



Mitchell E. Daniels, Jr.  
Governor

Thomas W. Easterly  
Commissioner

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

TO: Interested Parties / Applicant  
DATE: September 25, 2006  
RE: Steel Dynamics, Inc. / 019-22695-00089  
FROM: Nisha Sizemore  
Chief, Permits Branch  
Office of Air Quality

### Notice of Decision: Approval - Effective Immediately

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

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

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

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

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

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

Enclosures  
FNPER.dot 03/23/06



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## NEW SOURCE CONSTRUCTION PERMIT AND MINOR SOURCE OPERATING PERMIT (MSOP) OFFICE OF AIR QUALITY

**Steel Dynamics, Inc.  
5134 Loop Road  
Jeffersonville, Indiana 47130**

(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.

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.

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. This permit to operate does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated there under, as well as other applicable local, state, and federal requirements.

Operation Permit No.: M019-22695-00089	
Issued by: Origin signed by  Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: September 25, 2006  Expiration Date: September 25, 2011



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## SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

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

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The Permittee owns and operates a stationary steel coil coating facility.

Authorized individual:	Plant Manager
Source Address:	5134 Loop Road, Jeffersonville, Indiana 47130
Mailing Address:	4500 County Road 59, Butler, Indiana 46721
General Source Phone:	(812) 218-1490
SIC Code:	3479
County Location:	Clark
Source Location Status:	Nonattainment for 8-hour ozone standard Nonattainment for PM2.5 standard Attainment for all other criteria pollutants
Source Status:	Minor Source Operating Permit (MSOP) Minor Source, under PSD, Emission Offset, and Nonattainment New Source Review Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

### A.2 Emission Units and Pollution Control Equipment Summary

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

- (a) One (1) hot dip galvanizing line, constructed in 1998, with a nominal production capacity of 74 tons per hour, consisting of the following:
  - (1) One (1) alkaline cleaning process consisting of one (1) hot soap dip tank equipped with one (1) natural gas-fired burner nominally rated at 5.3 MMBtu per hour, one (1) hot water dip tank equipped with one (1) natural gas-fired burner nominally rated at 3.0 MMBtu per hour, and one (1) exhaust blower equipped with a demister to remove particulate matter emissions in the air stream of the alkaline cleaning process, and exhausting to stack S2.
  - (2) One (1) four-section annealing furnace equipped with natural gas-fired low-NO<sub>x</sub> burners, consisting of a preheat section nominally rated at 56.0 MMBtu per hour, exhausting to stack S1, and a radiant tube section nominally rated at 21.0 MMBtu per hour.
- (b) One (1) coil coating line for applying primer and finish coats to both sides of steel coil in one pass, with a nominal coating capacity of 600 linear feet of coil per minute, using rolling application methods, consisting of one (1) natural gas-fired curing oven for drying primer coat, identified as Primer Curing Oven, and one (1) curing oven for drying finish coat, identified as Finish Curing Oven. The two ovens are heated by a integral thermal oxidizer fueled by VOC with natural gas available as a supplemental fuel, with a nominal heat input capacity of 60 MMBtu per hour. The thermal oxidizer utilizes low NO<sub>x</sub> burners and is considered an integral part of the process. The integral thermal oxidizer also acts to reduce VOC emissions from the coating line. The Primer Curing Oven is also equipped with low NO<sub>x</sub> burners having a nominal heat capacity of 11.6 MMBtu per hour and is used to provide heat for startup and to keep this oven hot during process interruptions. The coil coating line exhausts to stack S3.

- (c) Paved roads and parking lots with public access.
- (d) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million Btu per hour, consisting of:
  - (1) One (1) natural gas-fired hot air dryer rated at 2.0 MMBtu per hour that dries the steel strip as it exits the alkaline cleaning process.
  - (2) One (1) natural gas-fired hot air dryer rated at 2.0 MMBtu per hour associated with the chemical treatment dip tank.
  - (3) One (1) quench tank hot air dryer, rated at 2.0 MMBtu per hour.
- (e) Welding equipment related to manufacturing activities not resulting in the emission of HAPs, consisting of one (1) lap seam welder that fuses coil ends together to allow continuous line operation.
- (f) Activities with emissions equal to or less than the following thresholds: 5 lb/hour or 25 lbs/day PM<sub>10</sub>; 5 lbs/hour or 25 lbs/day SO<sub>2</sub>; 5 lbs/hour or 25 lbs/day NO<sub>x</sub>; 3 lbs/hour or 15 lbs/day VOC; 0.6 tons per year Pb; 5 lbs/day or 1.0 ton/year of a single HAP, and 12.5 lbs/day or 2.5 ton/year of any combination of HAPs, consisting of:
  - (1) One (1) electrically heated zinc pot.
  - (2) One (1) surface chemical treatment dip tank that applies a protective chromium coating to the surface of the steel, with no particulate formed in the process.

## **SECTION B GENERAL CONDITIONS**

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

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

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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 2-8-4(2)][326 IAC 2-1.1-9.5] [IC 13-15-3-6(a)]**

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- (a) This permit, M019-22695-00089, 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, 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]**

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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**

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

### **B.5 Severability**

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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**

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

### **B.7 Duty to Provide Information**

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- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ, may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). Upon request, the Permittee shall also furnish to IDEM, OAQ, copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1 when furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

**B.8 Certification**

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- (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, or its equivalent, 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)]**

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

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

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- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) upon startup of the paint line operations, including the following information on each facility:
  - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
  - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
  - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

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

The PMP extension notification does not require the certification by 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, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM,

OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs do not require the certification by 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]**

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- (a) All terms and conditions of permits established prior to 019-22695-00089 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)]**

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The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-6.1-7.

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

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- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ, and shall include the information specified in 326 IAC 2-6.1-7. 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  
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:
  - (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
  - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-6.1 until IDEM, OAQ, takes final action on the renewal application., except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ, any additional information identified as being needed to process the application.

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

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(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  
Indianapolis, Indiana 46204-2251

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 2-6.1-6(d)]

**B.15 Source Modification Requirement**

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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][IC13-30-3-1]**

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

(a) Enter upon the Permittee's premises where a 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]**

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(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  
Indianapolis, Indiana 46204-2251

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 administrative amendment changes addressed in the request for an administrative amendment 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(4)]**

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- (a) The Permittee shall pay annual fees to IDEM, OAQ, 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]**

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

## SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

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

Pursuant to 326 IAC 2-1.1-9 (Revocation of Permits), this permit to construct and 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, OAQ, the fact that continuance of this permit is not consistent with purposes of this article.

**C.3 Opacity [326 IAC 5-1]**

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

- (a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

**C.4 Open Burning [326 IAC 4-1] [IC 13-17-9]**

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

**C.5 Incineration [326 IAC 4-2] [326 IAC 9-1-2(3)]**

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

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

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

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

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The Permittee shall comply with the applicable requirements of 326 IAC 14-10, 326 IAC 18, and 40 CFR 61.140.

**Testing Requirements [326 IAC 2-6.5-5(a)(2)]**

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

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(a) Compliance testing on new emissions units shall be conducted within 60 days after achieving nominal production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

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

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

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by 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 not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ, if the Permittee submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period. The emission test report submitted by the Permittee does not require certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

**Compliance Requirements [326 IAC 2-1.1-11]**

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

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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**

**C.10 Compliance Monitoring [326 IAC 2-1.1-11]**

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

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

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- (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.13 Response to Excursions or Exceedances

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- (a) When required by Section D, upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices, for minimizing emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:
  - (1) initial inspection and evaluation;
  - (2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or
  - (3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
  - (1) monitoring results;
  - (2) review of operation and maintenance procedures and records;
  - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall maintain the following records, as applicable to a given response to an excursion or exceedance:
  - (1) monitoring data;
  - (2) monitor performance data; and

- (3) corrective actions taken.

**C.14 Actions Related to Noncompliance Demonstrated by a Stack Test**

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- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

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

**Record Keeping and Reporting Requirements**

**C.15 Malfunctions Report [326 IAC 1-6-2]**

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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) 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, using the Malfunction Report Form, or its equivalent. 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.16 General Record Keeping Requirements [326 IAC 2-6.1-5]**

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- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented upon startup of the coating line.

C.17 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-5] [IC13-14-1-13]

- (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  
Indianapolis, Indiana 46204-2251
- (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, 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 FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-6.1-5(a)(1)]: Hot Dip Galvanizing Line

- (a) One (1) hot dip galvanizing line, constructed in 1998, with a nominal production capacity of 74 tons per hour, consisting of the following:
- (1) One (1) alkaline cleaning process consisting of one (1) hot soap dip tank equipped with one (1) natural gas-fired burner nominally rated at 5.3 MMBtu per hour, one (1) hot water dip tank equipped with one (1) natural gas-fired burner nominally rated at 3.0 MMBtu per hour, and one (1) exhaust blower equipped with a demister to remove particulate matter emissions in the air stream of the alkaline cleaning process, and exhausting to stack S2.
  - (2) One (1) four-section annealing furnace equipped with natural gas-fired low-NO<sub>x</sub> burners, consisting of a preheat section nominally rated at 56.0 MMBtu per hour, exhausting to stack S1, and a radiant tube section nominally rated at 21.0 MMBtu per hour.

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

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

#### D.1.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate from the alkaline cleaning process blower shall not exceed the pound per hour emission rate established as E in the following formula:

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

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

#### D.1.2 Nitrogen Oxide Emission Limitations [326 IAC 10-1]

Pursuant to 019-9559-00089, issued on June 23, 1998 and 326 IAC 10-1, the annealing furnaces shall utilize low-NO<sub>x</sub> burners to satisfy the requirements of BACT and 326 IAC 10-1-1(a)(3).

### Compliance Determination Requirements

#### D.1.3 Particulate Control

In order to be in compliance with the limit in Condition D.1.1, the demister shall be in operation at all times the alkaline cleaning process is in operation.

## SECTION D.2

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-6.1-5(a)(1)]: Coil Coating Line

- (b) One (1) coil coating line for applying primer and finish coats to both sides of steel coil in one pass, with a nominal coating capacity of 600 linear feet of coil per minute, using rolling application methods, consisting of one (1) natural gas-fired curing oven for drying primer coat, identified as Primer Curing Oven, and one (1) curing oven for drying finish coat, identified as Finish Curing Oven. The two ovens are heated by a integral thermal oxidizer fueled by VOC with natural gas available as a supplemental fuel, with a nominal heat input capacity of 60 MMBtu per hour. The thermal oxidizer utilizes low NO<sub>x</sub> burners and is considered an integral part of the process. The integral thermal oxidizer also acts to reduce VOC emissions from the coating line. The Primer Curing Oven is also equipped with low NO<sub>x</sub> burners having a nominal heat capacity of 11.6 MMBtu per hour and is used to provide heat for startup and to keep this oven hot during process interruptions. The coil coating line exhausts to stack S3.

Under the New Source Performance Standards for Metal Coil Surface Coating (40 CFR 60, Subpart TT), the coil coating line is considered to be a metal coil surface coating operation.

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

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

#### *Construction Conditions*

#### D.2.1 Revocation of Permits [326 IAC 2-1.1-9(5)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

#### D.2.2 Affidavit of Construction [326 IAC 2-5.1-3(h)] [326 IAC 2-5.1-4]

This document shall also become the approval to operate pursuant to 326 IAC 2-5.1-4 when prior to the start of operation, the following requirements are met:

- (a) The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), verifying that the emission units were constructed as proposed in the application or the permit. The emission units covered in this permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM if constructed as proposed.
- (b) If actual construction of the emission units differs from the construction proposed in the application, the source may not begin operation until the permit has been revised pursuant to 326 IAC 2 and an Operation Permit Validation Letter is issued.
- (c) The Permittee shall attach the Operation Permit Validation Letter received from the Office of Air Quality (OAQ) to this permit.

