select BACT.

In accordance with EPA guidance, the BACT analysis should take into account the energy, environmental, and economic impacts. Emission reductions may be achieved through the application of available control techniques, changes in process design, and/or operational limitations. These BACT determinations are based on the following information:

- (a) The BACT analysis information submitted by Valeo, Inc., Engine Cooling Automotive Division on June 16, 2005;
- (b) Information from vendors/suppliers;
- (c) The EPA RACT/BACT/LAER (RBL) Clearinghouse; and
- (d) State and local air quality permits.

VOC BACT

Valeo, Inc., operates a facility in Greensburg, Indiana that manufactures various components for automotive cooling systems. The Permittee currently operates in accordance with a Part 70 Permit (T031-7017-00014) issued March 28, 2000. This permit limited the potential to emit of VOC to less than twenty-five (25) tons per year from any one (1) of the seven (7) NOCOLOK lines in combination with the two (2) Mitsubishi fin mill lines to render the requirements of 326 IAC 8-1-6 not applicable; and requires record keeping requirements to demonstrate compliance with this VOC limit. The Permittee has regrouped the lines into three (3) main manufacturing processes: one (1) NOCOLOR radiator, condenser and charge air cooler manufacturing process, one (1) 6mm condenser process, and one (1) mechanical radiator manufacturing process.

The one (1) NOCOLOK radiator, condenser and charge air cooler manufacturing process consists of the following processes:

- (1) Core assembly process consisting of associated fin mills, core builders, tube mills, turbulators, and other related equipment using evaporative oils at 2.4 pounds of VOC per gallon of oil or less. The equipment under the core assembly process is not stationary and can be moved from one location to another within the facility depending on the production need, and
- (2) Braze lines consisting of core conditioning oven, spray fluxer, flux dry-off oven, and braze oven with cool down station.

The most significant source of emissions associated with this process is VOC evaporation from evaporative lubricating oils used in the fin mills, tube mills, and turbulators. The oils are not applied to the part directly, but facilitate the mechanical activities in the machine to form the desired parts. Parts formed from fin mills, tube mills, and turbulators are then assembled and further processed in the remaining process steps of the NOCOLOK manufacturing process. The fin mills, tube mills, and turbulators are small, stand alone units which are not physically connected to the remaining process operations (beginning with the core conditioning oven). The nature of these units is such that 1) they can be physically moved from one location to another within the facility, and 2) the parts processed on individual units can easily be transferred from one line to another. The fin mills, tube mills, and turbulators are not directly vented to the atmosphere. Some units contain mist eliminators which are used to remove some oil from the air stream while other units simply vent into the plant. Units with mist eliminators have exhaust systems which range from 900 cfm to 1,200 cfm per unit.

The Permittee has requested to limit VOC input from the evaporating oil usage in the one (1) NOCOLOK manufacturing process to less than eighty-seven (87) tons per twelve (12) consecutive month period, with compliance determined at the end of each month. This new limit would provide the Permittee with operational flexibility to move and/or operate the stand alone units (fin mills, tube mills, and turbulators) according to the changes in sale volumes, without regard to individual lines. The potential to emit of VOC from the entire source will be limited to less than 99 tons per twelve (12) consecutive month period. Since the potential VOC emissions, after the removal of the current limitation, are greater than twenty-five (25) tons per year and the one (1) NOCOLOK radiator, condenser and charge air cooler manufacturing process is not regulated by any other rule in 326 IAC 8, the Permittee is required to control VOC emissions from the one (1) NOCOLOK radiator, condenser and charge air cooler manufacturing process pursuant to the provisions of 326 IAC 8-1-6 (BACT).

Step 1 – Regulatory Database Review

The following databases were reviewed to identify and evaluate the various BACT requirements currently in place to control VOC emissions from the fabrication plant producing automobile condensers, radiators, and cooling modules:

- (a) IDEM, OAQ and the Permittee searched EPA's RACT/BACT/LAER Clearinghouse (RBLC) for similar operations. A search for the source codes in the RBLC was conducted to find VOC emission limitations that are applicable to similar operations:
- (1) 49.999 - Organic Evaporative, Other (none of the specific categories within the organic evaporative activity code (49) were applicable to Valeo's operations).
 - (2) 82.999 - Other Nonferrous Metallurgical (none of the specific categories within the nonferrous metallurgical activity code (82) were applicable to Valeo's operations).
 - (3) 99.012 - Welding and Grinding.
 - (4) 99.999 – Other Miscellaneous Sources

The results did not yield any operations similar to the source. As a result, there are no RBLC entries which identify limits or control technology which could apply to Valeo, Inc.

- (b) Indiana Permit Files: The Permittee performed a search of the IDEM, OAQ database for facilities with a SIC number of 3714 and obtained a list of air permits. All exemptions, registrations, administrative amendments and source specific operating agreement programs were not searched because it was concluded that they would not contain a BACT determination. For the remainder of the permits, the Permittee conducted a search as follows:
- (1) Identify the permit operation resulting in emissions of VOCs;
 - (2) Identify all VOC limitations in the permit;
 - (3) Identify if operation is similar to the operations at Valeo (i.e. oil lubrication of machining operations); and
 - (4) For similar operations, identify BACT.

