

**New Source Review and
Minor Source Operating Permit
INDIANA DEPARTMENT OF ENVIRONMENTAL
MANAGEMENT - OFFICE OF AIR QUALITY
AND VIGO COUNTY AIR POLLUTION CONTROL**

**Aisin Brake & Chassis, Inc.
10550 James Adams Street
Terre Haute, Indiana 47802**

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

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

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 MSOP under 326 IAC 2-6.1.

Operation Permit No.: M167-22458-00131	
Issued by: //Original Signed By// George M. Needham, Director Vigo County Air Pollution Control	Issuance Date: August 22, 2007 Expiration Date: August 22, 2012

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SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) and Vigo County Air Pollution Control (VCAPC). The information describing the source contained in conditions A.1 and A.2 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)][326 IAC 2-6.1-4(a)]

The Permittee owns and operates an automotive brake and brake component manufacturing operation.

Source Address:	10550 James Adams Street, Terre Haute, Indiana 47802
Mailing Address:	10550 James Adams Street, Terre Haute, IN 47802
General Source Phone Number:	812-298-1617
SIC Code:	3714
County Location:	Vigo
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Minor Source Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary

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

- (a) Eight (8) natural gas fired heating units, identified as RTF-1 through 8, constructed in February 2002, rated at a maximum capacity of 0.54 million BTU per hour each.
- (b) Thirteen (13) natural gas fired heating units, identified as RTF-12 through 24, constructed in June 2006, rated at a maximum capacity of 0.54 million BTU per hour each.
- (c) One (1) natural gas fired hot water boiler, identified as BS1, constructed in September 2003, rated at a maximum capacity of 5.0 million BTU per hour, exhausting to stack ID BS1.
- (d) One (1) natural gas fired paint dry/bake oven, identified as BS2, constructed in September 2003, rated at a maximum capacity of 3.5 million BTU per hour, exhausting to stack ID BS2.
- (e) One (1) degreasing operation, identified as DSU, constructed in June 2006, exhausting to stack ID DSU.
- (f) One (1) degreasing operation, identified as MC, constructed in March 2006, exhausting to stack ID MC.
- (g) One (1) pre-treatment on surface coating line, identified as PT, constructed March 2006, with a maximum capacity of 3300 units per hour, exhausting to stack ID PT.
- (h) One (1) surface coating operation, identified as EFS, constructed in March 2004, using a dipping method of application for coating metal parts, with a maximum capacity of 3300 units per hour, exhausting to stack ID EFS.

- (i) One (1) brake shoe welding operation, identified as SS1-1, constructed in March 2006, with a maximum capacity of 340 units per hour, exhausting to stack ID SS1-1.
- (j) One (1) brake shoe washing operation, identified as SS2-1, using a dipping method of application for washing metal parts, constructed in March 2006, with a maximum capacity of 340 units per hour, exhausting to stack ID SS2-1.
- (k) Two (2) brake shoe adhesive cure oven canopies, identified as SS3-3 and SS3-4, constructed in March 2006, with a maximum capacity of 340 units per hour, exhausting to stack IDs SS3-3 and SS3-4.
- (l) One (1) brake shoe grinding operation, identified as SS4-1, constructed in March 2006, with a maximum capacity of 340 units per hour, controlled by a cyclone dust collector rated at 99% efficiency, exhausting to stack ID SS4-1.
- (m) One (1) brake shoe grinding operation final cure oven cooling canopy hood, identified as SS4-2, constructed in March 2006, with a maximum capacity of 340 units per hour, exhausting to stack ID SS4-2.
- (n) One (1) brake shoe grinding operation final cure oven, identified as SS4-3, constructed March 2006, with a maximum capacity of 340 units per hour, exhausting to stack ID SS4-3.
- (o) One natural gas-fired back up generator, identified as Backup Generator 1, constructed in March 2006, with a rated maximum capacity of 0.59 million (MM) Btu per hour, exhausting to stack ID Back-up Generator.
- (p) One (1) brake shoe primer operation, identified as SS2-2, using a dipping method of application for coating metal parts, constructed in March 2006, with a maximum capacity of 340 units per hour, exhausting to stack ID SS2-2.
- (q) One (1) brake shoe adhesive application operation, identified as SS3-1, constructed in March 2006, exhausting to stacks SS3-1 and SS3-2, with a maximum capacity of 340 units per hour.

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-1.1-1]

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 2-1.1-1) shall prevail.

B.2 Permit Term [326 IAC 2-6.1-7(a)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

- (a) This permit, M167-22458-00131, 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 of this permit.
- (b) If IDEM, OAQ and VCAPC, 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, until the renewal permit has been issued or denied.

B.3 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.4 Enforceability

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

B.5 Severability

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.6 Property Rights or Exclusive Privilege

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

B.7 Duty to Provide Information

- (a) The Permittee shall furnish to IDEM, OAQ and VCAPC, within a reasonable time, any information that IDEM, OAQ and VCAPC 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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1). Upon request, the Permittee shall also furnish to IDEM, OAQ and VCAPC 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.8 Certification

- (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.9 Annual Notification [326 IAC 2-6.1-5(a)(5)]

- (a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:

Compliance Branch, Office of Air Quality
Indiana Department of Environmental Management
100 North Senate Avenue,
MC 61-53 IGCN 1003
Indianapolis, IN 46204-2251

and

Vigo County Air Pollution Control
103 South Third Street
Terre Haute, Indiana 47807

- (c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ and VCAPC on or before the date it is due.

B.10 Preventive Maintenance Plan [326 IAC 1-6-3]

- (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
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

Vigo County Air Pollution Control
103 South Third Street
Terre Haute, Indiana 47807

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

- (b) A copy of the PMPs shall be submitted to IDEM, OAQ and VCAPC upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ and VCAPC. IDEM, OAQ and VCAPC 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 an "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.11 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to M167-22458-00131 and issued pursuant to permitting programs approved into the state implementation plan have been either:
 - (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted
- (b) All previous registrations and permits are superseded by this permit.

B.12 Termination of Right to Operate [326 IAC 2-6.1-7(a)]

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 ninety (90) days prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-6.1-7.

B.13 Permit Renewal [326 IAC 2-6.1-7]

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and VCAPC and shall include the information specified in 326 IAC 2-6.1-7. Such information shall be included in the application for each emission

unit at this source. The renewal application does require the certification by an "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
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

Vigo County Air Pollution Control
103 South Third Street
Terre Haute, Indiana 47807

- (b) A timely renewal application is one that is:
- (1) Submitted at least ninety (90) days 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 and VCAPC 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 2-6.1 until IDEM, OAQ and VCAPC take final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ and VCAPC any additional information identified as being needed to process the application.

B.14 Permit Amendment or Revision [326 IAC 2-5.1-3(e)(3)][326 IAC 2-6.1-6]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-6.1-6 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
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

Vigo County Air Pollution Control
103 South Third Street
Terre Haute, Indiana 47807

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

- (c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

B.15 Source Modification Requirement

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

B.16 Inspection and Entry

[326 IAC 2-5.1-3(e)(4)(B)][326 IAC 2-6.1-5(a)(4)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

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

- (a) Enter upon the Permittee's premises where a permitted 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.17 Transfer of Ownership or Operational Control [326 IAC 2-6.1-6]

- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 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
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

Vigo County Air Pollution Control
103 South Third Street

Terre Haute, Indiana 47807

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

- (c) The Permittee may implement notice only changes addressed in the request for a notice only change immediately upon submittal of the request. [326 IAC 2-6.1-6(d)(3)]

B.18 Annual Fee Payment [326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ and VCAPC within thirty (30) calendar days of receipt of a billing.
- (b) 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.19 Credible Evidence [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

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

C.1 Permit Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation of Permits), this permit to operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM and VCAPC, the fact that continuance of this permit is not consistent with purposes of this article.