#### *Operation Conditions*

#### D.2.3 Nitrogen Oxide Control Requirement (BACT) [326 IAC 10-1-1]

Pursuant to 326 IAC 10-1-1(a)(3), for the primer curing oven and integral thermal oxidizer, the Permittee shall:

- (a) Utilize low-NO<sub>x</sub> burners to satisfy the requirements of BACT; and
- (b) Limit NO<sub>x</sub> emissions to less than 3.51 pounds per hour.

**D.2.4 Volatile Organic Compound (VOC) Content Limitations [326 IAC 8-2-4]**

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The emissions of VOC from the coil coating line shall be limited to less than 2.6 pounds per gallon excluding water, as delivered to the coating applicator for prime and topcoat or single coat operations.

**D.2.5 Preventive Maintenance Plan [326 IAC 1-6-3]**

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A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the paint coating line and the thermal oxidizer.

**Compliance Determination Requirements**

**D.2.6 Volatile Organic Compounds (VOC)**

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Compliance with the VOC content limitations contained in Condition D.2.4 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

**D.2.7 Testing Requirements [326 IAC 2-1.1-11]**

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Within sixty (60) days after achieving the nominal production rate but not later than one hundred and eighty (180) days after initial startup and in order to demonstrate that actual VOC emissions from the coil coating line are less than 2.6 pounds per gallon of coating, the Permittee shall conduct a performance test to verify VOC control efficiency as per Condition D.2.8 for the integral thermal oxidizer utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with Section C - Performance Testing.

**Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5 (a)(2)]**

**D.2.8 Thermal Oxidizer**

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- (a) A continuous monitoring system shall be calibrated, maintained, and operated on the integral thermal oxidizer for measuring operating temperature. For the purposes of this condition, "continuous" shall mean no less than once per fifteen (15) minutes. The output of this monitoring system and the 3-hour average temperatures shall be recorded whenever the coil coating line is in operation. From the date of initial startup until the approved stack test results are available, the Permittee shall take appropriate response steps in accordance with Section C.13 - Response to Excursions or Exceedances whenever the 3-hour average temperature of the integral thermal oxidizer is below 1275°F. A 3-hour average temperature that is below 1275°F during operation of the paint line is not a deviation from this permit. Failure to take response steps in accordance with Section C.13 - Response to Excursions or Exceedances shall be considered a deviation from this permit.
- (b) The Permittee shall determine the 3-hour block average minimum temperature from the most recent valid stack test that demonstrates compliance with VOC content limits in Condition D.2.5, as approved by IDEM, OAQ.
- (c) On and after the date the approved stack test results are available, the Permittee shall take appropriate response steps in accordance with Section C - Response to Excursions or Exceedances whenever the 3-hour average temperature of the integral thermal oxidizer is below the 3-hour block average minimum required temperature as observed during the compliant stack test. A 3-hour average temperature that is below the 3-hour block average minimum required temperature as observed during the compliant stack test is not a deviation from this permit. Failure to take response steps in accordance with Section C.13 - Response to Excursions or Exceedances shall be considered a deviation from this permit.

## **Record Keeping Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]**

### **D.2.9 Record Keeping Requirements**

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- (a) To document compliance with Condition D.2.4, the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limits established in Condition D.2.4.
- (1) The amount and VOC content of each coating material and solvent used less water on a monthly basis. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.
  - (2) The volume weighted VOC content of the coatings used for each month; and
  - (3) The weight of VOCs emitted for each compliance period.
- (b) To document compliance with Condition D.2.8, the Permittee shall maintain the continuous temperature records and the 3-hour average temperature records.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

### **New Source Performance Standards Requirements**

#### **D.2.10 General Provisions Relating to NSPS for Metal Coil Surface Coating [326 IAC 12-1] [40 CFR Part 60, Subpart A]**

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Pursuant to 40 CFR 60.460, Subpart TT, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1-1 for the coil coating line as specified in Appendix A of 40 CFR Part 60, Subpart TT in accordance with schedule in 40 CFR 60 Subpart TT.

#### **D.2.11 New Source Performance Standards for Metal Coil Surface Coating Requirements [40 CFR Part 60, Subpart TT] [326 IAC 12-1]**

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Pursuant to CFR Part 60, Subpart TT, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart TT, which are incorporated by reference as 326 IAC 12-1 for the coil coating line as specified as follows:

### **Subpart TT—Standards of Performance for Metal Coil Surface Coating**

Source: 47 FR 49612, Nov. 1, 1982, unless otherwise noted.

#### **§ 60.460 Applicability and designation of affected facility.**

(a) The provisions of this subpart apply to the following affected facilities in a metal coil surface coating operation: each prime coat operation, each finish coat operation, and each prime and finish coat operation combined when the finish coat is applied wet on wet over the prime coat and both coatings are cured simultaneously.

(b) This subpart applies to any facility identified in paragraph (a) of this section that commences construction, modification, or reconstruction after January 5, 1981.

#### **§ 60.461 Definitions.**

(a) All terms used in this subpart not defined below are given the same meaning as in the Act or in subpart A of this part.

*Coating* means any organic material that is applied to the surface of metal coil.

*Coating application station* means that portion of the metal coil surface coating operation where the coating is applied to the surface of the metal coil. Included as part of the coating application station is the flashoff area between the coating application station and the curing oven.

*Curing oven* means the device that uses heat or radiation to dry or cure the coating applied to the metal coil.

*Finish coat operation* means the coating application station, curing oven, and quench station used to apply and dry or cure the final coating(s) on the surface of the metal coil. Where only a single coating is applied to the metal coil, that coating is considered a finish coat.

*Metal coil surface coating operation* means the application system used to apply an organic coating to the surface of any continuous metal strip with thickness of 0.15 millimeter (mm) (0.006 in.) or more that is packaged in a roll or coil.

*Prime coat operation* means the coating application station, curing oven, and quench station used to apply and dry or cure the initial coating(s) on the surface of the metal coil.

*Quench station* means that portion of the metal coil surface coating operation where the coated metal coil is cooled, usually by a water spray, after baking or curing.

*VOC content* means the quantity, in kilograms per liter of coating solids, of volatile organic compounds (VOC's) in a coating.

(b) All symbols used in this subpart not defined below are given the same meaning as in the Act and in subpart A of this part.

Ca= the VOC concentration in each gas stream leaving the control device and entering the atmosphere (parts per million by volume, as carbon).

Cb= the VOC concentration in each gas stream entering the control device (parts per million by volume, as carbon).

Cf= the VOC concentration in each gas stream emitted directly to the atmosphere (parts per million by volume, as carbon).

Dc= density of each coating, as received (kilograms per liter).

Dd= density of each VOC-solvent added to coatings (kilograms per liter).

Dr= density of VOC-solvent recovered by an emission control device (kilograms per liter).

E= VOC destruction efficiency of the control device (fraction).

F= the proportion of total VOC's emitted by an affected facility that enters the control device (fraction).

G= volume-weighted average mass of VOC's in coatings consumed in a calendar month per unit volume of coating solids applied (kilograms per liter).

Lc= the volume of each coating consumed, as received (liters).

Ld= the volume of each VOC-solvent added to coatings (liters).

Lr= the volume of VOC-solvent recovered by an emission control device (liters).

Ls= the volume of coating solids consumed (liters).

Md= the mass of VOC-solvent added to coatings (kilograms).

$M_o$  = the mass of VOC's in coatings consumed, as received (kilograms).

$M_r$  = the mass of VOC's recovered by an emission control device (kilograms).

$N$  = the volume-weighted average mass of VOC emissions to the atmosphere per unit volume of coating solids applied (kilograms per liter).

$Q_a$  = the volumetric flow rate of each gas stream leaving the control device and entering the atmosphere (dry standard cubic meters per hour).

$Q_b$  = the volumetric flow rate of each gas stream entering the control device (dry standard cubic meters per hour).

$Q_f$  = the volumetric flow rate of each gas stream emitted directly to the atmosphere (dry standard cubic meters per hour).

$R$  = the overall VOC emission reduction achieved for an affected facility (fraction).

$S$  = the calculated monthly allowable emission limit (kilograms of VOC per liter of coating solids applied).

$V_s$  = the proportion of solids in each coating, as received (fraction by volume).

$W_o$  = the proportion of VOC's in each coating, as received (fraction by weight).

#### **§ 60.462 Standards for volatile organic compounds.**

(a) On and after the date on which §60.8 requires a performance test to be completed, each owner or operator subject to this subpart shall not cause to be discharged into the atmosphere more than:

(2) 0.14 kg VOC/l of coating solids applied for each calendar month for each affected facility that continuously uses an emission control device(s) operated at the most recently demonstrated overall efficiency; or

(3) 10 percent of the VOC's applied for each calendar month (90 percent emission reduction) for each affected facility that continuously uses an emission control device(s) operated at the most recently demonstrated overall efficiency; or

#### **§ 60.463 Performance test and compliance provisions.**

(a) Section 60.8(d) and (f) do not apply to the performance test.

(b) The owner or operator of an affected facility shall conduct an initial performance test as required under §60.8(a) and thereafter a performance test for each calendar month for each affected facility according to the procedures in this section.

(c) The owner or operator shall use the following procedures for determining monthly volume-weighted average emissions of VOC's in kg/l of coating solids applied.

(2) An owner or operator shall use the following procedures for each affected facility that continuously uses a capture system and a control device that destroys VOC's (e.g., incinerator) to comply with the emission limit specified under §60.462(a) (2) or (3).

(i) Determine the overall reduction efficiency (R) for the capture system and control device.

For the initial performance test, the overall reduction efficiency (R) shall be determined as prescribed in paragraphs (c)(2)(i) (A), (B), and (C) of this section. In subsequent months, the owner or operator may use the most recently determined overall reduction efficiency (R) for the performance test, providing control device and capture system operating conditions have not changed. The procedure in paragraphs (c)(2)(i) (A), (B), and (C) of this section, shall be repeated when directed by the Administrator or when the

owner or operator elects to operate the control device or capture system at conditions different from the initial performance test.

(A) Determine the fraction (F) of total VOC's emitted by an affected facility that enters the control device using the following equation:

$$F = \frac{\sum_{i=1}^l C_{vi} Q_{vi}}{\sum_{i=1}^l C_{vi} Q_{vi} + \sum_{i=1}^p C_{pi} Q_{pi}}$$

Equation 5

Where:

l is the number of gas streams entering the control device, and

p is the number of gas streams emitted directly to the atmosphere.

(B) Determine the destruction efficiency of the control device (E) using values of the volumetric flow rate of each of the gas streams and the VOC content (as carbon) of each of the gas streams in and out of the device by the following equation:

$$E = \frac{\sum_{i=1}^n Q_{vi} C_{vi} - \sum_{i=1}^m Q_{mi} C_{mi}}{\sum_{i=1}^n Q_{vi} C_{vi}}$$

Equation 6

Where:

n is the number of gas streams entering the control device, and

m is the number of gas streams leaving the control device and entering the atmosphere.