Based on this search, the Permittee identified a permit for Ford Electronics and Refrigeration Permit No.: T041-6896-00004, issued February 17, 1999 which uses machining oils at the source. However, this process did not require BACT. The Permittee found no other sources in Indiana which have a BACT established for evaporative oils used on fin mills, tube mills, and turbulators such as those used at Valeo.

Step 2 – Identify Control Options

The following available technologies were identified and evaluated to control VOC emissions from the fabrication plant producing automobile condensers, radiators, and cooling modules:

- (a) Thermal Destruction:
- (1) Recuperative thermal incineration,
 - (2) Regenerative thermal incineration;
 - (3) Recuperative catalytic incineration;
 - (4) Regenerative catalytic incineration; and
 - (5) Flares
- (b) Condensation
- (c) Carbon adsorption

- (d) Carbon adsorption/oxidation.

Step 3 – Eliminate Technically Infeasible Control Options

Based on the results from the RBLC database search, vendor review, and an evaluation of the control technologies, IDEM, OAQ has determined that the use of flares and condensation are not technically feasible options for this source for the following reasons:

- (a) The use of flares to control VOC at this source is not a feasible option based on the low VOC concentration in the inlet air stream.
- (b) The use of condensation is infeasible because it requires extremely low temperatures (on the order of negative 160 degree F or lower to achieve 90 percent efficiency) to achieve a significant reduction in VOC emissions. A low temperature would be required because the exhaust streams at Valeo, Inc., contain very low concentrations of VOC.

Step 4 – Rank Remaining Control Technologies by Control Effectiveness

The remaining technically feasible approaches for controlling VOC emissions from the one (1) NOCOLOK manufacturing process are as follows:

Control Technology	Control Efficiency (%)
Recuperative Thermal Incineration	Less than or equal to 96
Regenerative Thermal Incineration	Less than or equal to 96
Recuperative Catalytic Oxidation	Less than or equal to 96
Regenerative Catalytic Oxidation	Less than or equal to 96
Carbon Adsorption/Oxidation	Less than or equal to 96
Carbon Adsorption	Less than or equal to 85

- (a) **Destruction Technologies**
 These technologies reduce the VOC concentration by high temperature oxidation into carbon dioxide and water vapor. The destruction of organic compounds usually requires temperatures ranging from 1,200 °F to 2,200 °F for direct thermal incinerators and 600 °F to 1,200 °F for catalytic incinerators. The combustion temperature depends on the chemical composition and the desired destruction efficiency. Turbulent mixing and combustion chamber retention times of 0.5 to 1.0 seconds are needed to obtain high destruction efficiencies. Fume incinerators typically need supplemental fuel. Concentrated VOC streams with high heat contents require less supplementary fuel than more dilute streams. VOC streams sometimes have a heat content high enough to be self-sustaining, but a supplemental fuel firing rate equal to about 5% of the total incinerator heat input is usually needed to stabilize the burner flame. Natural gas is the most common fuel for VOC incinerators, but fuel oil is an option in some circumstances. Combustion control technologies include recuperative thermal incineration, regenerative thermal incineration, recuperative catalytic incineration, and regenerative catalytic incineration.
- (b) **Reclamation Control Methods**
 Carbon Adsorption is a surface phenomenon where attraction between the carbon and the VOC molecules binds the pollutants to the carbon surface. Both carbon and VOC are chemically intact after adsorption. VOC may be removed, or desorbed, from the carbon and reclaimed or destroyed. Depending on the nature of the contaminant and the inlet concentration of the emission stream, recovery technologies can reach efficiencies of 98%.

Absorption is a unit operation where components of a gas phase mixture (pollutants) are selectively transferred to a relatively nonvolatile liquid, usually water. Sometimes, organic liquids, such as mineral oil or non-volatile hydrocarbons, are suitable absorption solvents. The choice of solvent depends on cost and the solubility of the pollutant in the solvent.

(c) **Combination Control Methods**

In some cases, a combination of control technologies offers the most efficient and cost effective VOC control. The combination of carbon adsorption with recuperative thermal incineration is available from several vendors. This system concentrates the VOC stream by using carbon adsorption to remove low concentration VOCs in an emission stream and then uses a lower volume of hot air, commonly one-tenth the original flow, to desorb the pollutants. A recuperative incinerator for destroying pollutants in the concentrated stream is much smaller and has lower supplemental fuel requirements than an incinerator sized for the full emission stream volume. Absorption systems can also be used to concentrate emission streams to reduce the size of destruction equipment. The concentration effect is not as extreme as with carbon adsorption, a concentrated exhaust stream one quarter the volume of the inlet stream seems to be the practical limit. Absorption concentrators are typically suited for batch processes or to equalize pollutant concentrations in a variable stream. The physical characteristics that drive the absorption of pollutants into a liquid also limit the opportunity to remove those pollutants from the liquid stream.

Step 5 – Evaluate the Most Effective Controls and Document Results

Valeo, Inc., Engine Cooling Automotive Division provided IDEM, OAQ with a thorough economic analysis of the technically feasible control options. The analysis estimated the cost of the VOC control equipment, including the initial capital cost of the various components intrinsic to the complete system, and the estimated annual operating costs. The estimated total capital cost was calculated with the use of a factoring method of determining direct and indirect installation costs.