C.2 Opacity [326 IAC 5-1]

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

- (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.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

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

C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

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

C.6 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
MC 61-52 IGCN 1003
Indianapolis, Indiana 46204-2251

and

Vigo County Air Pollution Control
103 South Third Street
Terre Haute, Indiana 47807

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 an "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 2-6.1-5(a)(2)]

C.7 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
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

Vigo County Air Pollution Control
103 South Third Street
Terre Haute, Indiana 47807

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

- (b) The Permittee shall notify IDEM, OAQ and VCAPC 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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ and VCAPC not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ and VCAPC 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.8 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 2-6.1-5(a)(2)]

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

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.10 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.

C.11 Instrument Specifications [326 IAC 2-1.1-11]

- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.
- (b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps

C.12 Response to Excursions or Exceedances

- (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; and/or

- (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.13 Actions Related to Noncompliance Demonstrated by a Stack Test

- (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 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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

C.14 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ), VCAPC, or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ and VCAPC, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).

- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.15 General Record Keeping Requirements [326 IAC 2-6.1-5]

- (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 or VCAPC makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner or VCAPC 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 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) Reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

Vigo County Air Pollution Control
103 South Third Street
Terre Haute, Indiana 47807
- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ and VCAPC on or before the date it is due.
- (c) 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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are 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.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) Eight (8) natural gas fired heating units, identified as RTF-1 through 8, constructed in February 2002, rated at a maximum capacity of 0.54 million BTU per hour each.
- (b) Thirteen (13) natural gas fired heating units, identified as RTF-12 through 24, constructed in June 2006, rated at a maximum capacity of 0.54 million BTU per hour each.
- (c) One (1) natural gas fired hot water boiler, identified as BS1, constructed in September 2003, rated at a maximum capacity of 5.0 million BTU per hour, exhausting to stack ID BS1.
- (d) One (1) natural gas fired paint dry/bake oven, identified as BS2, constructed in September 2003, rated at a maximum capacity of 3.5 million BTU per hour, exhausting to stack ID BS2.
- (e) One (1) degreasing operation, identified as DSU, constructed in June 2006, exhausting to stack ID DSU.
- (f) One (1) degreasing operation, identified as MC, constructed in March 2006, exhausting to stack ID MC.
- (g) One (1) pre-treatment on surface coating line, identified as PT, constructed March 2006, with a maximum capacity of 3300 units per hour, exhausting to stack ID PT.
- (h) One (1) surface coating operation, identified as EFS, constructed in March 2004, using a dipping method of application for coating metal parts, with a maximum capacity of 3300 units per hour, exhausting to stack ID EFS.
- (i) One (1) brake shoe welding operation, identified as SS1-1, constructed in March 2006, with a maximum capacity of 340 units per hour, exhausting to stack ID SS1-1.
- (j) One (1) brake shoe washing operation, identified as SS2-1, using a dipping method of application for washing metal parts, constructed in March 2006, with a maximum capacity of 340 units per hour, exhausting to stack ID SS2-1.
- (k) Two (2) brake shoe adhesive cure oven canopies, identified as SS3-3 and SS3-4, constructed in March 2006, with a maximum capacity of 340 units per hour, exhausting to stack IDs SS3-3 and SS3-4.
- (l) One (1) brake shoe grinding operation, identified as SS4-1, constructed in March 2006, with a maximum capacity of 340 units per hour, controlled by a cyclone dust collector rated at 99% efficiency, exhausting to stack ID SS4-1.
- (m) One (1) brake shoe grinding operation final cure oven cooling canopy hood, identified as SS4-2, constructed in March 2006, with a maximum capacity of 340 units per hour, exhausting to stack ID SS4-2.
- (n) One (1) brake shoe grinding operation final cure oven, identified as SS4-3, constructed March 2006, with a maximum capacity of 340 units per hour, exhausting to stack ID SS4-3.
- (o) One natural gas-fired back up generator, identified as Backup Generator 1, constructed in March 2006, with a rated maximum capacity of 0.59 million (MM) Btu per hour, exhausting to stack ID Backup Generator.

- (p) One (1) brake shoe primer operation, identified as SS2-2, using a dipping method of application for coating metal parts, constructed in March 2006, with a maximum capacity of 340 units per hour, exhausting to stack ID SS2-2.
- (q) One (1) brake shoe adhesive application operation, identified as SS3-1, constructed in March 2006, exhausting to stacks SS3-1 and SS3-2, with a maximum capacity of 340 units per hour.
- (The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

D.1.1 Particulate Limitations for Sources of Indirect Heating [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), particulate emissions from each of the heating units (RTF-1 through RTF-8 and RTF-12 through RTF-24) shall be limited to 0.53 pounds per MMBtu heat input.

The limit was calculated using the following equation:

$$Pt = 1.09/Q^{0.26} = 0.53 \text{ lb/MMBtu}$$

Where

Pt = emission rate limit (lbs/mmBtu) heat input.
Q = total source heat input capacity (MMBtu/hr).

D.1.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e) the particulate from units SS3-1, SS3-2, SS3-3, and SS4-1 shall be less than or equal to 0.551 pounds per hour for each unit. Unit SS4-1 does not rely on the cyclone dust collector to meet this limit.

D.1.3 Volatile Organic Compounds (VOC) [326 IAC 8-2-9]

Pursuant to 326 IAC 8-1-2(a)(9), the dip tank VOC emissions shall be limited to no greater than the following equivalent emissions in kilograms VOC/liter (lb/gallon) of coating solids:

Miscellaneous metal coating category	Limit in kilograms VOC/liter (lb/gallon) of coating less water	Equivalent emission limit in kilograms VOC/liter (lb/gallon) of coating solids
Air dried or forced warm air dried at temperatures up to ninety (90) degrees Celsius (one hundred ninety-four (194) degrees Fahrenheit)	0.42 (3.5)	0.80 (6.7)

D.1.4 Volatile Organic Compounds (VOC) [326 IAC 8-1-1]

(a) Pursuant to 326 IAC 8-1-1(b) the Permittee shall limit VOC emissions from unit SS3-1 to less than fifteen (15) pounds per day before controls. Therefore the requirements of 326 IAC 8-2-9 does not apply.

(b) Records shall be maintained daily to document compliance with this condition.

Solvent sprayed from application equipment during cleanup from any operation shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

D.1.5 Conveyorized Degreasing Operation [326 IAC 8-3-4]

Pursuant to 326 IAC 8-3-4 (Conveyorized Degreasing Operation), the owner or operator of a conveyorized degreaser (Emission Unit MC) shall:

- (1) minimize carryout emissions by:
 - (A) racking parts for best drainage;
 - (B) maintaining the vertical conveyor speed at less than 3.3 meters per minute (eleven (11) feet per minute);
- (2) store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere;
- (3) repair solvent leaks immediately, or shut down the degreaser;
- (4) not use workplace fans near the degreaser opening;
- (5) not allow water in solvent exiting the water separator; and
- (6) provide a permanent, conspicuous label summarizing the operating requirements.