The owner or operator of the affected facility shall construct the VOC emission reduction system so that all volumetric flow rates and total VOC emissions can be accurately determined by the applicable test methods and procedures specified in §60.466. The owner or operator of the affected facility shall construct a temporary enclosure around the coating applicator and flashoff area during the performance test for the purpose of evaluating the capture efficiency of the system. The enclosure must be maintained at a negative pressure to ensure that all VOC emissions are measurable. If a permanent enclosure exists in the affected facility prior to the performance test and the Administrator is satisfied that the enclosure is adequately containing VOC emissions, no additional enclosure is required for the performance test.

(C) Determine overall reduction efficiency (R) using the following equation:

$$R = EF \quad \text{Equation 7}$$

If the overall reduction efficiency (R) is equal to or greater than 0.90, the affected facility is in compliance and no further computations are necessary. If the overall reduction efficiency (R) is less than 0.90, the average total VOC emissions to the atmosphere per unit volume of coating solids applied (N) shall be computed as follows.

(ii) Calculate the volume-weighted average of the total mass of VOC's per unit volume of coating solids applied (G) during each calendar month for each affected facility using equations in paragraphs (c)(1)(i) (A), (B), and (C) of this section.

(iii) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during each calendar month by the following equation:

$$N = G(1 - R) \quad \text{Equation 8}$$

(iv) If the volume-weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is less than or equal to 0.14 kg/l of coating solids applied, the affected facility is in compliance. Each monthly calculation is a performance test.

#### **§ 60.464 Monitoring of emissions and operations.**

(a) Where compliance with the numerical limit specified in §60.462(a) (1) or (2) is achieved through the use of low VOC-content coatings without the use of emission control devices or through the use of higher VOC-content coatings in conjunction with emission control devices, the owner or operator shall compute and record the average VOC content of coatings applied during each calendar month for each affected facility, according to the equations provided in §60.463.

(c) If thermal incineration is used, each owner or operator subject to the provisions of this subpart shall install, calibrate, operate, and maintain a device that continuously records the combustion temperature of any effluent gases incinerated to achieve compliance with §60.462(a)(2), (3), or (4). This device shall have an accuracy of  $\pm 2.5$  °C. or  $\pm 0.75$  percent of the temperature being measured expressed in degrees Celsius, whichever is greater. Each owner or operator shall also record all periods (during actual coating operations) in excess of 3 hours during which the average temperature in any thermal incinerator used to control emissions from an affected facility remains more than 28 °C (50 °F) below the temperature at which compliance with §60.462(a)(2), (3), or (4) was demonstrated during the most recent measurement of incinerator efficiency required by §60.8. The records required by §60.7 shall identify each such occurrence and its duration. If catalytic incineration is used, the owner or operator shall install, calibrate, operate, and maintain a device to monitor and record continuously the gas temperature both upstream and downstream of the incinerator catalyst bed. This device shall have an accuracy of  $\pm 2.5$  °C. or  $\pm 0.75$  percent of the temperature being measured expressed in degrees Celsius, whichever is greater. During coating operations, the owner or operator shall record all periods in excess of 3 hours where the average difference between the temperature upstream and downstream of the incinerator catalyst bed remains below 80 percent of the temperature difference at which compliance was demonstrated during the most recent measurement of incinerator efficiency or when the inlet temperature falls more than 28 °C (50 °F) below the temperature at which compliance with §60.462(a)(2), (3), or (4) was demonstrated during the most recent measurement of incinerator efficiency required by §60.8. The records required by §60.7 shall identify each such occurrence and its duration.

#### **§ 60.465 Reporting and recordkeeping requirements.**

(a) Where compliance with the numerical limit specified in §60.462(a) (1), (2), or (4) is achieved through the use of low VOC-content coatings without emission control devices or through the use of higher VOC-content coatings in conjunction with emission control devices, each owner or operator subject to the provisions of this subpart shall include in the initial compliance report required by §60.8 the weighted average of the VOC content of coatings used during a period of one calendar month for each affected facility. Where compliance with §60.462(a)(4) is achieved through the intermittent use of a control device, reports shall include separate values of the weighted average VOC content of coatings used with and without the control device in operation.

(b) Where compliance with §60.462(a)(2), (3), or (4) is achieved through the use of an emission control device that destroys VOC's, each owner or operator subject to the provisions of this subpart shall include the following data in the initial compliance report required by §60.8:

(1) The overall VOC destruction rate used to attain compliance with §60.462(a)(2), (3), or (4) and the calculated emission limit used to attain compliance with §60.462(a)(4); and

(2) The combustion temperature of the thermal incinerator or the gas temperature, both upstream and downstream of the incinerator catalyst bed, used to attain compliance with §60.462(a)(2), (3), or (4).

(c) Following the initial performance test, the owner or operator of an affected facility shall identify, record, and submit a written report to the Administrator every calendar quarter of each instance in which the

volume-weighted average of the local mass of VOC's emitted to the atmosphere per volume of applied coating solids (N) is greater than the limit specified under §60.462. If no such instances have occurred during a particular quarter, a report stating this shall be submitted to the Administrator semiannually.

(d) The owner or operator of each affected facility shall also submit reports at the frequency specified in §60.7(c) when the incinerator temperature drops as defined under §60.464(c). If no such periods occur, the owner or operator shall state this in the report.

(e) Each owner or operator subject to the provisions of this subpart shall maintain at the source, for a period of at least 2 years, records of all data and calculations used to determine monthly VOC emissions from each affected facility and to determine the monthly emission limit, where applicable. Where compliance is achieved through the use of thermal incineration, each owner or operator shall maintain, at the source, daily records of the incinerator combustion temperature. If catalytic incineration is used, the owner or operator shall maintain at the source daily records of the gas temperature, both upstream and downstream of the incinerator catalyst bed.

#### **§ 60.466 Test methods and procedures.**

(a) The reference methods in appendix A to this part, except as provided under §60.8(b), shall be used to determine compliance with §60.462 as follows:

(1) Method 24, or data provided by the formulator of the coating, shall be used for determining the VOC content of each coating as applied to the surface of the metal coil. In the event of a dispute, Method 24 shall be the reference method. When VOC content of waterborne coatings, determined by Method 24, is used to determine compliance of affected facilities, the results of the Method 24 analysis shall be adjusted as described in Section 12.6 of Method 24;

(2) Method 25, both for measuring the VOC concentration in each gas stream entering and leaving the control device on each stack equipped with an emission control device and for measuring the VOC concentration in each gas stream emitted directly to the atmosphere;

(3) Method 1 for sample and velocity traverses;

(4) Method 2 for velocity and volumetric flow rate;

(5) Method 3 for gas analysis; and

(6) Method 4 for stack gas moisture.

(b) For Method 24, the coating sample must be at least a 1-liter sample taken at a point where the sample will be representative of the coating as applied to the surface of the metal coil.

(c) For Method 25, the sampling time for each of three runs is to be at least 60 minutes, and the minimum sampling volume is to be at least 0.003 dscm (0.11 dscf); however, shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Administrator.

(d) The Administrator will approve testing of representative stacks on a case-by-case basis if the owner or operator can demonstrate to the satisfaction of the Administrator that testing of representative stacks yields results comparable to those that would be obtained by testing all stacks.

#### **D.2.12 NSPS Reporting Requirement**

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Pursuant to the New Source Performance Standards (NSPS), Part 60, Subpart TT, the Permittee is hereby advised of the requirement to report the following at the appropriate times:

(a) Commencement of construction date (no later than 30 days after such date);

(b) Actual start-up date (within 15 days after such date); and

- (c) Date of performance testing (at least 30 days prior to such date), when required by a condition elsewhere in this permit.

Reports are to be sent to:

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

The application and enforcement of these standards have been delegated to the IDEM, OAQ.  
The requirements of 40 CFR Part 60 are also federally enforceable.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE BRANCH  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251**

**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).

<b>Company Name:</b>	<b>Steel Dynamics, Inc.</b>
<b>Address:</b>	<b>5134 Loop Road</b>
<b>City:</b>	<b>Jeffersonville, Indiana 47130</b>
<b>Phone #:</b>	<b>812-218-1490</b>
<b>MSOP #:</b>	<b>019-22695-00089</b>

I hereby certify that Steel Dynamics, Inc. is  still in operation.  
 no longer in operation.

I hereby certify that Steel Dynamics, Inc. is  in compliance with the requirements of MSOP 019-22659-00089.  
 not in compliance with the requirements of MSOP 019-22659-00089.

<b>Authorized Individual (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Date:</b>

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.

<b>Noncompliance:</b>

**MALFUNCTION REPORT**

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251  
FAX NUMBER - 317 233-6865**

**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:

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# Indiana Department of Environmental Management Office of Air Quality

## Addendum to the Technical Support Document for a New Source Construction and Minor Source Operating Permit (MSOP)

### Source Background and Description

Source Name: Steel Dynamics, Inc.  
Source Location: 5134 Loop Road, Jeffersonville, Indiana 47130  
County: Clark  
SIC Code: 3479  
Operation Permit No.: F019-22695-00089  
Permit Reviewer: ERG/ST

On August 1, 2006 the Office of Air Quality (OAQ) had a notice published in the Evening News, Jeffersonville, Indiana, stating that Steel Dynamics, Inc. had applied for a New Source Construction and Minor Source Operating Permit (MSOP) to operate a steel coil coating line with control. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On August 28, 2006, Steel Dynamics, Inc. (hereafter referred to as "SDI") submitted comments on the proposed New Source Construction and MSOP. These comments and IDEM, OAQ responses, including changes to the permit, are as follows. Deleted language is shown with ~~strikeout~~ and added language is shown in **bold**. The Table of Contents has been updated as necessary.

**Comment 1:** Where appropriate, references to "IDEM" should be clarified as "IDEM, OAQ."

**IDEM Response to Comment 1:** This has been corrected throughout the permit as requested. "IDEM" has been changed to "IDEM, **OAQ**".

**Comment 2:** SDI requests that where requirements are based on the date of the permit, the words "issuance date" be changed to "effectiveness date," in order to provide for a circumstance where these dates may be different.

**IDEM Response to Comment 2:** The issuance date of a permit is equivalent to the effectiveness date. In the Notice of Decision document which accompanies each permit, it states that: "Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1." Terms of the permit relating to the operation of new emission units become effective upon commencement of operation of those emission units. No changes have been made as a result of this comment.

**Comment 3:** In Condition A.2 and corresponding facility descriptions in Sections D.1 and D.2, please change all descriptions referring to "maximum" capacities to "nominal." This change will give effect to the equipment descriptions in these sections as descriptive only by not using limiting language.

**IDEM Response to Comment 3:** In this case, the word "nominal" means the capacity of the equipment specified by the manufacturer of the equipment. The permit has been changed as follows:

## A.2 Emission Units and Pollution Control Equipment Summary

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

- (a) One (1) hot dip galvanizing line, constructed in 1998, with a ~~maximum~~ **nominal** production capacity of 74 tons per hour, consisting of the following:
  - (1) One (1) alkaline cleaning process consisting of one (1) hot soap dip tank equipped with one (1) natural gas-fired burner **nominally** rated at 5.3 MMBtu per hour, one (1) hot water dip tank equipped with one (1) natural gas-fired burner **nominally** rated at 3.0 MMBtu per hour, and one (1) exhaust blower equipped with a demister to remove particulate matter emissions in the air stream of the alkaline cleaning process, and exhausting to stack S2.
  - (2) One (1) four-section annealing furnace equipped with natural gas-fired low-NO<sub>x</sub> burners, consisting of a preheat section **nominally** rated at 56.0 MMBtu per hour, exhausting to stack S1, and a radiant tube section **nominally** rated at 21.0 MMBtu per hour.
  