The basic equipment costs were obtained from vendor’s quoted prices. Annualized costs were developed based on information from the vendors and a literature review. The analysis assumed an interest rate of 7% and an equipment life of 10 years. The basis of cost effectiveness, used to evaluate the control options, is the ratio of the annualized cost to the amount of VOC (tons) removed per year. Note that the cost effectiveness of each option accounts for VOC removal at 96% for incineration technologies (i.e. add-on controls) and 85% for carbon adsorption. Baseline costs were developed for each control technology for waste streams with flow rate of 1,200 cfm for the one (1) NOCOLOK manufacturing process. Costs were then developed for the different control options. These options were then compared to a final option, the operation of the plant without add-on controls, to arrive at a determination of BACT for VOC emissions from the proposed modification. The options considered were as follows:

- (a) Recuperative thermal incineration,
- (b) Regenerative thermal incineration;
- (c) Recuperative catalytic incineration;
- (d) Regenerative catalytic incineration; and
- (e) Carbon adsorption/oxidation.
- (f) Operation of the NOCOLOK lines without add-on controls

A complete breakdown of the costs associated with the above control options is included in Appendix C. A summary of the cost figures determined in the analysis is provided in the table below:

Control Option	* Efficiency (%)	Equipment Cost (\$)	Total Operating Cost (\$/yr)	Total Annualized Costs (\$/yr)	Limited VOC (tons/year)	Potential VOC Removed (tons/year)	Cost Effectiveness (\$/ton VOC removed)
Recuperative Thermal Incinerator	96%	\$1,003,957	\$1,094,405	1,237,349	87.0	83.5	\$14,815
Regenerative Thermal Incinerator	96%	\$1,813,751	\$527,307	\$785,549	87.0	83.5	\$9,406

Control Option	* Efficiency (%)	Equipment Cost (\$)	Total Operating Cost (\$/yr)	Total Annualized Costs (\$/yr)	Limited VOC (tons/year)	Potential VOC Removed (tons/year)	Cost Effectiveness (\$/ton VOC removed)
Recuperative Catalytic Incineration	96%	\$1,442,483	\$970,118	\$1,175,499	87.0	83.5	\$14,074
Regenerative Catalytic Incineration	96%	\$3,018,402	\$566,471	\$996,231	87.0	83.5	\$11,928
Carbon Adsorption with Catalytic Oxidation	96%	\$2,508,024	\$354,998	\$712,091	87.0	83.5	\$8,526
Carbon Absorption	85 %	\$1,066,674	\$505,015	\$656,888	87.0	74.0	\$8,883
Low-VOC Evaporative Oils	NA	NA	Not Estimated	Not Estimated	87.0	NA	NA

Step 6 – Select BACT

On basis of cost effectiveness, as determined by the ratio of the annualized cost to the tons of VOC removed per year, the carbon adsorption with catalytic oxidation would appear to represent the technology of choice. However, IDEM, OAQ has determined that the installation of this control option along with thermal incinerators and catalytic oxidizers are economically infeasible for Valeo, Inc. As described earlier, the fin mills, tube mills, and turbulators are small, stand alone units which are not physically connected to the remaining process operations (beginning with the core conditioning oven). These units can be physically moved from one location to another, and the parts processed on individual units can easily be transferred from one NOCOLOK Braze line to another. Therefore, while individual fin mills, tube mills, and turbulators may be primarily dedicated to a specific NOCOLOK Braze line, the units are sometimes interchanged to make products for a different line. Some units contain mist eliminators which are used to remove some oil from the air stream while other units simply vent into the plant. Moreover, the Permittee has been actively pursuing VOC emission reduction from fin mills, tube mills, and turbulators associated with the NOCOLOK manufacturing process. The Permittee has changed the lubricating oils to lower VOC containing oils and has worked with its supplier to lower the VOC content of the lubricating oils. This has resulted in a reduction in VOC content from 5.9 lbs per gallon to current 2.4 lbs per gallon; and the Permittee has installed a micro-coat application system on all fin mills, tube mills, and turbulators, which has reduced the quantity of oil used on each machine. Therefore, IDEM, OAQ has determined the BACT for the modification to the one (1) NOCOLOK manufacturing process shall be as follows:

- (a) The VOC input from the evaporating oil usage used in the one (1) NOCOLOK radiator, condenser, charge air cooler manufacturing process shall be limited to less than eighty-seven (87) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) Use of oils which contain no more than 2.4 pounds of VOC per gallon of oil utilized on all fin mills, tube mills, and turbulators; and
- (c) The use of micro-coat application system on all fin mills, tube mills, and turbulators to minimize oil usage.