D.1.6 Conveyorized Degreaser Operation and Control [326 IAC 8-3-7]

Pursuant to 326 IAC 8-3-7 (Conveyorized Degreaser Operation and Control):

- (a) The owner or operator of a conveyorized degreaser (Emission Unit MC) shall ensure that the following control equipment requirements are met:
 - (1) Equip the degreaser's entrances and exits with downtime covers which are closed when the degreaser is not operating.
 - (2) Equip the degreaser with the following switches:
 - (A) A condenser flow switch and thermostat which shuts off sump heat if condenser coolant stops circulating or becomes too warm.
 - (B) A spray safety switch which shuts off spray pump if the vapor level drops more than ten (10) centimeters (four (4) inches).
 - (C) A vapor level control thermostat which shuts off sump heat when vapor level rises more than ten (10) centimeters (four (4) inches).
 - (3) Equip the degreaser with entrances and exits which silhouette workloads in such a manner that the average clearance between the articles and the degreaser opening is either less than ten (10) centimeters (four (4) inches) or less than ten percent (10%) of the width of the opening.
 - (4) Equip the degreaser with a drying tunnel, rotating or tumbling basket, or other equipment which prevents cleaned articles from carrying out solvent liquid or vapor.
 - (5) Equip the degreaser with a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
 - (6) Equip the degreaser with one (1) of the following control devices:
 - (A) A refrigerated chiller.
 - (B) A carbon adsorption system with ventilation which, with the downtime

covers open, achieves a ventilation rate of greater than or equal to fifteen (15) cubic meters per minute per square meter (fifty (50) cubic feet per minute per square foot) of air to solvent interface area, and an average of less than twenty-five (25) parts per million of solvent is exhausted over one (1) complete adsorption cycle.

- (C) Other systems of demonstrated equivalent or better control as those outlined in clause (A) or (B). Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (b) The owner or operator of a conveyORIZED degreaser shall ensure that the following operating requirements are met:
- (1) Minimize solvent carryout emissions by the following:
 - (A) Racking articles to allow complete drainage.
 - (B) Maintaining the vertical conveyor speed at less than three and three-tenths (3.3) meters per minute (eleven (11) feet per minute).
 - (2) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.
 - (3) Repair solvent leaks immediately or shut down the degreaser if leaks cannot be repaired immediately.
 - (4) Prohibit the exhaust ventilation rate from exceeding twenty (20) cubic meters per minute per square meter (sixty-five (65) cubic feet per minute per square foot) of degreaser opening unless a greater ventilation rate is necessary to meet Occupational Safety and Health Administration requirements.
 - (5) Prohibit the use of workplace fans near the degreaser opening.
 - (6) Prohibit visually detectable water in the solvent exiting the water separator.
 - (7) Cover entrances and exits at all times except when processing workloads through the degreaser.

D.1.7 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for units SS3-1, SS3-2, SS3-3, and SS4-1.

Compliance Determination Requirements

D.1.8 Volatile Organic Compounds (VOCs) [326 IAC 8-1-2]

- (a) Compliance with the VOC content and usage limitations contained in Condition D.1.3 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, and VCAPC reserve the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

Compliance with the equivalent emission limit shall be determined by doing the following:

Calculate the VOC content of a dip coating or flow coating, expressed in units of weight of VOC per volume of coating solids, on a thirty (30) day rolling average basis using the following equation:

$$VOC_A = (\Sigma(W_{oi} \times D_{ci} \times Q_i) + \Sigma(W_{oJ} \times D_{dJ} \times Q_J)) / (\Sigma(V_{ni} \times Q_i))$$

Where: VOC_A = The as-applied, VOC content in pound VOC per gallon (lb VOC/gal) of coating solids for a dip coating or flow coating, calculated on a thirty (30) day rolling average basis.

W_{oi} = Percent VOC by weight of each as supplied coating (i) added to the dip coating or flow coating process, expressed as a decimal fraction (that is 55% = 0.55).

D_{ci} = Density of each as supplied coating (i) added to the dip coating or flow coating process, in pounds per gallon.

Q_i = Quantity of each as supplied coating (i) added to the dip coating or flow coating process, in gallons.

V_{ni} = Percent solids by volume of each as supplied coating (i) added to the dip coating or flow coating process, expressed as a decimal fraction.

W_{oJ} = Percent VOC by weight of each thinner (J) added to the dip coating or flow coating process, expressed as a decimal fraction.

D_{dJ} = Density of each thinner (J) added to the dip coating or flow coating process, in pounds per gallon.

Q_J = Quantity of each thinner (J) added to the dip coating or flow coating process, in gallons.

- (b) Compliance with Conditions D.1.3 shall be demonstrated within 30 days of the end of each month based on the VOC usage for the most recent twelve (12) consecutive month period.

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

D.1.9 Record Keeping Requirement

- (a) To document compliance with Condition D.1.3, the Permittee shall maintain the following records on a daily basis for each VOC-containing coating, solvent, or other material added to the tank:
- (1) The following parameters for each coating, thinner, or other material as supplied:
 - (aa) The coating, thinner, or other material identification number.
 - (bb) The volume used.
 - (cc) The mix ratio.
 - (dd) The density or specific gravity.
 - (ee) The weight percent of total volatiles, water, solids, and exempt solvents.
 - (ff) The volume percent of solids.
 - (2) The VOC content of each coating and thinner as supplied.
 - (3) The VOC content of each as-applied coating.
- (b) Maintain all records necessary to confirm compliance:
 - (1) On-site for the most recent three (3) year period.
 - (2) Make reasonably accessible for an additional two (2) years.
- (c) Records maintained for (a)(1) through (a)(3) shall be taken daily and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Conditions D.1.3. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.
- (d) To document compliance with Condition D.1.4, the Permittee shall maintain the following records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken monthly and shall be complete and sufficient to establish compliance with

the VOC usage limits and/or the VOC emission limits established in Condition D.1.4. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.

- (1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
 - (2) A log of the dates of use;
 - (3) The volume weighted VOC content of the coatings used for each day;
 - (4) The cleanup solvent usage for each day;
 - (5) The total VOC usage for each day; and
 - (6) The weight of VOCs emitted for each compliance period; and
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.10 Reporting Requirement

A quarterly summary of the information to document compliance with the surface coating limits shall be submitted to the following addresses 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.

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

Vigo County Air Pollution Control
103 South Third Street
Terre Haute, IN 47807

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE DATA SECTION
 and VIGO COUNTY AIR POLLUTION CONTROL**

MSOP Quarterly Report

Source Name: Aisin Brake & Chassis, Inc.
 Source Address: 10550 James Adams Street, Terre Haute, IN 47802
 Mailing Address: 10550 James Adams Street, Terre Haute, IN 47802
 MSOP Permit No.: M167-2458-00131
 Facility: Brake Shoe Adhesive Application Operation, Unit SS3-1
 Pollutant: VOC
 Limit: 15 pounds per day

Quarterly Report Month _____ Year _____

Day	Product	VOC lbs./gal	Gal/day	Total VOC lbs./day
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
Total VOC lbs./day for the entire month:				

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

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH
and VIGO COUNTY AIR POLLUTION CONTROL**

**MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

Company Name:	Aisin Brake & Chassis, Inc.
Address:	10550 James Adams Street
City:	Terre Haute, Indiana 47802
Phone #:	812-298-1617
MSOP #:	M167-22458-00131

I hereby certify that Aisin Brake & Chassis, Inc. is :

still in operation.

no longer in operation.