- (b) One (1) coil coating line for applying primer and finish coats to both sides of steel coil in one pass, with a ~~maximum~~ **nominal** coating capacity of 600 linear feet of coil per minute, using rolling application methods, consisting of one (1) natural gas-fired curing oven for drying primer coat, identified as Primer Curing Oven, and one (1) curing oven for drying finish coat, identified as Finish Curing Oven. The two ovens are heated by a natural gas-fired integral thermal oxidizer with a ~~maximum~~ **nominal** heat input capacity of 60 MMBtu per hour. The thermal oxidizer utilizes low NO<sub>x</sub> burners and is considered an integral part of the process. The integral thermal oxidizer also acts to reduce VOC emissions from the coating line. The Primer Curing Oven is also equipped with low NO<sub>x</sub> burners having a ~~maximum~~ **nominal** heat capacity of 11.6 MMBtu per hour and is used to provide heat for startup and to keep this oven hot during process interruptions. The coil coating line exhausts to stack S3.
  
- (d) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million Btu per hour, consisting of:
  - (1) One (1) natural gas-fired hot air dryer **nominally** rated at 2.0 MMBtu per hour that dries the steel strip as it exits the alkaline cleaning process.
  - (2) One (1) natural gas-fired hot air dryer **nominally** rated at 2.0 MMBtu per hour associated with the chemical treatment dip tank.
  - (3) One (1) quench tank hot air dryer, **nominally** rated at 2.0 MMBtu per hour.

## SECTION D.1 FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-6.1-5(a)(1)]: Hot Dip Galvanizing Line

- (a) One (1) hot dip galvanizing line, constructed in 1998, with a ~~maximum~~ **nominal** production capacity of 74 tons per hour, consisting of the following:
- (1) One (1) alkaline cleaning process consisting of one (1) hot soap dip tank equipped with one (1) natural gas-fired burner **nominally** rated at 5.3 MMBtu per hour, one (1) hot water dip tank equipped with one (1) natural gas-fired burner **nominally** rated at 3.0 MMBtu per hour, and one (1) exhaust blower equipped with a demister to remove particulate matter emissions in the airstream of the alkaline cleaning process, and exhausting to stack S2.
  - (2) One (1) four-section annealing furnace equipped with natural gas-fired low-NO<sub>x</sub> burners, consisting of a preheat section **nominally** rated at 56.0 MMBtu per hour, exhausting to stack S1, and a radiant tube section **nominally** rated at 21.0 MMBtu per hour.

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

## SECTION D.2 FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-6.1-5(a)(1)]: Coil Coating Line

- (b) One (1) coil coating line for applying primer and finish coats to both sides of steel coil in one pass, with a ~~maximum~~ **nominal** coating capacity of 600 linear feet of coil per minute, using rolling application methods, consisting of one (1) natural gas-fired curing oven for drying primer coat, identified as Primer Curing Oven, and one (1) curing oven for drying finish coat, identified as Finish Curing Oven. The two ovens are heated by a natural gas-fired integral thermal oxidizer with a ~~maximum~~ **nominal** heat input capacity of 60 MMBtu per hour. The thermal oxidizer utilizes low NO<sub>x</sub> burners and is considered an integral part of the process. The integral thermal oxidizer also acts to reduce VOC emissions from the coating line. The Primer Curing Oven is also equipped with low NO<sub>x</sub> burners having a ~~maximum~~ **nominal** heat capacity of 11.6 MMBtu per hour and is used to provide heat for startup and to keep this oven hot during process interruptions. The coil coating line exhausts to stack S3.

Under the New Source Performance Standards for Metal Coil Surface Coating (40 CFR 60, Subpart TT), the coil coating line is considered to be a metal coil surface coating operation.

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

**Comment 4:** In Condition A.2 and corresponding facility descriptions in Sections D.1 and D.2, please change the description of the fuel source for the thermal oxidizer from “natural gas fired” to “fueled by VOC with natural gas available as a supplemental fuel”. The thermal oxidizer will be primarily fueled by the VOCs from the process and will not be fired for normal production purposes by natural gas. The thermal oxidizer is integral to the process and uses the VOCs from the coatings as the fuel source.

**IDEM Response to Comment 4:** The permit has been changed as follows:

#### A.2 Emission Units and Pollution Control Equipment Summary

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...

- (b) One (1) coil coating line for applying primer and finish coats to both sides of steel coil in one pass, with a ~~maximum~~ **nominal** coating capacity of 600 linear feet of coil per minute, using rolling application methods, consisting of one (1) natural gas-fired curing oven for drying primer coat, identified as Primer Curing Oven, and one (1) curing oven for drying

finish coat, identified as Finish Curing Oven. The two ovens are heated by a ~~natural gas-fired~~ integral thermal oxidizer  **fueled by VOC with natural gas available as a supplemental fuel**, with a ~~maximum nominal~~ heat input capacity of 60 MMBtu per hour. The thermal oxidizer utilizes low NO<sub>x</sub> burners and is considered an integral part of the process. The integral thermal oxidizer also acts to reduce VOC emissions from the coating line. The Primer Curing Oven is also equipped with low NO<sub>x</sub> burners having a ~~maximum nominal~~ heat capacity of 11.6 MMBtu per hour and is used to provide heat for startup and to keep this oven hot during process interruptions. The coil coating line exhausts to stack S3.

## SECTION D.2

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-6.1-5(a)(1)]: Coil Coating Line

- (b) One (1) coil coating line for applying primer and finish coats to both sides of steel coil in one pass, with a ~~maximum nominal~~ coating capacity of 600 linear feet of coil per minute, using rolling application methods, consisting of one (1) natural gas-fired curing oven for drying primer coat, identified as Primer Curing Oven, and one (1) curing oven for drying finish coat, identified as Finish Curing Oven. The two ovens are heated by a ~~natural gas-fired~~ integral thermal oxidizer  **fueled by VOC with natural gas available as a supplemental fuel**, with a ~~maximum nominal~~ heat input capacity of 60 MMBtu per hour. The thermal oxidizer utilizes low NO<sub>x</sub> burners and is considered an integral part of the process. The integral thermal oxidizer also acts to reduce VOC emissions from the coating line. The Primer Curing Oven is also equipped with low NO<sub>x</sub> burners having a ~~maximum nominal~~ heat capacity of 11.6 MMBtu per hour and is used to provide heat for startup and to keep this oven hot during process interruptions. The coil coating line exhausts to stack S3.

**Comment 5:** Conditions B.2 and B.3 apply to the new construction of the coating line only and therefore should be moved to Section D.2. If left in Section B, they could be misinterpreted as applying to the entire permit.

**IDEM Response to Comment 5:** IDEM has moved the 'Revocation of Permits' and 'Affidavit of Construction' Conditions in the B section of the permit to Section D.2, as these conditions apply only to the emission units listed in that section. The conditions numbers and Table of Contents have been updated accordingly. The permit has been changed as follows:

~~B.2 — Revocation of Permits [326 IAC 2-1.1-9(5)]~~

~~Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.~~

~~B.3 — Affidavit of Construction [326 IAC 2-5.1-3(h)] [326 IAC 2-5.1-4]~~

~~This document shall also become the approval to operate pursuant to 326 IAC 2-5.1-4 when prior to the start of operation, the following requirements are met:~~

- ~~(a) — The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), verifying that the emission units were constructed as proposed in the application or the permit. The emission units covered in this permit may begin operating on the date the Affidavit of Construction is postmarked or hand-delivered to IDEM if constructed as proposed.~~
- ~~(b) — If actual construction of the emission units differs from the construction proposed in the application, the source may not begin operation until the permit has been revised pursuant to 326 IAC 2 and an Operation Permit Validation Letter is issued.~~
- ~~(c) — The Permittee shall attach the Operation Permit Validation Letter received from the Office of Air Quality (OAQ) to this permit.~~

### **Construction Conditions**

#### **D.2.1 Revocation of Permits [326 IAC 2-1.1-9(5)]**

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

#### **D.2.2 Affidavit of Construction [326 IAC 2-5.1-3(h)] [326 IAC 2-5.1-4]**

This document shall also become the approval to operate pursuant to 326 IAC 2-5.1-4 when prior to the start of operation, the following requirements are met:

- (a) The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), verifying that the emission units were constructed as proposed in the application or the permit. The emission units covered in this permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM if constructed as proposed.
- (b) If actual construction of the emission units differs from the construction proposed in the application, the source may not begin operation until the permit has been revised pursuant to 326 IAC 2 and an Operation Permit Validation Letter is issued.
- (c) The Permittee shall attach the Operation Permit Validation Letter received from the Office of Air Quality (OAQ) to this permit.

### **Operation Conditions**

#### ~~D.2.4~~ **D.2.3 Nitrogen Oxide Control Requirement (BACT) [326 IAC 10-1-1]**

#### ~~D.2.2~~ **D.2.7 Testing Requirements [326 IAC 2-1.1-11]**

Within sixty (60) days after achieving the maximum production rate but not later than one hundred and eighty (180) days after initial startup and in order to demonstrate that actual VOC emissions from the coil coating line are less than 15 pounds per day, the Permittee shall conduct a performance test to verify VOC control efficiency as per Condition ~~D.2.3~~ **D.2.8** for the integral thermal oxidizer utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with Section C - Performance Testing.

#### ~~D.2.4~~ **D.2.9 Record Keeping Requirements**

- (a) To document compliance with Condition ~~D.2.3~~ **D.2.8**, the Permittee shall maintain the continuous temperature records and the 3-hour average temperature records.

...

**Comment 6:** Condition B.10 should be changed to clarify the requirements for certification such that the certification is limited only to documents required by this permit itself and acknowledge that an equivalent form is acceptable to IDEM. SDI requests that the permit be changed as follows:

#### ~~B.10~~ **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 **or its equivalent**, 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).

**IDEM Response to Comment 6:** Regarding the change requested in Condition B.10(a): Pursuant to 326 IAC 2-7-5(3)(C)(ii), "The reporting of deviations from Part 70 permit requirements, including those attributable to upset conditions as defined in a Part 70 permit, ....Proper notice submittal under section 16 of this rule satisfies the reporting requirements of this item.

Notwithstanding requirements in this section, the reporting of deviations **required by an applicable requirement shall follow the schedule stated in the applicable requirement** (emphasis added).  
Therefore, the permit is not revised as a result of this comment.

Regarding the change requested in Condition B.10(b): IDEM has made the requested revision as follows:

**B.10 B.8** Certification

---

...

- (b) One (1) certification shall be included, using the attached Certification Form **or its equivalent**, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

**Comment 7:** Condition B.12 should be changed to require that the preventative maintenance plan be due 90 days after the affidavit of construction is submitted to IDEM. This more appropriately sets out a requirement that is connected to the actual beginning of operation of the facility rather than issuance of the permit.

**IDEM Response to Comment 7:** The PMP is required upon startup for the new paint line. The permit has been changed as follows:

**B.12B.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) **upon start up of the paint line operations, within ninety (90) days after issuance of this permit** including the following information on each facility:

**Comment 8:** Change Condition B.15 to remove language that is not included in 326 IAC 2-6.1 in order to make the permit condition consistent with the rule language. SDI requests that the permit be changed as follows:

**B.15B.13** Permit Renewal [326 IAC 2-6.1-7]

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...