**Appendix C: Cost Analysis for Control Devices
Recuperative Thermal Incineration**

Company Name: Valeo, Inc. Engine Cooling Automotive Division
Address: 1100 East Barachel Lane, Greensburg, Indiana 47240
FESOP and NSR: 031-21314
Plt ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

Recuperative Thermal Incineration

Design Air Flow Rate (scfm): 1,200 (provided by source)

I. Capital Cost

(formula)

1. Purchased Equipment:

Basic Equipment & Auxiliaries (A)		\$528,176	(provided by source)
Instruments & controls	0.10 A	\$0	(included in the price quote)
Taxes	0.05 A	\$26,409	(Indiana Tax Code)
Freight	0.05 A	\$15,845	(as provided by the vendor)
Total Purchase Cost (B)		\$570,430	

2. Direct Installation Costs:

Foundations & Supports	0.08 B	\$45,634	
Erection & Handling	0.14 B	\$79,860	
Electrical	0.04 B	\$22,817	
Enclosure		NA	
Piping	0.02 B	\$11,409	
Insulation	0.01 B	\$5,704	
Painting	0.01 B	\$5,704	
Site Preparation (As Required)	0.10 B	\$57,043	
Facilities and buildings (As required)		\$28,522	(provided by the source)
Total Direct Installation Cost (C)		\$256,694	

Total Direct Capital Cost (TDC) (B+C) \$827,124

3. Indirect Costs:

Engineering	0.10 B	\$57,043	
Loss of Production Cost		\$0	
Construction & Field Expenses	0.05 B	\$28,521	
Contractor Fees	0.10 B	\$57,043	
Start Up	0.02 B	\$11,409	
Performance Tests	0.01 B	\$5,704	
Contingencies	0.03 B	\$17,113	
Total Indirect Cost (D)		\$176,833	

Total Install Capital Cost (B+C+D) \$1,003,957

Capital Recovery Factor (7%, 10 year) 0.1424

Capital Recovery Cost (E) \$142,943

**Appendix C: Cost Analysis for Control Devices
Recuperative Thermal Incineration**

Company Name: Valeo, Inc. Engine Cooling Automotive Division
Address: 1100 East Barachel Lane, Greensburg, Indiana 47240
FESOP and NSR: 031-21314
Plt ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

II. ANNUALIZED COSTS**1. Direct Operating Costs:**

Operating Labor (F)		\$13,501
a. Number of Employees		1.00
b. Cost/Employee/Hour ****		\$24.7 (provided by source)
c. Operating Hours/Year		548
Supervisory Labor (F1)	0.15 F	\$2,025
Maintenance Labor (F2)		\$17,772
a. Number of Employees		1.00
b. Cost/Employee/Hour ****		\$32.5 (provided by source)
c. Operating Hours/Year		548
Maintenance Material (F3)	1 F2	\$17,772
Utilities		
a. Natural Gas		\$1,624,230
MMBTU/HR Input		27.8 (provided by source)
Operating Hours/Year		8,760
Cost/MMBTU ***		\$6.66 (rate in Indiana for 2004)
b. Electricity		\$60,418
KW Requirements/Hr		125 (provided by source)
KWH/YR		8,760
Cost/KWH ***		\$0.055 (rate in Indiana for 2002)
Water		\$0
Air		\$0
Replacement Parts		\$0
Total Direct Operating Cost (G)		\$1,735,718

2. Indirect Operating Costs:

Overhead	0.6 (F+F1+F2+F3)	\$30,642
Insurance, and Administrative Costs	0.03 (B+C+D)	\$30,119
Total Indirect Operating Cost (H)		\$60,761

3. Heat Recovery Credits (I):

		\$702,073
MMBTU/HR Input		27.8 (provided by source)
Operating Hours/Year		8,760
Unit Heat Efficiency		95%
Heat Exchange Efficiency		65%
Percent Heat Recovery		70%
Cost/MMBTU ***		\$6.66 (rate in Indiana)

Total Annual Operating Cost (G+H-I) \$1,094,405

Total Annualized Cost	(E+G+H-I)	\$1,237,349
Limited PTE (tons/year)	87.0	
Overall Control Efficiency		96.0%
Pollution Removed (tons/yr)		83.5
Cost Effectiveness (\$ /ton VOC removed)		\$14,815

**Appendix C: Cost Analysis for Control Devices
Regenerative Thermal Incineration**

Company Name: Valeo, Inc. Engine Cooling Automotive Division
Address: 1100 East Barachel Lane, Greensburg, Indiana 47240
FESOP and NSR: 031-21314
Plt ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

Regenerative Thermal Incineration

Design Air Flow Rate (scfm): 1,200 (provided by source)

I. Capital Cost

(formula)

1. Purchased Equipment:

Basic Equipment & Auxiliaries (A)		\$936,855	(provided by source)
Instruments & controls	0.10 A	\$0	(included in the price quote)
Taxes	0.05 A	\$46,843	(Indiana Tax Code)
Freight	0.05 A	\$46,843	
Total Purchase Cost (B)		\$1,030,541	

2. Direct Installation Costs:

Foundations & Supports	0.08 B	\$82,443
Support Installation	0.08 B	\$0
Erection & Handling	0.14 B	\$144,276
Electrical	0.04 B	\$41,222
Enclosure		NA
Piping	0.02 B	\$20,611
Insulation	0.01 B	\$10,305
Painting	0.01 B	\$10,305
Site Preparation (As Required)	0.10 B	\$103,054
Facilities and buildings (As required)	0.05 B	\$51,527
Total Direct Installation Cost (C)		\$463,743