I hereby certify that Aisin Brake & Chassis, Inc. is :

in compliance with the requirements of MSOP M167-22458-00131.

not in compliance with the requirements of MSOP M167-22458-00131.

Authorized Individual (typed):
Title:
Signature:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

MALFUNCTION REPORT

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
FAX NUMBER - 317 233-6865
AND VCAPC
FAX NUMBER - 812-462-3447**

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ? _____, 25 TONS/YEAR SULFUR DIOXIDE ? _____, 25 TONS/YEAR NITROGEN OXIDES? _____, 25 TONS/YEAR VOC ? _____, 25 TONS/YEAR HYDROGEN SULFIDE ? _____, 25 TONS/YEAR TOTAL REDUCED SULFUR ? _____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ? _____, 25 TONS/YEAR FLUORIDES ? _____, 100TONS/YEAR CARBON MONOXIDE ? _____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ? _____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ? _____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ? _____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ? _____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERM LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF >MALFUNCTION= AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: _____ PHONE NO. () _____
LOCATION: (CITY AND COUNTY) _____
PERMIT NO. _____ AFS PLANT ID: _____ AFS POINT ID: _____ INSP: _____
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____

DATE/TIME MALFUNCTION STARTED: ____/____/20____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/20____ _____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____

INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

*SEE PAGE 2

Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

**Indiana Department of Environmental Management
Office of Air Quality
and
Vigo County Air Pollution Control**

**Addendum to the New Source Review and
Minor Source Operating Permit (MSOP)**

Source Name:	Aisin Brake & Chassis, Inc.
Source Location:	10550 James Adams Street, Terre Haute, Indiana 47802
County:	Vigo
SIC Code:	3714
Permit No.:	M167-22458-00131
Permit Reviewer:	Scott Sines

On June 28, 2007, the Office of Air Quality (OAQ) and Vigo County Air Pollution Control (VCAPC) had a notice published in the Terre Haute Tribune Star, Terre Haute Indiana, stating that Aisin Brake & Chassis, Inc. had applied for a New Source Review and Minor Source Operating Permit to operate an automotive brake and brake component plant. The notice also stated that OAQ and VCAPC 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 July 27, 2007 Aisin Brake & Chassis, Inc. submitted comments on the proposed New Source Review and Minor Source Operating Permit. The summary of the comments is as follows:

Comment:

Aisin Brake & Chassis, Inc. will utilize a non-VOC degreaser in Emission Unit DSU. Aisin Brake & Chassis, Inc. would like to remove Emission Unit DSU from Conditions D.1.5 and D.1.6.

Response to Comment:

IDEM and VCAPC agree with the requested change. 326 IAC 8-3-4 and 326 IAC 8-3-7 will not apply to Emission Unit DSU since it utilizes a non-VOC degreasing fluid.

Condition D.1.5 is changed to read:

D.1.5 Conveyorized Degreasing Operation [326 IAC 8-3-4]

Pursuant to 326 IAC 8-3-4 (Conveyorized Degreasing Operation), the owner or operator of a conveyorized degreaser (Emission Units ~~DSU & MC~~) shall:

- (1) minimize carryout emissions by:
 - (A) racking parts for best drainage;
 - (B) maintaining the vertical conveyor speed at less than 3.3 meters per minute (eleven (11) feet per minute);
- (2) store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere;
- (3) repair solvent leaks immediately, or shut down the degreaser;
- (4) not use workplace fans near the degreaser opening;
- (5) not allow water in solvent exiting the water separator; and

- (6) provide a permanent, conspicuous label summarizing the operating requirements.

Condition D.1.6 is changed to read:

D.1.6 ConveyORIZED Degreaser Operation and Control [326 IAC 8-3-7]

Pursuant to 326 IAC 8-3-7 (ConveyORIZED Degreaser Operation and Control):

- (a) The owner or operator of a conveyORIZED degreaser (Emission Units ~~DSU~~ & MC) shall ensure that the following control equipment requirements are met:
- (1) Equip the degreaser's entrances and exits with downtime covers which are closed when the degreaser is not operating.
 - (2) Equip the degreaser with the following switches:
 - (A) A condenser flow switch and thermostat which shuts off sump heat if condenser coolant stops circulating or becomes too warm.
 - (B) A spray safety switch which shuts off spray pump if the vapor level drops more than ten (10) centimeters (four (4) inches).
 - (C) A vapor level control thermostat which shuts off sump heat when vapor level rises more than ten (10) centimeters (four (4) inches).
 - (3) Equip the degreaser with entrances and exits which silhouette workloads in such a manner that the average clearance between the articles and the degreaser opening is either less than ten (10) centimeters (four (4) inches) or less than ten percent (10%) of the width of the opening.
 - (4) Equip the degreaser with a drying tunnel, rotating or tumbling basket, or other equipment which prevents cleaned articles from carrying out solvent liquid or vapor.
 - (5) Equip the degreaser with a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
 - (6) Equip the degreaser with one (1) of the following control devices:
 - (A) A refrigerated chiller.
 - (B) A carbon adsorption system with ventilation which, with the downtime covers open, achieves a ventilation rate of greater than or equal to fifteen (15) cubic meters per minute per square meter (fifty (50) cubic feet per minute per square foot) of air to solvent interface area, and an average of less than twenty-five (25) parts per million of solvent is exhausted over one (1) complete adsorption cycle.
 - (C) Other systems of demonstrated equivalent or better control as those outlined in clause (A) or (B). Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (b) The owner or operator of a conveyORIZED degreaser shall ensure that the following operating requirements are met:
- (1) Minimize solvent carryout emissions by the following:
 - (A) Racking articles to allow complete drainage.
 - (B) Maintaining the vertical conveyor speed at less than three and three-tenths (3.3) meters per minute (eleven (11) feet per minute).

- (2) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.
- (3) Repair solvent leaks immediately or shut down the degreaser if leaks cannot be repaired immediately.
- (4) Prohibit the exhaust ventilation rate from exceeding twenty (20) cubic meters per minute per square meter (sixty-five (65) cubic feet per minute per square foot) of degreaser opening unless a greater ventilation rate is necessary to meet Occupational Safety and Health Administration requirements.
- (5) Prohibit the use of workplace fans near the degreaser opening.
- (6) Prohibit visually detectable water in the solvent exiting the water separator.
- (7) Cover entrances and exits at all times except when processing workloads through the degreaser.