- (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, takes final action on the renewal application, ~~except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ, any additional information identified as being needed to process the application.~~

**IDEM Response to Comment 8:** Condition B.15(c) requires that the Permittee submit information deemed necessary by IDEM, OAQ for evaluating the permit renewal application. The statutory authority for this requirement comes from 326 IAC 2-6.1-4(b). If IDEM determines that required information needed to process an application is being withheld, then IDEM can deny the application request in accordance with IC 13-15-4-9. In this case, the Permittee would then be operating without a permit. No changes have been made as a result of this comment.

**Comment 9:** In Condition B.20, SDI requests that the rule citation in the heading be clarified as follows:

**B.20B.18** Annual Fee Payment [326 IAC 2-1.1-7(4)]

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**IDEM Response to Comment 9:** In this case, the entire rule applies to the source, and not just paragraph (4). No changes have been made as a result of this comment.

**Comment 10:** Change the word “maximum” to “nominal” and correct a typographical error in the first sentence of paragraph (a).

**IDEM Response to Comment 10:** The permit has been changed as follows:

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

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- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving ~~maximum~~ **nominal** production rate, but no later than ~~180~~ **than 180** days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this 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.

**Comment 11:** Change Condition C.8 as follows in order to clarify that the emission test report does not require the certification by an “authorized individual.” SDI believes this is consistent with IDEM’s interpretation of this requirement.

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

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...

- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ, if the Permittee submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period. **The emission test report submitted by the Permittee does not require certification by an “authorized individual” as defined by 326 IAC 2-1.1-1(1).**

**Comment 12:** SDI requests that the following changes be made to Condition C.13. The changes requested in Condition C.13(a) would make this condition applicable only when specifically identified in one of the D Sections. We believe this is consistent with IDEM’s intent to trigger this provision only when certain parametric monitoring ranges or emission limits are deviated from. SDI has also indicated the deletion at the end of Paragraph (a) to indicate that the “normal or usual manner of operation” is to be consistent with good air pollution control practices and this does not normally include minimizing emissions except as required by an emission limit or work practice. The changes requested in Condition C.13(b) are meant to reflect that the periods of startup, shutdown, or malfunction are not required to be minimized, which may require an unreasonable action to be taken that would go beyond good air pollution control practices. Instead, the changes reflect that the source should reduce such periods or confirm that the current periods are, in fact, appropriate when this condition is required to be triggered by Section D. In condition C.13(e), the change requested would indicate that records are needed only when such records would be applicable to the particular exceedance or excursion at issue.

C.13 Response to Excursions or Exceedances

---

- (a) **When required by Section D, upon** 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~~ **reducing the, or confirming the appropriateness of the current** period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:
- (1) initial inspection and evaluation;
  - (2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or

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

**IDEM Response to Comment 12:** IDEM accepts the proposed changes for paragraph (e). The request to delete the phrase at the end of paragraph (a) "for minimizing emissions" and the changes requested in paragraph (b) would materially change the intent of the conditions. The intent of the permit is to minimize pollutant emissions to the full extent possible, consistent with applicable state and federal regulations. Regarding paragraph (b), the Permittee has a general responsibility to respond when an excursion or exceedance is detected. Further, the Permittee has a general responsibility to minimize emissions, rather than just reducing emissions, as suggested by SDI in their comment. The emissions are minimized by minimizing the periods of startup, shutdown and malfunction. The revisions suggested by SDI change the meaning and intent of paragraph (b). Therefore, no changes have been made to paragraph (b). Paragraphs (a) and (e) have been revised as shown below:

#### C.13 Response to Excursions or Exceedances

---

- (a) **When required by Section D, upon ~~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.

...

- (e) The Permittee shall maintain the following records, **as applicable to a given response to an excursion or exceedance**:
- (1) monitoring data;
  - (2) monitor performance data, ~~if applicable~~; and
  - (3) corrective actions taken.

**Comment 13:** Please cite the regulatory authority for Condition C.14. Also, in the last sentence in paragraph (a) of Condition C.14, please change the word “minimize” to “reduce”. This change would require the source to “reduce” any excess emissions instead of being required to “minimize” such emissions. The term minimize could be construed as a subjective term for which the source would be unable to certify compliance.

**IDEM Response to Comment 13:** In the case of an emission unit not meeting the emission standard, the emission standard itself provides the regulatory authority for IDEM, OAQ to take appropriate response actions. The suggested wording change in the last sentence of paragraph (a) is unacceptable to IDEM, OAQ, because it would materially change the intent of this condition. IDEM, OAQ’s intent in such a situation is to require the Permittee to minimize emissions in the event that equipment is not in compliance with an emission standard. Simply requiring the Permittee to reduce emissions does not provide adequate guidance as to the magnitude of the extent to which the Permittee is required to reduce emissions, as the word “reduce” suggests that any reduction between 1% and 100% is acceptable. The word “minimize” suggests that the Permittee should take all feasible steps to limit emissions to the minimum possible during such an event. No changes have been made as a result of this comment.

**Comment 14:** In Condition C.15, SDI requests that the wording be changed to indicate that an equivalent form is acceptable.

C.15 Malfunctions Report [326 IAC 1-6-2]

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...

- (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, using the Malfunction Report Forms ~~(2 pages)~~, **or its equivalent**. 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.

**IDEM Response to Comment 14:** The Permittee may use their own form so long as that form contains all information requested in the Malfunction Report Form provided in the permit. The permit has been changed as requested in the comment.

**Comment 15:** SDI requests that the following changes be made in Condition C.17 in order to clarify applicability of the affected requirements.

C.17 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-5] [IC13-14-1-13]

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...

- (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~~ **Unless otherwise specified elsewhere in this permit, 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~~ **effectiveness of the applicable permit condition** 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.

**IDEM Response to Comment 15:** The suggested change in paragraph (c) would materially change the intent of the condition and create needless ambiguity, as all reports required by the permit require certification by an authorized individual. IDEM prefers that reporting for a source begin upon the date of issuance of the permit, which is also the effective date of the permit (see Comment 2). If, during an initial period after issuance, there is nothing to report due to construction, then the report shall include information on the current status of the source. No changes have been made as a result of this comment.

**Comment 16:** Please revise the formula in Condition D.1.1 to match the requirement in Article 6-3-2:

**IDEM Response to Comment 16:** The permit has been changed as follows:

**D.1.1 Particulate [326 IAC 6-3-2]**

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Pursuant to 326 IAC 6-3-2, the particulate from the alkaline cleaning process blower shall not exceed the pound per hour emission rate established as E in the following formula:

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

$$E = 4.10 P^{0.67} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

**Comment 17:** Please remove the limit in Condition D.1.2(b). The current permit is not a revision of the original construction permit issued to the former owner of the equipment at this plant. SDI received the new permit, and it is appropriate to cite to that permit when providing the citation to the applicable requirement. The TSD calculations show that plant-wide NOx potential to emit is 37.2 tons per year. Therefore the limitations set out in proposed Condition D.1.2(b) are unnecessary and the rule requirement at 326 IAC 10-1-4(b)(5) is not triggered.

**IDEM Response to Comment 17:** The annealing furnaces were constructed under Construction Permit 019-9559-00089. At the time of construction, the potential to emit of NOx was less than 40 tons per year and the requirements of 326 IAC 10-1-4(b)(5) did not apply to this emissions unit. The requirement in the original construction permit that NOx emissions from the annealing furnaces not exceed 8.9 pounds per hour was mistakenly applied. This change to the original construction permit was noted in the *Existing Approvals* section of the TSD for the permit that was placed on Public Notice, but the requirement was not omitted from the draft of the permit that was placed on Public Notice. The permit has been changed as follows:

**D.1.2 Nitrogen Oxide Emission Limitations [326 IAC 10-1]**

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Pursuant to 019-9559-00089, issued on June 23, 1998, and 326 IAC 10-1, the annealing furnaces shall: **utilize**

- (a) ~~Utilize~~ low-NOx burners to satisfy the requirements of BACT and 326 IAC 10-1-1(a)(3).
- (b) ~~Not exceed 8.9 pounds per hour of NOx per hour to avoid the requirements of 326 IAC 10-1-4(b)(5).~~

**Comment 18:** SDI requests that Conditions B.2 and B.3 of the proposed permit be moved to Section D.2. Also, SDI believes that it is appropriate to include a provision that states that the conditions in Section D.2 are not applicable until the affidavit of construction for the paint line is postmarked or hand delivered to IDEM, OAQ.

**IDEM Response to Comment 18:** See Comment 5 and Response.

**Comment 19:** The VOC emissions from the coil coating line have been calculated to be greater than 15 lbs. per day and therefore, 326 IAC 8-2-4 should apply to this facility. Please change Condition D.2.1 to include the applicable requirements of 326 IAC 8-2-4.

**IDEM Response to Comment 19:** The requirements of 326 IAC 8-2-4 apply to the new coating line. A mistake in the PTE calculations for the new coating line resulted in an incorrect applicability determination

for 326 IAC 8-2-4. Since the PTE of the coating line is greater than 15 pounds per day, the requirements of 326 IAC 8-2-4 apply. The permit has been changed as follows and a revised set of Emission Calculations for potential to emit of VOC from the coating line has been included in this Addendum to the permit.

**D.2.4 Volatile Organic Compound (VOC) Content Limitations [326 IAC 8-2-4]**

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The emissions of VOC from the coil coating line shall be limited to less than 2.6 pounds per gallon excluding water, as delivered to the coating applicator for prime and topcoat or single coat operations.

**D.2.5 Preventive Maintenance Plan [326 IAC 1-6-3]**

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A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the paint coating line and the thermal oxidizer.

**Compliance Determination Requirements**

**D.2.6 Volatile Organic Compounds (VOC)**

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Compliance with the VOC content limitations contained in Condition D.2.4 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

~~D.2.2~~ **D.2.7 Testing Requirements [326 IAC 2-1.1-11]**

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Within sixty (60) days after achieving the ~~maximum~~ **nominal** production rate but not later than one hundred and eighty (180) days after initial startup and in order to demonstrate that actual VOC emissions from the coil coating line are less than ~~15 pounds per day~~ **2.6 pounds per gallon of coating**, the Permittee shall conduct a performance test to verify VOC control efficiency as per Condition D.2.3~~8~~ for the integral thermal oxidizer utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with Section C - Performance Testing.

~~D.2.3~~ **D.2.8 Thermal Oxidizer Temperature**

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~~D.2.4~~ **D.2.9 Record Keeping Requirements**

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(a) **To document compliance with Condition D.2.4, the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limits established in Condition D.2.4.**

- (1) **The amount and VOC content of each coating material and solvent used less water on a monthly basis. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.**
- (2) **The volume weighted VOC content of the coatings used for each month; and**
- (3) **The weight of VOCs emitted for each compliance period.**

(ab) To document compliance with Condition ~~D.2.3~~ **D.2.8**, the Permittee shall maintain the continuous temperature records and the 3-hour average temperature records.

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

**Comment 20:** In Condition D.2.7 (formerly D.2.2), please specify that the Performance Testing condition is C.8.

**IDEM Response to Comment 20:** The reference to the Performance Testing condition in Section C is adequate to identify which condition the Testing Requirement in Condition D.2.7 is referring to. No changes have been made as a result of this comment.