Total Direct Capital Cost (TDC) (B+C) \$1,494,284

3. Indirect Costs:

Engineering	0.10 B	\$103,054
Loss of Production Cost		\$0
Construction & Field Expenses	0.05 B	\$51,527
Contractor Fees	0.10 B	\$103,054
Start Up	0.02 B	\$20,611
Performance Tests	0.01 B	\$10,305
Contingencies	0.03 B	\$30,916
Total Indirect Cost (D)		\$319,468

Total Install Capital Cost (B+C+D) \$1,813,751

Capital Recovery Factor (7%, 10 year) 0.1424

Capital Recovery Cost (E) \$258,242

**Appendix C: Cost Analysis for Control Devices
Regenerative Thermal Incineration**

Company Name: Valeo, Inc. Engine Cooling Automotive Division
Address: 1100 East Barachel Lane, Greensburg, Indiana 47240
FESOP and NSR: 031-21314
Plt ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

II. ANNUALIZED COSTS

1. Direct Operating Costs:

Operating Labor (F)		\$13,501
a. Number of Employees		1.00
b. Cost/Employee/Hour		\$24.7 (provided by source)
c. Operating Hours/Year		548
Supervisory Labor (F1)	0.15 F	\$2,025
Maintenance Labor (F2)		\$17,772
a. Number of Employees		1.00
b. Cost/Employee/Hour		\$32.5 (provided by source)
c. Operating Hours/Year		548
Maintenance Material (F3)	1 F2	\$17,772
Utilities		
a. Natural Gas		\$598,585
MMBTU/HR Input		10.3 (provided by source)
Operating Hours/Year		8,760
Cost/MMBTU		\$6.66 (rate in Indiana for 2004)
b. Electricity		\$51,336
KW Requirements/Hr		107 (provided by source)
KWH/YR		8,760
Cost/KWH		\$0.055 (rate in Indiana for 2002)
Water		\$0
Air		\$0
Replacement Parts		\$0
Total Direct Operating Cost (G)		\$700,991

2. Indirect Operating Costs:

Overhead	0.6 (F+F1+F2+F3)	\$30,642
Insurance, and Administrative Costs	0.03 (B+C+D)	\$54,413
Total Indirect Operating Cost (H)		\$85,055

3. Heat Recovery Credits (I):

		\$258,738
MMBTU/HR Input		10.3 (provided by source)
Operating Hours/Year		8,760
Unit Heat Efficiency		95%
Heat Exchange Efficiency		65%
Percent Heat Recovery		70%
Cost/MMBTU ***		\$6.66 (rate in Indiana)

Total Annual Operating Cost (G+H-I) \$527,307

Total Annualized Cost	(E+G+H-I)	\$785,549
Limited PTE (tons/year)	87.0	
Overall Control Efficiency		96.0%
Pollution Removed (tons/yr)		83.5
Cost Effectiveness (\$ /ton VOC removed)		\$9,406

**Appendix C: Cost Analysis for Control Devices
Recuperative Catalytic Incineration**

Company Name: Valeo, Inc. Engine Cooling Automotive Division
Address: 1100 East Barachel Lane, Greensburg, Indiana 47240
FESOP and NSR: 031-21314
Pit ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

Recuperative Catalytic Incineration

Design Air Flow Rate (scfm): 1,200 (provided by source)

I. Capital Cost

(formula)

1. Purchased Equipment:

Basic Equipment & Auxiliaries (A)		\$745,084	(provided by source)
Instruments & controls	0.10 A	\$0	(included in the price quote)
Taxes	0.05 A	\$37,254	(Indiana Tax Code)
Freight	0.05 A	\$37,254	
Total Purchase Cost (B)		\$819,592	

2. Direct Installation Costs:

Foundations & Supports	0.08 B	\$65,567
Support Installation	0.08 B	\$0
Erection & Handling	0.14 B	\$114,743
Electrical	0.04 B	\$32,784
Enclosure		NA
Piping	0.02 B	\$16,392
Insulation	0.01 B	\$8,196
Painting	0.01 B	\$8,196
Site Preparation (As Required)	0.10 B	\$81,959
Facilities and buildings (As required)	0.05 B	\$40,980
Total Direct Installation Cost (C)		\$368,817

Total Direct Capital Cost (TDC) (B+C) \$1,188,409

3. Indirect Costs:

Engineering	0.10 B	\$81,959
Loss of Production Cost		\$0
Construction & Field Expenses	0.05 B	\$40,980
Contractor Fees	0.10 B	\$81,959
Start Up	0.02 B	\$16,392
Performance Tests	0.01 B	\$8,196
Contingencies	0.03 B	\$24,588
Total Indirect Cost (D)		\$254,074

Total Install Capital Cost (B+C+D) \$1,442,483

Capital Recovery Factor (7%, 10 year) 0.1424

Capital Recovery Cost (E) \$205,381

Appendix C: Cost Analysis for Control Devices
Recuperative Catalytic Incineration

Company Name: Valeo, Inc. Engine Cooling Automotive Division
Address: 1100 East Barachel Lane, Greensburg, Indiana 47240
FESOP and NSR: 031-21314
Pit ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