**Indiana Department of Environmental Management
Office of Air Quality
And
Vigo County Air Pollution Control**

Technical Support Document (TSD) for a New Source Review and
Minor Source Operating Permit (MSOP)

Source Background and Description

Source Name:	Aisin Brake & Chassis, Inc.
Source Location:	10550 James Adams Street, Terre Haute, Indiana 47802
County:	Vigo
SIC Code:	3714
Permit No.:	M167-22458-00131
Permit Reviewer:	Scott Sines

Vigo County Air Pollution Control (VCAPC) has reviewed an application from Aisin Brake & Chassis, Inc. relating to the construction and operation an automotive brake and brake component plant. After reviewing the application and the existing emission units a New Source Review and Minor Source Operating Permit (MSOP) will be issued. The automotive brake and brake component plant will consist of the following emission units and pollution control devices:

Existing Emission Units and Pollution Control Equipment

The source consists of the following existing emission units and pollution control devices under Exemption Nos. 167-15511-00131 and 167-18863-00131.

- (a) Eight (8) natural gas fired heating units, identified as RTF-1 through 8, constructed in February 2002, rated at a maximum capacity if 0.54 million BTU per hour each.
- (b) One (1) natural gas fired hot water boiler, identified as BS1, constructed in September 2003, rated at a maximum capacity of 5.0 million BTU per hour, exhausting to stack ID BS1.
- (c) One (1) natural gas fired paint dry/bake oven, identified as BS2, constructed in September 2003, rated at a maximum capacity of 3.5 million BTU per hour, exhausting to stack ID BS2.
- (d) One (1) surface coating operation, identified as EFS, constructed in March 2004, using a dipping method of application for coating metal parts, with a maximum capacity of 3300 units per hour, exhausting to stack ID EFS.

New Emission Units and Pollution Control Equipment

The source also consists of the following new emission units and pollution control devices.

- (e) Thirteen (13) natural gas fired heating units, identified as RTF-12 through 24, constructed in June 2006, rated at a maximum capacity of 0.54 million BTU per hour each.

- (f) One (1) degreasing operation, identified as DSU, constructed in June 2006, exhausting to stack ID DSU.
- (g) One (1) degreasing operation, identified as MC, constructed in March 2006, exhausting to stack ID MC.
- (h) One (1) pre-treatment on surface coating line, identified as PT, constructed in March 2006, with a maximum capacity of 3300 units per hour, exhausting to stack ID PT.
- (i) One (1) brake shoe welding operation, identified as SS1-1, constructed in March 2006, with a maximum capacity of 340 units per hour, exhausting to stack ID SS1-1.
- (j) One (1) brake shoe washing operation, identified as SS2-1, using a dipping method of application for washing metal parts, constructed in March 2006, with a maximum capacity of 340 units per hour, exhausting to stack ID SS2-1.
- (k) Two (2) brake shoe adhesive cure oven canopies, identified as SS3-3 and SS3-4, constructed in March 2006, with a maximum capacity of 340 units per hour, exhausting to stack IDs SS3-3 and SS3-4.
- (l) One (1) brake shoe grinding operation, identified as SS4-1, constructed in March 2006, with a maximum capacity of 340 units per hour, controlled by a cyclone dust collector rated at 99% efficiency, exhausting to stack ID SS4-1.
- (m) One (1) brake shoe grinding operation final cure oven cooling canopy hood, identified as SS4-2, constructed in March 2006, with a maximum capacity of 340 units per hour, exhausting to stack ID SS4-2.
- (n) One (1) brake shoe grinding operation final cure oven, identified as SS4-3, constructed March 2006, with a maximum capacity of 340 units per hour, exhausting to stack ID SS4-3.
- (o) One natural gas-fired back up generator, identified as Backup Generator 1, constructed in March 2006, with a rated maximum capacity of 0.59 million (MM) Btu per hour, exhausting to stack ID Back-up Generator.

Emission Units and Pollution Control Equipment Constructed and/or Operated without a Permit

The source also consists of the following emission units that were constructed and operating without a permit:

- (p) One (1) brake shoe primer operation, identified as SS2-2, using a dipping method of application for coating metal parts, constructed in 2005, with a maximum capacity of 340 units per hour, exhausting to stack ID SS2-2.
- (q) One (1) brake shoe adhesive application operation, identified as SS3-1, constructed in 2005, exhausting to stacks SS3-1 and SS3-2, with a maximum capacity of 340 units per hour.

History

On December 23, 2005, Aisin Brake & Chassis, Inc. submitted an application to the OAQ and VCAPC requesting to expand operations at their existing plant. Aisin Brake & Chassis, Inc., was issued an Exemption on April 8, 2004. Documents submitted in the Permittee's NOD response to the MSOP application, received on March 20, 2006, show that the Permittee was CWOP/OWOP at the MSOP application for units SS2-2 and SS3-1. The expanded source will have potential

emissions above twenty-five (25) tons per year of VOC. Therefore, a New Source Review and Minor Source Operating Permit (MSOP) will be issued.

Existing Approvals

The source has received the following:

- (a) Exemption No. 167-15511-00131, issued on February 6, 2002; and
- (b) Exemption No. 167-18863-00131, issued on April 8, 2004.

Enforcement Issue

IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled "Emission Units and Pollution Control Equipment Constructed and/or Operated without a Permit".

VCAPC is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
DSU	Degreasing Operation	34	1.33	4220	130
MC	Degreasing Operation	33.3	2	2256	77
SS1-1	Brake Shoe Welding Operation	34.5	1	1482	77
SS2-1	Brake Shoe Washing Operation	34.5	0.83	3001	77
SS2-2	Brake Shoe Primer Operation	34.2	0.67	3001	77
SS3-1	Brake Shoe Adhesive Application	35.2	1.17	3178	77
SS3-3	Brake Shoe Adhesive Cure Oven Canopy	33.3	3.17	4420	176
SS3-4	Brake Shoe Adhesive Cure Oven Canopy	34.3	0.67	1554	77
SS4-1	Brake Shoe Grinding Operation	37	2.17	12712	77
SS4-2	Brake Shoe Grinding Operation Cure Oven Canopy Hood	33.3	4.83	2256	302
SS4-3	Brake Shoe Grinding Operation Final Oven	36.2	1.67	12712	302
PT	Pre-Treatment on Surface Coating	34	1.83	7200	140

	Line				
EFS	Surface Coating Operation	34	1.83	7200	86
BS1	Natural Gas Hot Water Heater	30	1	2000	77
BS2	Natural Gas Paint Dry / Bake Oven	30	1	2000	362

Emission Calculations

See Appendix A of this document for detailed emission calculations (pages 1 - 10).

County Attainment Status

The source is located in Vigo County.

Pollutant	Status
PM ₁₀	Attainment
PM _{2.5}	Attainment
SO ₂	Maintenance Attainment
NOx	Attainment
8-hour Ozone	Maintenance Attainment
CO	Attainment
Lead	Attainment

- (a) Vigo County has been classified as 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 section.
- (b) Volatile organic compounds (VOC) and nitrogen oxides (NOx) 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. Vigo County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (c) Vigo 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 for the source section.
- (d) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 redesignating Delaware, Greene, Jackson, Vanderburgh, Vigo and Warrick Counties to attainment for the eight-hour ozone standard.
- (e) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.
- (f) Fugitive Emissions
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards

that were in effect on August 7, 1980, the fugitive emissions are not counted toward the determination of PSD applicability.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

Pollutant	tons/year
PM	7.534
PM-10	0.880
SO ₂	0.052
VOC	28.40
CO	7.311
NO _x	8.705

HAPs	tons/year
Toluene	2.03
Formaldehyde	0.10
Hexane	0.16
Total	2.29

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all criteria pollutants is less than 100 tons per year, however the potential to emit VOC is greater than 25 tons per year. Therefore, the source will be issued an MSOP
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore the source is not subject to the provisions of 326 IAC 2-7.