**Comment 21:** Condition D.2.8 Thermal Oxidizer Temperature (formerly Condition D.2.3) is duplicative to 40 CFR 60.464 and should be removed. If it is determined that this condition does apply, then SDI requests that the following changes be made:

~~D.2.3~~ **D.2.8 Thermal Oxidizer Temperature**

---

- (a) A continuous monitoring system shall be calibrated, maintained, and operated on the integral thermal oxidizer for measuring operating temperature. For the purposes of this condition, "continuous" shall mean no less than once per fifteen (15) minutes. The output of this monitoring system and the 3-hour **block** average temperatures shall be recorded whenever the ~~coil~~ **coil** coating line is in operation. From the date of initial startup until the approved stack test results are available, the Permittee shall take appropriate response steps in accordance with Section C.13 - Response to Excursions ~~and or~~ Exceedances whenever the 3-hour **block** average temperature of the integral thermal oxidizer is below 1275°F. A 3-hour average temperature that is below 1275°F **during operation of the paint line** is not a deviation from this permit. Failure to take response steps in accordance with Section C.13 - Response to Excursions ~~and or~~ Exceedances shall be considered a deviation from this permit.
- (b) The Permittee shall determine the 3-hour block average minimum temperature from the most recent valid stack test that demonstrates compliance with VOC content limits in Condition D.2.5, as approved by IDEM, **OAQ**.
- (c) On and after the date the approved stack test results are available, the Permittee shall take appropriate response steps in accordance with Section C - Response to Excursions ~~and or~~ Exceedances whenever the 3-hour **block** average temperature of the **integral** thermal oxidizer is below the 3-hour block average minimum required temperature as observed during the compliant stack test. A 3-hour **block** average temperature that is below the 3-hour block average minimum required temperature as observed during the compliant stack test is not a deviation from this permit. Failure to take response steps in accordance with Section C.13 - Response to Excursions ~~and or~~ Exceedances shall be considered a deviation from this permit.

**IDEM Response to Comment 21:** Condition D.2.8 is necessary for requiring that the Permittee monitor their compliance with the emission limit in Condition D.2.4. Specific references to the Response to Excursions of Exceedances condition in Section C of the permit as Condition C.13 are deemed unnecessary (see Response to Comment 20). The term "3-hour block average" is specifically used to designate that temperature determined during stack testing at which the paint line is in compliance with the emission limits in Condition D.2.4, whereas, the term "3-hour average" is used to designate the temperature(s) recorded during ongoing operations of the paint line. The permit has been changed as follows:

~~D.2.3~~ **D.2.8 Thermal Oxidizer Temperature**

---

- (a) A continuous monitoring system shall be calibrated, maintained, and operated on the integral thermal oxidizer for measuring operating temperature. For the purposes of this condition, "continuous" shall mean no less than once per fifteen (15) minutes. The output of this monitoring system and the 3-hour average temperatures shall be recorded whenever the ~~coil~~ **coil** coating line is in operation. From the date of initial startup until the approved stack test results are available, the Permittee shall take appropriate response steps in accordance with Section C - Response to Excursions ~~and or~~ Exceedances whenever the 3-hour average temperature of the integral thermal oxidizer is below 1275°F. A 3-hour average temperature that is below 1275°F **during operation of the coil coating line** is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions ~~and or~~ Exceedances shall be considered a deviation from this permit.

- (b) The Permittee shall determine the 3-hour block average minimum temperature from the most recent valid stack test that demonstrates compliance with VOC content limits in Condition D.2.5, as approved by IDEM, **OAQ**.
- (c) On and after the date the approved stack test results are available, the Permittee shall take appropriate response steps in accordance with Section C - Response to Excursions ~~and or~~ Exceedances whenever the 3-hour average temperature of the **integral** thermal oxidizer is below the 3-hour block average minimum required temperature as observed during the compliant stack test. A 3-hour average temperature that is below the 3-hour block average minimum required temperature as observed during the compliant stack test is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions ~~and or~~ Exceedances shall be considered a deviation from this permit.

**Comment 22:** Condition D.2.9 Recordkeeping Requirements (formerly Condition D.2.4) is duplicative to 40 CFR 60.465 and should be removed. If it is determined that this condition does apply, then SDI requests that the following changes be made:

~~D.2.4~~ **D.2.9** Record Keeping Requirements

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- (~~a~~**b**) To document compliance with Condition D.2.3, the Permittee shall maintain the continuous temperature records and the 3-hour **block** average temperature records.
- (~~b~~**c**) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

**IDEM Response to Comment 22:** Condition D.2.9 is necessary for requiring that the Permittee keep records adequate to document their compliance with the emission limit in Condition D.2.4. The term “3-hour block average” is specifically used to designate that temperature determined during stack testing at which the paint line is in compliance with the emission limits in Condition D.2.4, whereas, the term “3-hour average” is used to designate the temperature(s) recorded during ongoing operations of the paint line. No changes have been made as a result of this comment.

**Comment 23:** The reference to “40 CFR 63” in Condition D.2.10 (formerly Condition D.2.5) should be “40 CFR 60”.

**IDEM Response to Comment 23:** The permit has been changed as follows:

~~D.2.5~~ **D.2.10** General Provisions Relating to NSPS for Metal Coil Surface Coating [326 IAC 12-1] [40 CFR Part 60, Subpart A]

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Pursuant to 40 CFR 60.460, Subpart TT, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1-1 for the coil coating line as specified in Appendix A of 40 CFR Part 60, Subpart TT in accordance with schedule in 40 CFR ~~63~~ **60**, Subpart TT.

**Comment 24:** SDI requests that the following changes be made to the wording of the NSPS in Condition D.2.11 (formerly D.2.6) as personnel with little or no regulatory experience will need to read and understand the permit provisions in order to comply with its conditions. SDI also commented that Section 60.460, “Applicability and designation of affected facility” is not necessary since applicable requirements are included in the permit.

~~D.2.6~~ **D.2.11** New Source Performance Standards for Metal Coil Surface Coating Requirements [40 CFR Part 60, Subpart TT] [326 IAC 12-1]

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Pursuant to CFR Part 60, Subpart TT, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart TT, which are incorporated by reference as 326 IAC ~~12-4~~ **12-1-1** for the coil coating line as specified as follows:

~~§ 60.460~~ **Applicability and designation of affected facility.**

~~(a) The provisions of this subpart apply to the following affected facilities in a metal coil surface coating operation: each prime coat operation, each finish coat operation, and each prime and finish coat operation combined when the finish coat is applied wet on wet over the prime coat and both coatings are cured simultaneously.~~

~~(b) This subpart applies to any facility identified in paragraph (a) of this section that commences construction, modification, or reconstruction after January 5, 1981.~~

**§ 60.461 Definitions.**

- (a) All terms used in this subpart not defined below are given the same meaning as in the Act or in subpart A of this part.

*Coating* means any organic material that is applied to the surface of metal coil.

*Coating application station* means that portion of the metal coil surface coating operation where the coating is applied to the surface of the metal coil. Included as part of the coating application station is the flashoff area between the coating application station and the curing oven.

*Curing oven* means the device that uses heat or radiation to dry or cure the coating applied to the metal coil.

*Finish coat operation* means the coating application station, curing oven, and quench station used to apply and dry or cure the final coating(s) on the surface of the metal coil. Where only a single coating is applied to the metal coil, that coating is considered a finish coat.

*Metal coil surface coating operation* means the application system used to apply an organic coating to the surface of any continuous metal strip with thickness of 0.15 millimeter (mm) (0.006 in.) or more that is packaged in a roll or coil.

*Prime coat operation* means the coating application station, curing oven, and quench station used to apply and dry or cure the initial coating(s) on the surface of the metal coil.

*Quench station* means that portion of the metal coil surface coating operation where the coated metal coil is cooled, usually by a water spray, after baking or curing.

*VOC content* means the quantity, in kilograms per liter of coating solids, of volatile organic compounds (VOC's) in a coating.

- (b) All symbols used in this subpart not defined below are given the same meaning as in the Act and in subpart A of this part.

Ca= the VOC concentration in each gas stream leaving the control device and entering the atmosphere (parts per million by volume, as carbon).

Cb= the VOC concentration in each gas stream entering the control device (parts per million by volume, as carbon).

Cf= the VOC concentration in each gas stream emitted directly to the atmosphere (parts per million by volume, as carbon).

Dc= density of each coating, as received (kilograms per liter).

Dd= density of each VOC-solvent added to coatings (kilograms per liter).

Dr= density of VOC-solvent recovered by an emission control device (kilograms per liter).

E= VOC destruction efficiency of the control device (fraction).

F= the proportion of total VOC's emitted by an affected facility that enters the control device (fraction).

- G= volume-weighted average mass of VOC's in coatings consumed in a calendar month per unit volume of coating solids applied (kilograms per liter).
- Lc= the volume of each coating consumed, as received (liters).
- Ld= the volume of each VOC-solvent added to coatings (liters).
- Lr= the volume of VOC-solvent recovered by an emission control device (liters).
- Ls= the volume of coating solids consumed (liters).
- Md= the mass of VOC-solvent added to coatings (kilograms).
- Mo= the mass of VOC's in coatings consumed, as received (kilograms).
- Mr= the mass of VOC's recovered by an emission control device (kilograms).
- N= the volume-weighted average mass of VOC emissions to the atmosphere per unit volume of coating solids applied (kilograms per liter).
- Qa= the volumetric flow rate of each gas stream leaving the control device and entering the atmosphere (dry standard cubic meters per hour).
- Qb= the volumetric flow rate of each gas stream entering the control device (dry standard cubic meters per hour).
- Qf= the volumetric flow rate of each gas steam emitted directly to the atmosphere (dry standard cubic meters per hour).
- R= the overall VOC emission reduction achieved for an affected facility (fraction).
- S= the calculated monthly allowable emission limit (kilograms of VOC per liter of coating solids applied).
- Vs= the proportion of solids in each coating, as received (fraction by volume).
- Wo= the proportion of VOC's in each coating, as received (fraction by weight).

**§ 60.462 Standards for volatile organic compounds.**

- (a) ~~On and after the date on which §60.8 requires a performance test to be completed, each owner or operator subject to this subpart~~ **The Permittee** shall not cause to be discharged into the atmosphere more than:
- (1) **(This requirement is not applicable.)**
  - (2) 0.14 kg VOC/l of coating solids applied for each calendar month ~~for each affected facility that continuously uses an emission control device(s) operated at the most recently demonstrated overall efficiency; or~~
  - (3) 10 percent of the VOC's applied for each calendar month (90 percent emission reduction) ~~for each affected facility that continuously uses an emission control device(s) operated at the most recently demonstrated overall efficiency; or.~~

**§ 60.463 Performance test and compliance provisions.**

- (a) ~~Section~~ **40 CFR** 60.8(d) and (f) do not apply to the performance test.

- (b) The ~~owner or operator of an affected facility~~ **Permittee** shall conduct an initial performance test as required under §60.8(a) and thereafter a performance test for each calendar month for each affected facility according to the procedures in this section.
- (c) The ~~owner or operator~~ **Permittee** shall use the following procedures for determining monthly volume-weighted average emissions of VOC's in kg/l of coating solids applied. **[SDI comment: There are no procedures specified.]**

**(1) (This requirement is not applicable.)**

(2) ~~An owner or operator~~ **the Permittee** shall use the following procedures ~~for each affected facility that continuously uses a capture system and a control device that destroys VOC's (e.g., incinerator)~~ to comply with the emission limit specified under §60.462(a) (2) or (3).

(i) Determine the overall reduction efficiency (R) for the capture system and control device.