II. ANNUALIZED COSTS

1. Direct Operating Costs:

Operating Labor (F)		\$13,501	
a. Number of Employees		1.00	
b. Cost/Employee/Hour ****		\$24.7	(provided by source)
c. Operating Hours/Year		548	
Supervisory Labor (F1)	0.15 F	\$2,025	
Maintenance Labor (F2)		\$17,772	
a. Number of Employees		1.00	
b. Cost/Employee/Hour ****		\$32.5	(provided by source)
c. Operating Hours/Year		548	
Maintenance Material (F3)	1 F2	\$17,772	
Utilities			
a. Natural Gas		\$1,170,332	
MMBTU/HR Input		20.1	(provided by source)
Operating Hours/Year		8,760	
Cost/MMBTU ***		\$6.66	(rate in Indiana for 2004)
b. Electricity		\$180,675	
KW Requirements/Hr		375	(provided by source)
KWH/YR		8,760	
Cost/KWH ***		\$0.055	(rate in Indiana for 2002)
Water		\$0	
Air		\$0	
Replacement Parts		\$0	
Total Direct Operating Cost (G)		\$1,402,078	

2. Indirect Operating Costs:

Overhead	0.6 (F+F1+F2+F3)	\$30,642	
Insurance, and Administrative Costs	0.03 (B+C+D)	\$43,274	
Total Indirect Operating Cost (H)		\$73,917	

3. Heat Recovery Credits (I):

MMBTU/HR Input		20.1	(provided by source)
Operating Hours/Year		8,760	
Unit Heat Efficiency		95%	
Heat Exchange Efficiency		65%	
Percent Heat Recovery		70%	
Cost/MMBTU ***		\$6.66	(rate in Indiana)

Total Annual Operating Cost (G+H-I) \$970,118

Total Annualized Cost	(E+G+H-I)	\$1,175,499
Limited PTE (tons/year)	87.0	
Overall Control Efficiency		96.0%
Pollution Removed (tons/yr)		83.5
Cost Effectiveness (\$ /ton VOC removed)		\$14,074

**Appendix C: Cost Analysis for Control Devices
Regenerative Catalytic Incineration**

Company Name: Valeo, Inc. Engine Cooling Automotive Division
Address: 1100 East Barachel Lane, Greensburg, Indiana 47240
FESOP and NSR: 031-21314
Pit ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

Regenerative Catalytic Incineration

Design Air Flow Rate (scfm): 1,200 (provided by source)

I. Capital Cost

(formula)

1. Purchased Equipment:

Basic Equipment & Auxiliaries (A)		\$1,587,964	(provided by source)
Instruments & controls	0.10 A	\$0	(included in the price quote)
Taxes	0.05 A	\$79,398	(Indiana Tax Code)
Freight	0.05 A	\$47,639	(provided by source)
Total Purchase Cost (B)		\$1,715,001	

2. Direct Installation Costs:

Foundations & Supports	0.08 B	\$137,200
Support Installation	0.08 B	\$0
Erection & Handling	0.14 B	\$240,100
Electrical	0.04 B	\$68,600
Enclosure		NA
Piping	0.02 B	\$34,300
Insulation	0.01 B	\$17,150
Painting	0.01 B	\$17,150
Site Preparation (As Required)	0.10 B	\$171,500
Facilities and buildings (As required)	0.05 B	\$85,750
Total Direct Installation Cost (C)		\$771,751

Total Direct Capital Cost (TDC) (B+C) \$2,486,752

3. Indirect Costs:

Engineering	0.10 B	\$171,500
Loss of Production Cost		\$0
Construction & Field Expenses	0.05 B	\$85,750
Contractor Fees	0.10 B	\$171,500
Start Up	0.02 B	\$34,300
Performance Tests	0.01 B	\$17,150
Contingencies	0.03 B	\$51,450
Total Indirect Cost (D)		\$531,650

Total Install Capital Cost (B+C+D) \$3,018,402

Capital Recovery Factor (7%, 10 year) 0.1424

Capital Recovery Cost (E) \$429,760

Appendix C: Cost Analysis for Control Devices
Regenerative Catalytic Incineration

Company Name: Valeo, Inc. Engine Cooling Automotive Division
Address: 1100 East Barachel Lane, Greensburg, Indiana 47240
FESOP and NSR: 031-21314
Pit ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

II. ANNUALIZED COSTS

1. Direct Operating Costs:

Operating Labor (F)		\$13,501
a. Number of Employees		1.00
b. Cost/Employee/Hour ****		\$24.7 (provided by source)
c. Operating Hours/Year		548
Supervisory Labor (F1)	0.15 F	\$2,025
Maintenance Labor (F2)		\$17,772
a. Number of Employees		1.00
b. Cost/Employee/Hour ****		\$32.5 (provided by source)
c. Operating Hours/Year		548
Maintenance Material (F3)	1 F2	\$17,772
Utilities		
a. Natural Gas		\$341,298
MMBTU/HR Input		5.85 (provided by source)
Operating Hours/Year		8,760
Cost/MMBTU ***		\$6.66 (rate in Indiana for 2004)
b. Electricity		\$75,643
KW Requirements/Hr		157 (provided by source)
KWH/YR		8,760
Cost/KWH ***		\$0.055 (rate in Indiana for 2002)
Water		\$0
Air		\$0
Replacement Parts		\$124,792 (provided by source)
Total Direct Operating Cost (G)		\$592,803