Actual Emissions

No previous emission data has been received from the source.

Potential to Emit After Issuance

The table below summarizes the potential to emit, reflecting all limits of the emission units. Any control equipment is considered enforceable only after issuance of this MSOP and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/Emission Unit	Potential to Emit (tons/year)						
	PM	PM10	SO ₂	VOC	CO	NO _x	Toluene
RTF-1 thru 8, RTF-12 thru 24 (21 units total)	0.094	0.377	0.030	0.273	4.172	4.967	--
Units BS1 & BS2	0.071	0.283	0.022	0.205	3.127	3.723	--
Back-up Generator	--	0.001	--	0.001	0.012	0.015	--
Surface Coating (EFS, SS2-2, SS3-1)	7.15	--	--	23.41	--	--	2.03
Degreasers DSU & MC	--	--	--	1.95	--	--	--
Welding and Thermal Cutting	0.219	0.219	--	--	--	--	--
Total	7.534	0.880	0.052	25.84	7.311	8.705	2.03
Major Source Threshold	250	250	250	250	250	250	10

- (a) This existing stationary source is not major under 326 IAC 2-2 (PSD) because the potential to emit of each attainment regulated pollutant is less than two hundred fifty (250) tons per year, and it is not one of the twenty-eight (28) listed source categories.
- (b) Fugitive Emissions
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are not counted toward the determination of PSD applicability.

Federal Rule Applicability

The following federal rules are applicable to the source:

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit for this source.
- (b) Aisin Brake & Chassis, Inc. is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for 40 CFR Part 63, Subpart T, Halogenated Solvent Cleaning (326 IAC 20-6) because this operation does not use a degreasing solvent that contains any of the halogenated compounds listed in 40 CFR 63.4(a).
- (c) Aisin Brake & Chassis, Inc. is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for 40 CFR Part 63, Subpart M, Surface Coating of Miscellaneous Metal Parts and Products (326 IAC 20-80) as the source is not a major source of HAPs.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration)

This existing minor stationary source is not major because the emissions are less than the PSD major source thresholds. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

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

Aisin Brake & Chassis, Inc. has the potential to emit less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 2-6 (Emission Reporting)

Pursuant to 326 IAC 2-6-1, this source is not subject to this rule because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake or Porter Counties, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.

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 Exemptions), 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.
- (c) This source is not located in the area of Vigo County referenced in 326 IAC 5-1-1(c)(8).

State Rule Applicability – Individual Facilities

326 IAC 6.5-1-2 (Particulate emission limitation)

Pursuant to 326 IAC 6.5-1-1 (Particulate emission limitation), the source has a potential to emit of less than ten (10) tons per year and, therefore, actual emissions of less than ten (10) tons per year. Therefore 326 IAC 6.5 does not apply to this source.

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

Pursuant to 326 IAC 6-2-4 (Emission limitations), particulate emissions from indirect heating facilities (RTF-1 thru RTF-8 and RTF-12 thru RTF 24 combined) shall be limited by the following equation:

$$Pt = 1.09/Q^{0.26} = 0.53 \text{ lb/MMBtu}$$

Where Pt = pounds of particulate matter emitted per million Btu (lb/mmBtu) heat input.
And Q = 11.34 MMBtu/hr (RTF-1 thru RTF-8 and RTF-12 thru RTF 24 combined).

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

Pursuant to 326 IAC 6-3-1(b)(5), surface coating line EFS, brake shoe washing operation SS2-1, and brake shoe primer operation SS2-2 are exempt from this rule as they use the dip coating method. Pursuant to 326 IAC 6-3-1(b)(6), the brake shoe welding operation SS1-1 is exempt from this rule as it uses less than six hundred twenty-five (625) pounds of rod or wire per day.

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

- (a) Based on a weight of 0.2616 pounds per brake liner and 340 liners per hour each, the process weight rate for the brake shoe adhesive operation SS3-1 yields a total of 88.94 pounds per hour. Pursuant to 326 IAC 6-3-2(e), the particulate from unit SS3-1 shall be less than or equal to 0.551 pounds per hour.

- (b) Based on a weight of 0.2616 pounds per brake liner and 340 liners per hour each, the process weight rate for the brake shoe grinding operation SS4-1 yields a total of 88.94 pounds per hour. Pursuant to 326 IAC 6-3-2(e), the particulate from unit SS4-1 shall be less than or equal to 0.551 pounds per hour. Unit SS4-1 does not rely on the cyclone dust collector to meet this limit.

326 IAC 8-1-1 (Applicability)

326 IAC 8-1-1 exempts the brake shoe adhesive operation unit SS3-1 from the requirements of 326 IAC 8-2-9. VOC emissions from SS3-1 before controls shall be less than fifteen (15) pounds per day. Records shall be maintained daily to document compliance with this condition.

326 IAC 8-2-9 (Miscellaneous Metal Coating)

Pursuant to 326 IAC 8-1-2(a)(9), the dip tank VOC emissions shall be limited to no greater than the following equivalent emissions in kilograms VOC/liter (lb/gallon) of coating solids:

Miscellaneous metal coating category	Limit in kilograms VOC/liter (lb/gallon) of coating less water	Equivalent emission limit in kilograms VOC/liter (lb/gallon) of coating solids
Air dried or forced warm air dried at temperatures up to ninety (90) degrees Celsius (one hundred ninety-four (194) degrees Fahrenheit)	0.42 (3.5)	0.80 (6.7)

Compliance with the equivalent emission limit shall be determined by doing the following:

- (i) Calculate the VOC content of a dip coating or flow coating, expressed in units of weight of VOC per volume of coating solids, on a thirty (30) day rolling average basis using the following equation:

$$VOC_A = (\sum(W_{oi} \times D_{ci} \times Q_i) + \sum(W_{oJ} \times D_{dJ} \times Q_J)) / (\sum(V_{ni} \times Q_i))$$

Where: VOC_A = The as-applied, VOC content in pound VOC per gallon (lb VOC/gal) of coating solids for a dip coating or flow coating, calculated on a thirty (30) day rolling average basis.

W_{oi} = Percent VOC by weight of each as supplied coating (i) added to the dip coating or flow coating process, expressed as a decimal fraction (that is 55% = 0.55).

D_{ci} = Density of each as supplied coating (i) added to the dip coating or flow coating process, in pounds per gallon.

Q_i = Quantity of each as supplied coating (i) added to the dip coating or flow coating process, in gallons.

V_{ni} = Percent solids by volume of each as supplied coating (i) added to the dip coating or flow coating process, expressed as a decimal fraction.

W_{oJ} = Percent VOC by weight of each thinner (J) added to the dip coating or flow coating process, expressed as a decimal fraction.

D_{dJ} = Density of each thinner (J) added to the dip coating or flow coating process, in pounds per gallon.

Q_J = Quantity of each thinner (J) added to the dip coating or flow coating process, in gallons.