For the initial performance test, the overall reduction efficiency (R) shall be determined as prescribed in paragraphs (c)(2)(i) (A), (B), and (C) of this section. In subsequent months, the owner or operator may use the most recently determined overall reduction efficiency (R) for the performance test, providing control device and capture system operating conditions have not changed. The procedure in paragraphs (c)(2)(i) (A), (B), and (C) of this section, shall be repeated when directed by the Administrator or when the owner or operator elects to operate the control device or capture system at conditions different from the initial performance test.

(A) Determine the fraction (F) of total VOC's emitted by an affected facility that enters the control device using the following equation:

$$F = \frac{\sum_{i=1}^l C_{in} Q_{in}}{\sum_{i=1}^l C_{in} Q_{in} + \sum_{i=1}^p C_{in} Q_{in}}$$

Equation 5

Where:

l is the number of gas streams entering the control device, and

p is the number of gas streams emitted directly to the atmosphere.

(B) Determine the destruction efficiency of the control device (E) using values of the volumetric flow rate of each of the gas streams and the VOC content (as carbon) of each of the gas streams in and out of the device by the following equation:

$$E = \frac{\sum_{i=1}^n Q_{in} C_{in} - \sum_{i=1}^m Q_{in} C_{in}}{\sum_{i=1}^n Q_{in} C_{in}}$$

Equation 6

Where:

n is the number of gas streams entering the control device, and

m is the number of gas streams leaving the control device and entering the atmosphere.

The ~~owner or operator of the affected facility~~ **Permittee** shall construct the VOC emission reduction system so that all volumetric flow rates and total VOC emissions can be accurately determined by the applicable test methods and procedures specified

in §60.466. The ~~owner or operator of the affected facility~~ **Permittee** shall construct a temporary enclosure around the coating applicator and flashoff area during the performance test for the purpose of evaluating the capture efficiency of the system. The enclosure must be maintained at a negative pressure to ensure that all VOC emissions are measurable. If a permanent enclosure exists in the affected facility prior to the performance test and the Administrator is satisfied that the enclosure is adequately containing VOC emissions, no additional enclosure is required for the performance test.

- (C) Determine overall reduction efficiency (R) using the following equation:

$$R=EF \quad \text{Equation 7}$$

If the overall reduction efficiency (R) is equal to or greater than 0.90, the ~~affected facility~~ **Permittee** is in compliance and no further computations are necessary. If the overall reduction efficiency (R) is less than 0.90, the average total VOC emissions to the atmosphere per unit volume of coating solids applied (N) shall be computed as follows.

- (i) **(This requirement is not applicable.)**
- (ii) Calculate the volume-weighted average of the total mass of VOC's per unit volume of coating solids applied (G) during each calendar month for each affected facility using equations in paragraphs (c)(1)(i) (A), (B), and (C) of this section.
- (iii) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during each calendar month by the following equation:

$$N=G(1-R) \quad \text{Equation 8}$$

- (iv) If the volume-weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is less than or equal to 0.14 kg/l of coating solids applied, the ~~affected facility~~ **Permittee** is in compliance. Each monthly calculation is a performance test.

#### § 60.464 Monitoring of emissions and operations.

~~(a) Where compliance with the numerical limit specified in §60.462(a) (1) or (2) is achieved through the use of low VOC content coatings without the use of emission control devices or through the use of higher VOC content coatings in conjunction with emission control devices, the owner or operator shall compute and record the average VOC content of coatings applied during each calendar month for each affected facility, according to the equations provided in §60.463.~~

- (a) **The Permittee shall compute and record the average VOC content of coatings applied during each calendar month, according to the equations provided in §60.463.**

- (b) **(This requirement is not applicable.)**

~~(c) If thermal incineration is used, each owner or operator subject to the provisions of this subpart~~ **The Permittee** shall install, calibrate, operate, and maintain a device that continuously records the combustion temperature of any effluent gases incinerated to achieve compliance with §60.462(a)(2), ~~or (3), or (4).~~ This device shall have an accuracy of  $\pm 2.5$  °C. or  $\pm 0.75$  percent of the temperature being measured expressed in degrees Celsius, whichever is greater. Each owner or operator shall also record all periods (during actual coating operations) in excess of 3 hours during which the **block** average temperature in any thermal incinerator used to control emissions from an affected facility remains more than 28 °C (50 °F) below the temperature at which compliance with §60.462(a)(2), ~~or (3), or (4)~~ was demonstrated during the most recent measurement of incinerator efficiency required by §60.8. The records required by §60.7 shall identify each such occurrence and its duration. ~~If catalytic incineration is used, the owner or operator shall install, calibrate, operate,~~

~~and maintain a device to monitor and record continuously the gas temperature both upstream and downstream of the incinerator catalyst bed. This device shall have an accuracy of  $\pm 2.5$  °C or  $\pm 0.75$  percent of the temperature being measured expressed in degrees Celsius, whichever is greater. During coating operations, the owner or operator shall record all periods in excess of 3 hours where the average difference between the temperature upstream and downstream of the incinerator catalyst bed remains below 80 percent of the temperature difference at which compliance was demonstrated during the most recent measurement of incinerator efficiency or when the inlet temperature falls more than 28 °C (50 °F) below the temperature at which compliance with §60.462(a)(2), (3), or (4) was demonstrated during the most recent measurement of incinerator efficiency required by §60.8. The records required by §60.7 shall identify each such occurrence and its duration.~~

#### § 60.465 Reporting and recordkeeping requirements.

- (a) ~~Where compliance with the numerical limit specified in §60.462(a) (1), (2), or (4) is achieved through the use of low VOC content coatings without emission control devices or through the use of higher VOC content coatings in conjunction with emission control devices, each owner or operator subject to the provisions of this subpart~~ **The Permittee** shall include in the initial compliance report required by §60.8 the weighted average of the VOC content of coatings used during a period of one calendar month for each affected facility. ~~Where compliance with §60.462(a)(4) is achieved through the intermittent use of a control device, reports shall include separate values of the weighted average VOC content of coatings used with and without the control device in operation.~~
- (b) ~~Where compliance with §60.462(a)(2), (3), or (4) is achieved through the use of an emission control device that destroys VOC's, each owner or operator subject to the provisions of this subpart~~ **The Permittee** shall include the following data in the initial compliance report required by §60.8:
- (1) ~~The overall VOC destruction rate used to attain compliance with §60.462(a)(2), (3), or (4) and the calculated emission limit used to attain compliance with §60.462(a)(4); and~~
  - (2) ~~The combustion temperature of the thermal incinerator or the gas temperature, both upstream and downstream of the incinerator catalyst bed, used to attain compliance with §60.462(a)(2), (3), or (4)~~ **used to attain compliance with §60.462(a)(2) or (3).**
  - (c) ~~Following the initial performance test, the owner or operator of an affected facility~~ **Permittee** shall identify, record, and submit a written report to ~~the Administrator~~ **IDEM, OAQ** every calendar quarter of each instance in which the volume-weighted average of the local mass of VOC's emitted to the atmosphere per volume of applied coating solids (N) is greater than the limit specified under §60.462. If no such instances have occurred during a particular quarter, a report stating this shall be submitted to ~~the Administrator~~ **IDEM, OAQ** semiannually.
  - (d) ~~The owner or operator of each affected facility~~ **The Permittee** shall also submit reports at the frequency specified in §60.7(c) when the incinerator temperature drops as defined under §60.464(c). If no such periods occur, the owner or operator shall state this in the report.
  - (e) ~~Each owner or operator subject to the provisions of this subpart~~ **The Permittee** shall maintain at the source, for a period of at least 2 years, records of all data and calculations used to determine monthly VOC emissions ~~from each affected facility~~ and to determine the monthly emission limit, where applicable. ~~Where compliance is achieved through the use of thermal incineration, each owner or operator~~ **the Permittee** shall maintain, at the source, daily records of the incinerator combustion temperature. ~~If catalytic incineration is used, the owner or operator shall maintain at the source daily records of the gas temperature, both upstream and downstream of the incinerator catalyst bed.~~

#### § 60.466 Test methods and procedures.

- (a) The reference methods in appendix A to this part, except as provided under §60.8(b), shall be used to determine compliance with §60.462 as follows:

- (1) Method 24, or data provided by the formulator of the coating, shall be used for determining the VOC content of each coating as applied to the surface of the metal coil. In the event of a dispute, Method 24 shall be the reference method. When VOC content of waterborne coatings, determined by Method 24, is used to determine compliance of affected facilities, the results of the Method 24 analysis shall be adjusted as described in Section 12.6 of Method 24;
  - (2) Method 25, both for measuring the VOC concentration in each gas stream entering and leaving the control device on each stack equipped with an emission control device and for measuring the VOC concentration in each gas stream emitted directly to the atmosphere;
  - (3) Method 1 for sample and velocity traverses;
  - (4) Method 2 for velocity and volumetric flow rate;
  - (5) Method 3 for gas analysis; and
  - (6) Method 4 for stack gas moisture.
- (b) For Method 24, the coating sample must be at least a 1-liter sample taken at a point where the sample will be representative of the coating as applied to the surface of the metal coil.
- (c) For Method 25, the sampling time for each of three runs is to be at least 60 minutes, and the minimum sampling volume is to be at least 0.003 dscm (0.11 dscf); however, shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Administrator by IDEM, OAQ.

~~(d) The Administrator will approve testing of representative stacks on a case-by-case basis if the owner or operator can demonstrate to the satisfaction of the Administrator that testing of representative stacks yields results comparable to those that would be obtained by testing all stacks.~~

**IDEM Response to Comment 24:** IDEM, OAQ prefers to leave federal language in the permits as it appears in the Code of Federal Regulations, rather than risk making changes that result in a change in the intent of the original regulation. No changes have been made as a result of this comment. The Permittee may consult with the IDEM inspector for an interpretation of the Federal Rules as they apply to the emission units at the source.

**Comment 25:** Condition B.22 should be moved to Section D.2 of the permit, as this NSPS reporting condition only applies to the emission units in Section D.2.

**IDEM Response to Comment 25:** The permit has been changed as follows:

~~B.22 NSPS Reporting Requirement~~

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~~Pursuant to the New Source Performance Standards (NSPS), Part 60, Subpart TT, the Permittee is hereby advised of the requirement to report the following at the appropriate times:~~

- ~~(a) Commencement of construction date (no later than 30 days after such date);~~
- ~~(b) Actual start-up date (within 15 days after such date); and~~
- ~~(c) Date of performance testing (at least 30 days prior to such date), when required by a condition elsewhere in this permit.~~

~~Reports are to be sent to:~~

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

~~The application and enforcement of these standards have been delegated to the IDEM, OAQ. The requirements of 40 CFR Part 60 are also federally enforceable.~~

#### **D.2.12 NSPS Reporting Requirement**

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**Pursuant to the New Source Performance Standards (NSPS), Part 60, Subpart TT, the Permittee is hereby advised of the requirement to report the following at the appropriate times:**

- (a) Commencement of construction date (no later than 30 days after such date);**
- (b) Actual start-up date (within 15 days after such date); and**
- (c) Date of performance testing (at least 30 days prior to such date), when required by a condition elsewhere in this permit.**

**Reports are to be sent to:**

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

**The application and enforcement of these standards have been delegated to the IDEM, OAQ. The requirements of 40 CFR Part 60 are also federally enforceable.**

**Comment 26:** Please remove the pound per hour emission limit in Condition D.2.1(b). The requirement under 326 IAC 10-1-1(a)(3) requires that the preheat oven burners and the integral thermal oxidizer comply with either BACT or the requirements of 326 IAC 10-1, whichever is more stringent. Since BACT (installing low-NOx burners) is the more stringent requirement, the pound per hour limit required by 326 IAC 10-1 should be removed. Also, the TSD calculations show that plant-wide NOx potential to emit is 37.2 tons per year. Therefore the limitations set out in proposed condition D.2.1(b) is unnecessary and the rule requirement at 326 IAC 10-1-4(b)(5) is not triggered.