2. Indirect Operating Costs:

Overhead	0.6 (F+F1+F2+F3)	\$30,642
Insurance, and Administrative Costs	0.03 (B+C+D)	\$90,552
Total Indirect Operating Cost (H)		\$121,194

3. Heat Recovery Credits (I):

MMBTU/HR Input		5.85 (provided by source)
Operating Hours/Year		8,760
Unit Heat Efficiency		95%
Heat Exchange Efficiency		65%
Percent Heat Recovery		70%
Cost/MMBTU ***		\$6.66 (rate in Indiana)

Total Annual Operating Cost (G+H-I) \$566,471

Total Annualized Cost	(E+G+H-I)	\$996,231
Limited PTE (tons/year)	87.0	
Overall Control Efficiency		96.0%
Pollution Removed (tons/yr)		83.5
Cost Effectiveness (\$ /ton VOC removed)		\$11,928

Appendix C: Cost Analysis for Control Devices
Catalytic Adsorption/Oxidation

Company Name: Valeo, Inc. Engine Cooling Automotive Division
Address: 1100 East Barachel Lane, Greensburg, Indiana 47240
FESOP and NSR: 031-21314
Pit ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

Catalytic Adsorption/Oxidation

Design Air Flow Rate (scfm): 1,200 (provided by source)

I. Capital Cost

(formula)

1. Purchased Equipment:

Basic Equipment & Auxiliaries (A)		\$1,319,457	(provided by source)
Instruments & controls	0.10 A	\$0	(included in the price quote)
Taxes	0.05 A	\$65,973	(Indiana Tax Code)
Freight	0.05 A	\$39,584	(provided by source)
Total Purchase Cost (B)		\$1,425,014	

2. Direct Installation Costs:

Foundations & Supports	0.08 B	\$114,001
Support Installation	0.08 B	\$0
Erection & Handling	0.14 B	\$199,502
Electrical	0.04 B	\$57,001
Enclosure		NA
Piping	0.02 B	\$28,500
Insulation	0.01 B	\$14,250
Painting	0.01 B	\$14,250
Site Preparation (As Required)	0.10 B	\$142,501
Facilities and buildings (As required)	0.05 B	\$71,251
Total Direct Installation Cost (C)		\$641,256

Total Direct Capital Cost (TDC) (B+C) \$2,066,270

3. Indirect Costs:

Engineering	0.10 B	\$142,501
Loss of Production Cost		\$0
Construction & Field Expenses	0.05 B	\$71,251
Contractor Fees	0.10 B	\$142,501
Start Up	0.02 B	\$28,500
Performance Tests	0.01 B	\$14,250
Contingencies	0.03 B	\$42,750
Total Indirect Cost (D)		\$441,754

Total Install Capital Cost (B+C+D) \$2,508,024

Capital Recovery Factor (7%, 10 year) 0.1424

Capital Recovery Cost (E) \$357,093

Appendix C: Cost Analysis for Control Devices
Catalytic Adsorption/Oxidation

Company Name: Valeo, Inc. Engine Cooling Automotive Division
Address: 1100 East Barachel Lane, Greensburg, Indiana 47240
FESOP and NSR: 031-21314
Pit ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

II. ANNUALIZED COSTS

1. Direct Operating Costs:

Operating Labor (F)		\$13,501
a. Number of Employees		1.00
b. Cost/Employee/Hour ****		\$24.7 (provided by source)
c. Operating Hours/Year		548
Supervisory Labor (F1)	0.15 F	\$2,025
Maintenance Labor (F2)		\$17,772
a. Number of Employees		1.00
b. Cost/Employee/Hour ****		\$32.5 (provided by source)
c. Operating Hours/Year		548
Maintenance Material (F3)	1 F2	\$17,772
Utilities		
a. Natural Gas		\$147,021
MMBTU/HR Input		2.52 (provided by source)
Operating Hours/Year		8,760
Cost/MMBTU ***		\$6.66 (rate in Indiana for 2004)
b. Electricity		\$87,206
KW Requirements/Hr		181 (provided by source)
KWH/YR		8,760
Cost/KWH ***		\$0.055 (rate in Indiana for 2002)
Water		\$0
Air		\$0
Replacement Parts		\$27,368 (provided by source)
Total Direct Operating Cost (G)		\$312,665

2. Indirect Operating Costs:

Overhead	0.6 (F+F1+F2+F3)	\$30,642
Insurance, and Administrative Costs	0.03 (B+C+D)	\$75,241
Total Indirect Operating Cost (H)		\$105,883

3. Heat Recovery Credits (I):

		\$63,550
MMBTU/HR Input		2.52 (provided by source)
Operating Hours/Year		8,760
Unit Heat Efficiency		95%
Heat Exchange Efficiency		65%
Percent Heat Recovery		70%
Cost/MMBTU ***		\$6.66 (rate in Indiana)