- (ii) Maintain the following records on a daily basis for each VOC-containing coating, solvent, or other material added to the tank:

(AA) The following parameters for each coating, thinner, or other material as supplied:

(aa) The coating, thinner, or other material identification number.

- (bb) The volume used.
- (cc) The mix ratio.
- (dd) The density or specific gravity.
- (ee) The weight percent of total volatiles, water, solids, and exempt solvents.
- (ff) The volume percent of solids.
- (BB) The VOC content of each coating and thinner as supplied.
- (CC) The VOC content of each as-applied coating.
- (iii) Maintain all records necessary to confirm compliance:
 - (AA) On-site for the most recent three (3) year period.
 - (BB) Make reasonably accessible for an additional two (2) years.

Based on the MSDS submitted by the source and calculations made, the dip tanks can comply with this requirement

326 IAC 8-2-9 (Miscellaneous Metal Coating)

326 IAC 8-2-9 does not apply to brake shoe adhesive operation SS3-1. The permittee shall limit VOC emissions from unit SS3-1 before controls to less than fifteen (15) pounds per day and shall comply with compliance monitoring requirements as specified.

326 IAC 8-3-4 (Conveyorized Degreasing Operation)

Pursuant to 326 IAC 8-3-4 (Conveyorized Degreasing Operation), the owner or operator of a conveyorized degreaser (Emission Units DSU & MC) shall:

- (1) minimize carryout emissions by:
 - (A) racking parts for best drainage;
 - (B) maintaining the vertical conveyor speed at less than 3.3 meters per minute (eleven (11) feet per minute);
- (2) store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere;
- (3) repair solvent leaks immediately, or shut down the degreaser;
- (4) not use workplace fans near the degreaser opening;
- (5) not allow water in solvent exiting the water separator; and
- (6) provide a permanent, conspicuous label summarizing the operating requirements.

326 IAC 8-3-7 (Conveyorized Degreaser Operation and Control)

Pursuant to 326 IAC 8-3-7 (Conveyorized Degreaser Operation and Control):

- (a) The owner or operator of a conveyorized degreaser (Emission Units DSU & MC) shall ensure that the following control equipment requirements are met:
 - (1) Equip the degreaser's entrances and exits with downtime covers which are closed when the degreaser is not operating.
 - (2) Equip the degreaser with the following switches:
 - (A) A condenser flow switch and thermostat which shuts off sump heat if condenser coolant stops circulating or becomes too warm.
 - (B) A spray safety switch which shuts off spray pump if the vapor level drops more than ten (10) centimeters (four (4) inches).

- (C) A vapor level control thermostat which shuts off sump heat when vapor level rises more than ten (10) centimeters (four (4) inches).
- (3) Equip the degreaser with entrances and exits which silhouette workloads in such a manner that the average clearance between the articles and the degreaser opening is either less than ten (10) centimeters (four (4) inches) or less than ten percent (10%) of the width of the opening.
- (4) Equip the degreaser with a drying tunnel, rotating or tumbling basket, or other equipment which prevents cleaned articles from carrying out solvent liquid or vapor.
- (5) Equip the degreaser with a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
- (6) Equip the degreaser with one (1) of the following control devices:
 - (A) A refrigerated chiller.
 - (B) A carbon adsorption system with ventilation which, with the downtime covers open, achieves a ventilation rate of greater than or equal to fifteen (15) cubic meters per minute per square meter (fifty (50) cubic feet per minute per square foot) of air to solvent interface area, and an average of less than twenty-five (25) parts per million of solvent is exhausted over one (1) complete adsorption cycle.
 - (C) Other systems of demonstrated equivalent or better control as those outlined in clause (A) or (B). Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (b) The owner or operator of a conveyORIZED degreaser shall ensure that the following operating requirements are met:
 - (1) Minimize solvent carryout emissions by the following:
 - (A) Racking articles to allow complete drainage.
 - (B) Maintaining the vertical conveyor speed at less than three and three-tenths (3.3) meters per minute (eleven (11) feet per minute).
 - (2) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.
 - (3) Repair solvent leaks immediately or shut down the degreaser if leaks cannot be repaired immediately.
 - (4) Prohibit the exhaust ventilation rate from exceeding twenty (20) cubic meters per minute per square meter (sixty-five (65) cubic feet per minute per square foot) of degreaser opening unless a greater ventilation rate is necessary to meet Occupational Safety and Health Administration requirements.
 - (5) Prohibit the use of workplace fans near the degreaser opening.
 - (6) Prohibit visually detectable water in the solvent exiting the water separator.
 - (7) Cover entrances and exits at all times except when processing workloads through the degreaser.

Compliance Monitoring Requirements

326 IAC 8-1-1 (Applicability)

The brake shoe adhesive operation SS3-1 has applicable compliance monitoring conditions as specified below:

Pursuant to 326 IAC 8-1-1, the owner or operator shall comply with the following monitoring requirements:

Compliance with 326 IAC 8-1-1 when applying brake shoe adhesive shall be documented by the Permittee by maintaining records in accordance with (1) through (7) below. Records maintained for (1) through (7) shall be taken daily and shall be complete and sufficient to establish compliance with the pounds VOC/gallon of coating less water usage limits.

- (1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
- (2) A log of the dates of use;
- (3) The volume weighted VOC content of the coatings used for each day when the coating contains "pounds of VOC/gallon of coating less water" greater than that specified for that particular type of coating;
- (4) The cleanup solvent usage for each day;
- (5) The total VOC usage for each day; and
- (6) The weight of VOCs emitted for each compliance period; and
- (7) A quarterly summary of the information to document compliance with the surface coating limits shall be submitted to the following address 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.

Recommendation

The staff recommends to the Commissioner that the New Source Review and MSOP be approved. This recommendation is based on the following facts and conditions:

An application for the purposes of this review was received on December 23, 2005. Additional information was received on March 20, 2006.

Conclusion

The operation of this automotive brake and brake component plant shall be subject to the conditions of the attached New Source Review and MSOP No. 167-22458-00131.

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

Company Name: Aisin Bake & Chasis, Inc.
Address City IN Zip: 10550 James Adams Street, Terre Haute, IN 47802
Permit Number: M167-22458-00131
Plt ID: 167-00131
Reviewer: Scott Sines
Date: 4/5/2007

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

0.54
21 Units (RTF-1 - 8, RTF-12 - 24)

4.7

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.004	0.018	0.001	0.237	0.013	0.199
Total for all 21 Units (tpy)	0.094	0.377	0.030	4.967	0.273	4.172

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

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

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

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

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

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

See page 2 for HAPs emissions calculations.

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

Company Name: Aisin Bake & Chasis, Inc.
Address City IN Zip: 10550 James Adams Street, Terre Haute, IN 47802
Permit Number: M167-22458-00131
Plt ID: 167-00131
Reviewer: Scott Sines
Date: 4/5/2007

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	4.967E-06	2.838E-06	1.774E-04	4.257E-03	8.042E-06
Total for all 21 Units (tpy)	1.043E-04	5.960E-05	3.725E-03	8.940E-02	1.689E-04

HAPs - Metals					
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.183E-06	2.602E-06	3.311E-06	8.988E-07	4.967E-06
Total for all 21 Units (tpy)	2.483E-05	5.464E-05	6.954E-05	1.887E-05	1.043E-04

Methodology is the same as page 1.