Total Annual Operating Cost (G+H-I) \$354,998

Total Annualized Cost	(E+G+H-I)	\$712,091
Limited PTE (tons/year)	87.0	
Overall Control Efficiency		96.0%
Pollution Removed (tons/yr)		83.5
Cost Effectiveness (\$ /ton VOC removed)		\$8,526

Appendix C: Cost Analysis for Control Devices
Catalytic Adsorption

Company Name: Valeo, Inc. Engine Cooling Automotive Division
Address: 1100 East Barachel Lane, Greensburg, Indiana 47240
FESOP and NSR: 031-21314
Pit ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

Catalytic Adsorption

Design Air Flow Rate (scfm): 1,200 (provided by source)

I. Capital Cost

(formula)

1. Purchased Equipment:

Basic Equipment & Auxiliaries (A)		\$561,170	(provided by source)
Instruments & controls	0.10 A	\$0	(included in the price quote)
Taxes	0.05 A	\$28,059	(Indiana Tax Code)
Freight	0.05 A	\$16,836	(provided by source)
Total Purchase Cost (B)		\$606,065	

2. Direct Installation Costs:

Foundations & Supports	0.08 B	\$48,485
Support Installation	0.08 B	\$0
Erection & Handling	0.14 B	\$84,849
Electrical	0.04 B	\$24,243
Enclosure		NA
Piping	0.02 B	\$12,121
Insulation	0.01 B	\$6,061
Painting	0.01 B	\$6,061
Site Preparation (As Required)	0.10 B	\$60,606
Facilities and buildings (As required)	0.05 B	\$30,303
Total Direct Installation Cost (C)		\$272,729

Total Direct Capital Cost (TDC) (B+C) \$878,794

3. Indirect Costs:

Engineering	0.10 B	\$60,606
Loss of Production Cost		\$0
Construction & Field Expenses	0.05 B	\$30,303
Contractor Fees	0.10 B	\$60,606
Start Up	0.02 B	\$12,121
Performance Tests	0.01 B	\$6,061
Contingencies	0.03 B	\$18,182
Total Indirect Cost (D)		\$187,880

Total Install Capital Cost (B+C+D) \$1,066,674

Capital Recovery Factor (7%, 10 year) 0.1424

Capital Recovery Cost (E) \$151,873

Appendix C: Cost Analysis for Control Devices
Catalytic Adsorption

Company Name: Valeo, Inc. Engine Cooling Automotive Division
Address: 1100 East Barachel Lane, Greensburg, Indiana 47240
FESOP and NSR: 031-21314
Pit ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

II. ANNUALIZED COSTS

1. Direct Operating Costs:

Operating Labor (F)		\$13,501	
a. Number of Employees		1.00	
b. Cost/Employee/Hour ****		\$24.7	(provided by source)
c. Operating Hours/Year		548	
Supervisory Labor (F1)	0.15 F	\$2,025	
Maintenance Labor (F2)		\$17,772	
a. Number of Employees		1.00	
b. Cost/Employee/Hour ****		\$32.5	(provided by source)
c. Operating Hours/Year		548	
Maintenance Material (F3)	1 F2	\$17,772	
Utilities			
a. Natural Gas		\$0	
MMBTU/HR Input		0	
Operating Hours/Year		0	
Cost/MMBTU ***		\$6.66	(rate in Indiana for 2004)
b. Electricity		\$39,546	
KW Requirements/Hr		82	(provided by source)
KWH/YR		8,760	
Cost/KWH ***		\$0.055	(rate in Indiana for 2002)
Cooling Water		\$1,236	(provided by source)
Steam		\$342,391	(provided by source)
Replacement Parts		\$8,129	(provided by source)
Total Direct Operating Cost (G)		\$442,372	

2. Indirect Operating Costs:

Overhead	0.6 (F+F1+F2+F3)	\$30,642	
Insurance, and Administrative Costs	0.03 (B+C+D)	\$32,000	
Total Indirect Operating Cost (H)		\$62,642	

3. Heat Recovery Credits (I):

MMBTU/HR Input		0	
Operating Hours/Year		8,760	
Unit Heat Efficiency		95%	
Heat Exchange Efficiency		65%	
Percent Heat Recovery		70%	
Cost/MMBTU ***		\$6.66	(rate in Indiana)

Total Annual Operating Cost (G+H-I) \$505,015

Total Annualized Cost	(E+G+H-I)	\$656,888
Limited PTE (tons/year)	897.0	
Overall Control Efficiency		85.0%
Pollution Removed (tons/yr)		762.5
Cost Effectiveness (\$ /ton VOC removed)		\$862

Appendix C: Notes

Company Name: Valeo, Inc. Engine Cooling Automotive Division
Address: 1100 East Barachel Lane, Greensburg, Indiana 47240
FESOP and NSR: 031-21314
Pit ID: 031-00014
Reviewer: ERG/SD
Date: January 12, 2006

NOTES:

1. The cost analysis formula is from EPA Air Pollution Control Cost Manual, Sixth Edition (01/02).
2. The control efficiency is as provided by the manufacturer, including capture efficiency and destruction efficiency.
3. The natural gas price for industrial use in November, 2004 is from the webpage for Energy Information Administration.
<http://www.eia.doe.gov/>
4. The energy price for industrial use in 2002 for Indiana is from the webpage for Energy Information Administration.