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

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

Company Name: Aisin Bake & Chasis, Inc.
Address City IN Zip: 10550 James Adams Street, Terre Haute, IN 47802
Permit Number: M167-22458-00131
Pit ID: 167-00131
Reviewer: Scott Sines
Date: 4/5/2007

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

8.5

74.5

Units BS1 & BS2

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.071	0.283	0.022	3.723	0.205	3.127

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

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

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

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

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

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

See page 2 for HAPs emissions calculations.

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

**Company Name: Aisin Bake & Chasis, Inc.
 Address City IN Zip: 10550 James Adams Street, Terre Haute, IN 47802
 Permit Number: M167-22458-00131
 Pit ID: 167-00131
 Reviewer: Scott Sines
 Date: 4/5/2007**

Boilers BS1 & BS2

	HAPs - Organics				
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	7.818E-05	4.468E-05	2.792E-03	6.701E-02	1.266E-04

	HAPs - Metals				
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.862E-05	4.095E-05	5.212E-05	1.415E-05	7.818E-05

Methodology is the same as page 1.

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

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

**Company Name: Aisin Bake & Chasis, Inc.
 Address City IN Zip: 10550 James Adams Street, Terre Haute, IN 47802
 Permit Number: M167-22458-00131
 Pit ID: 167-00131
 Reviewer: Scott Sines
 Date: 4/5/2007**

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

0.590

0.3

Back-up Generator

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	2.803E-04	0.001	8.850E-05	0.015	0.001	0.012

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

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

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

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

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

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

See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations

Natural Gas Combustion Only

MM BTU/HR <100

Natural Gas Combustion

HAPs Emissions

Company Name: Aisin Bake & Chasis, Inc.
Address City IN Zip: 10550 James Adams Street, Terre Haute, IN 47802
Permit Number: M167-22458-00131
Plt ID: 167-00131
Reviewer: Scott Sines
Date: 4/5/2007

Back-up Generator

	HAPs - Organics				
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	3.098E-07	1.770E-07	1.106E-05	2.655E-04	5.015E-07

	HAPs - Metals				
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	7.375E-08	1.623E-07	2.065E-07	5.605E-08	3.098E-07

Methodology is the same as page 1.

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

**Appendix A: Emissions Calculations
Degreasing Operations (VOC)**

**Company Name: Aisin Bake & Chasis, Inc.
Address City IN Zip: 10550 James Adams Street, Terre Haute, IN 47802
Permit Number: M167-22458-00131
Plt ID: 167-00131
Reviewer: Scott Sines
Date: 5/29/2007**

Unit DSU

Substance	Maximum Usage	Density	Percent by weight VOC	Potential VOC Emissions	
	gal/day	lb/gal	%	lbs/day	tons/yr
2115AL (triethanolamine)	2.5	9.156	15	3.43	0.62

Methodology

Potential emissions (tons/yr) = maximum usage (gal/day) * density (lb/gal) * percent by weight * 365 days * 1 ton/2000 lbs

Unit MC

Substance	Maximum Usage	Density	Percent by weight VOC	Potential VOC Emissions	
	gal/day	lb/gal	%	lbs/day	tons/yr
SUNECON A-140B (di-ethanolamine)	2.5	8.82	33	7.27	1.33

Methodology

Potential emissions (tons/yr) = maximum usage (gal/day) * density (lb/gal) * percent by weight * 365 days * 1 ton/2000 lbs

**Appendix A: Emission Calculations
HAP Emission Calculations**

Company Name: Aisin Bake & Chasis, Inc.
Address City IN Zip: 10550 James Adams Street, Terre Haute, IN 47802
Permit Number: M167-22458-00131
Plt ID: 167-00131
Permit Reviewer: Scott Sines
Date: 4/5/2007

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % Toluene	Weight % Formaldehyde	Weight % Benzene	Weight % Hexane	Weight % Glycol Ethers	Weight % Methanol	Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	Formaldehyde Emissions (ton/yr)	Benzene Emissions (ton/yr)	Hexane Emissions (ton/yr)	Glycol Ethers Emissions (ton/yr)	Methanol Emissions (ton/yr)
Powercon 8000 Black P665-415 (Unit: EFS)	9.2	0.00183	3300	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sundine 685W (Units: SS2-2, SS3-1, SS3-2, SS3-3)	0.86	0.00792	340	0.00%	20.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	2.03	0.00	0.00	0.00	0.00	0.00
PL-60551 (Units: SS2-2, SS3-1, SS3-2, SS3-3)	12.2	0.000541	340	0.00%	0.00%	1.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.10	0.00	0.00	0.00	0.00
				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Total State Potential Emissions

0.00 2.03 0.10 0.00 0.00 0.00 0.00

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

**Appendix A: Emissions Calculations
Welding and Thermal Cutting**

**Company Name: Aisin Bake & Chasis, Inc.
Address City IN Zip: 10550 James Adams Street, Terre Haute, IN 47802
Permit Number: M167-22458-00131
Pit ID: 167-00131
Reviewer: Scott Sines
Date: 4/5/2007**

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)		EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
WELDING												
Submerged Arc	0	0		0.036	0.011			0.000	0.000	0.000	0	0.000
Metal Inert Gas (MIG)(carbon steel)	4	2		0.0055	0.0005			0.044	0.004	0.000	0	0.004
Stick (E7018 electrode)	1	0.1		0.0211	0.0009			0.002	0.000	0.000	0	0.000
Tungsten Inert Gas (TIG)(carbon steel)	1	0.1		0.0055	0.0005			0.001	0.000	0.000	0	0.000
Oxyacetylene(carbon steel)	1	0.1		0.0055	0.0005			0.001	0.000	0.000	0	0.000
FLAME CUTTING	Number of Stations	Max. Metal Thickness Cut (in.)	Max. Metal Cutting Rate (in./minute)	EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick)**				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Oxyacetylene (MAPP Gas)	0			0.1622	0.0005	0.0001	0.0003	0.000	0.000	0.000	0.000	0.000
Oxymethane	0	0	0	0.0815	0.0002		0.0002	0.000	0.000	0.000	0.000	0.000
Plasma**	1	0.5	12	0.0039				0.003	0.000	0.000	0.000	0.000
EMISSION TOTALS												
Potential Emissions lbs/hr								0.05				0.00
Potential Emissions lbs/day								1.20				0.10
Potential Emissions tons/year								0.22				0.02

METHODOLOGY

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.

**Emission factor for plasma cutting from American Welding Society (AWS). Trials reported for wet cutting of 8 mm thick mild steel with 3.5 m/min cutting speed (at 0.2 g/min emitted). Therefore, the emission factor for plasma cutting is for 8 mm thick r

Using AWS average values: (0.25 g/min)/(3.6 m/min) x (0.0022 lb/g)/(39.37 in./m) x (1,000 in.) = 0.0039 lb/1,000 in. cut, 8 mm thick

Plasma cutting emissions, lb/hr: (# of stations)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 8 mm thick)

Cutting emissions, lb/hr: (# of stations)(max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 1" t

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lb

Welding and other flame cutting emission factors are from an internal training session document, "Welding and Flame Cutting". See Rebecca Mason if you need a copy.

Refer to AP-42, Chapter 12.19 for additional emission factors for welding.