#### **D.2.1 Nitrogen Oxide Control Requirement (BACT) [326 IAC 10-1-1]**

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**Pursuant to 326 IAC 10-1-1(a)(3), for the primer curing oven and integral thermal oxidizer, the Permittee shall:**

- (a) Utilize low-NOx burners to satisfy the requirements of BACT; and**
- (b) Limit NOx emissions to less than 3.51 pounds per hour.**

**IDEM Response to Comment 26:** IDEM requires that all BACT requirements in a permit contain enforceable emission limitations. In this case, the NOx emission limit of 3.51 pounds per hour is equivalent to the NOx emissions expected from the coil coating line when operating at its nominal (maximum) rated capacity (71.6 MMBtu/hr or 615 MMCF of natural gas equivalent per year), utilizing the emission factor for low-NOx burners from AP 42 (50 pounds per MMCF of natural gas). No changes have been made as a result of this comment.

**Comment 27:** SDI requests that the reports be changed to include the specific IDEM address to which the reports will be mailed, as follows:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE BRANCH  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251**

**MINOR SOURCE OPERATING PERMIT  
ANNUAL NOTIFICATION**

MALFUNCTION REPORT

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
**100 North Senate Avenue**  
**Indianapolis, Indiana 46204-2251**  
FAX NUMBER - 317 233-6865

**IDEM Response to Comment 27:** Changes to the forms have been made as requested by the Permittee and as shown above.

**Indiana Department of Environmental Management  
Office of Air Quality**

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

**Source Background and Description**

Source Name:	Steel Dynamics, Inc.
Source Location:	5134 Loop Road, Jeffersonville, Indiana 47130
County:	Clark
SIC Code:	3479
Registration No.:	019-17215-00089
Operation Permit Issuance Date:	May 14, 2003
NSC MSOP Permit No.:	019-22695-00089
Permit Reviewer:	ERG/ST

The Office of Air Quality (OAQ) has reviewed a New Source Construction and MSOP application from Steel Dynamics, Inc. relating to the construction and operation of a steel coil coating facility. Due to the addition of new coating lines, this source is transitioning from a Registration to a Minor Source Operating Permit (MSOP).

**Permitted Emission Units and Pollution Control Equipment**

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

- (a) One (1) hot dip galvanizing line, constructed in 1998, with a maximum production capacity of 74 tons per hour, consisting of the following:
  - (1) One (1) alkaline cleaning process consisting of one (1) hot soap dip tank equipped with one (1) natural gas-fired burner rated at 5.3 MMBtu per hour, one (1) hot water dip tank equipped with one (1) natural gas-fired burner rated at 3.0 MMBtu per hour, and one (1) exhaust blower equipped with a demister to remove particulate matter emissions in the airstream of the alkaline cleaning process, and exhausting to stack S2.
  - (2) One (1) four-section annealing furnace equipped with natural gas-fired low-NOx burners, consisting of a preheat section rated at 56.0 MMBtu per hour exhausting to stack S1, and a radiant tube section rated at 21.0 MMBtu per hour.
- (b) Paved roads and parking lots with public access.
- (c) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million Btu per hour, consisting of:
  - (1) One (1) natural gas-fired hot air dryer rated at 2.0 MMBtu per hour that dries the steel strip as it exits the alkaline cleaning process.
  - (2) One (1) natural gas-fired hot air dryer rated at 2.0 MMBtu per hour associated with the chemical treatment dip tank.

- (3) One (1) quench tank hot air dryer rated at 2.0 MMBtu per hour.
  
- (d) Welding equipment related to manufacturing activities not resulting in the emission of HAPs, consisting of one (1) lap seam welder that fuses coil ends together to allow continuous line operation.
  
- (e) Activities with emissions equal to or less than the following thresholds: 5 lb/hour or 25 lbs/day PM<sub>10</sub>; 5 lbs/hour or 25 lbs/day SO<sub>2</sub>; 5 lbs/hour or 25 lbs/day NO<sub>x</sub>; 3 lbs/hour or 15 lbs/day VOC; 0.6 tons per year Pb; 5 lbs/day or 1.0 ton/year of a single HAP, and 12.5 lbs/day or 2.5 ton/year of any combination of HAPs, consisting of:
  - (1) One (1) electrically heated zinc pot.
  - (2) One (1) surface chemical treatment dip tank that applies a protective chromium coating to the surface of the steel, with no particulate formed in the process.

### **Unpermitted Emission Units and Pollution Control Equipment**

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

### **New Emission Units and Pollution Control Equipment**

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

- (f) One (1) coil coating line for applying primer and finish coats to both sides of steel coil in one pass, with a maximum coating capacity of 600 linear feet of coil per minute, using rolling application methods, consisting of one (1) natural gas-fired curing oven for drying primer coat, identified as Primer Curing Oven, and one (1) curing oven for drying finish coat, identified as Finish Curing Oven. The two ovens are heated by a natural gas-fired integral thermal oxidizer with a maximum heat input capacity of 60 MMBtu per hour. The thermal oxidizer utilizes low NO<sub>x</sub> burners and is considered an integral part of the process. The integral thermal oxidizer also acts to reduce VOC emissions from the coating line. The Primer Curing Oven is also equipped with low NO<sub>x</sub> burners having a maximum heat capacity of 11.6 MMBtu per hour and is used to provide heat for startup and to keep this oven hot during process interruptions. The coil coating line exhausts to stack S3.

Under the New Source Performance Standards for Metal Coil Surface Coating (40 CFR 60, Subpart TT), the coil coating line is considered to be a metal coil surface coating operation.

### **Existing Approvals**

The source was constructed under CP 019-9559-00089, issued on June 23, 1998 under the name "Galvstar L.P." This source has been operating under Registration 019-17215-00089, issued on May 14, 2003, and the following revision:

Notice-Only Change 019-21131-00089, issued on May 31, 2005.

All conditions from previous approvals were incorporated into this MSOP except the following:

- (a) CP 019-9559-00089, issued on June 23, 1998:  
Condition D.1.1: Particulate Matter Emissions Limitation: Pursuant to 326 IAC 6-1 (Nonattainment Area Particulate Limitations), particulate matter (PM) emissions from the

alkaline cleaning process at the exhaust outlet of Stack S2 shall not exceed 0.03 grains per dry standard cubic foot (dscf). This is equivalent to 1.29 pounds of PM per hour at a maximum flow rate of 5,000 cubic feet per minute.

Reason not incorporated:

326 IAC 6-1 (Nonattainment Area Particulate Limitations) does not apply to this source because, although it is located in Clark County, it has the potential to emit less than 100 tons of particulate matter per year and actual emissions that are less than 10 tons of particulate matter per year.

- (b) CP 019-9559-00089, issued on June 23, 1998:  
Condition D.2.1(b): Nitrogen Oxide Emission Limitations: "the annealing furnaces shall not exceed 8.9 pounds of NO<sub>x</sub> per hour to avoid the requirements of 326 IAC 10-1-4(b)(5)."

Reason Not Incorporated: The annealing furnace is not subject to 326 IAC 10-1-4(b)(5) because this facility does not have the potential to emit of NO<sub>x</sub> of forty (40) tons per year or greater.

### Stack Summary

Stack ID	Operation	Height (ft)	Diameter (ft)	Flow Rate (acfm)	Temperature (°F)
S1	Preheat Furnace Exhaust	70	4	27,000	1,000
S2	Cleaner Area Exhaust	70	2	5,000	120
S3	Coating Line Exhaust	90	5.3	60,000	240

### Air Pollution Control Justification as an Integral Part of the Process

The company has submitted the following justification such that the thermal oxidizer be considered as an integral part of the coil coating line:

The coil coating line proposed for Steel Dynamics, Inc. (SDI) at the Jeffersonville plant consists of four operations: (1) surface coating, which applies primer coat in one pass; (2) a four-zone Primer Curing Oven, which flash dries the primer coat; (3) surface coating, which applies finish coat in one pass, and (4) a four-zone Finish Curing Oven, which flash dries the top coat. The coating line includes a thermal oxidizer which provides the high temperature heat needed to cure the coatings.

The four zones of the Primer Curing Oven are each preheated prior to operation with a 2.9 MMBtu per hour natural gas-fired burner. The Thermal Oxidizer has a 60 MMBtu per hour natural gas-fired burner which supplies heat during startup and supplemental heat during normal operations. Exhaust air containing volatile organic compounds (VOC) from the surface coating rooms and zones one and two of the curing ovens is mixed with fresh air, preheated indirectly (via a heat exchanger) with the exhaust gases from the thermal oxidizer, and routed to the Primer Curing Oven. Gases exiting the Primer Curing Oven go through the thermal oxidizer, incinerating VOCs, and then pass through the heat exchanger (mentioned above) to indirectly heat the air that is circulated in the Primer Curing Oven and Finish Curing Oven (also mentioned above). The heat exchanger, via the thermal oxidizer, is the only heat source that can generate the temperatures necessary for curing the paint and producing a marketable product.

During normal operations, the primary fuel for the thermal oxidizer is the VOC emissions from the surface coating operation. Supplemental fuel is provided by natural gas. The thermal oxidizer is able to operate on natural gas for startup and if needed during production interruptions. The Primer Curing Oven uses natural gas fired burners to preheat the oven, but these burners do not supply any process heat after startup, as combustion emissions would contaminate the surface

coating. The thermal oxidizer is the sole source of the process heat necessary for this production operation. The operating temperatures required for a properly cured product (1500°F) require the operation of the integral thermal oxidizer at a minimum temperature significantly higher than that required for adequate destruction of VOCs. As the primary heat source, the thermal oxidizer must be operated at or above the highest minimum temperature required by any part of the system. The Primer Curing Oven and the Finish Curing Oven cannot operate without operation of the thermal oxidizer, and the coil coating line cannot produce an acceptable finished product without the ovens. For these reasons, the thermal oxidizer is integral to the process.

**SUMMARY:** The coatings require clean, high temperature air for fast, uncontaminated curing at economical line speed. The thermal oxidizer is the only heat source for the coil coating line during production. The VOC emissions from the coil coating line provide the primary fuel for the thermal oxidizer, with natural gas supplementing the VOC emissions to maintain adequate heat. Natural gas is used during startup and process interruptions. Exhaust gases from the thermal oxidizer are passed through a heat exchanger, and the indirectly heated air is vented to the Primer Curing Oven and Finish Curing Oven. The primary purpose of the thermal oxidizer is to provide heat to cure the coatings. The coil coating line cannot operate without the thermal oxidizer, and would be necessary even if there were no air quality regulations. The thermal oxidizer design utilizes VOC from the coatings to provide the primary source of fuel for heating and curing the paint during the production process.

[Note: The source has measured a 99.8 % VOC destruction efficiency at a similar facility in Butler, Indiana.]

IDEM, OAQ has evaluated the justifications and agreed that the thermal oxidizer will be considered as an integral part of the coil coating line. Therefore, the permitting level will be determined using the potential to emit after the thermal oxidizer. Operating conditions in the proposed permit will specify that this thermal oxidizer shall operate at all times when the coil coating line is in operation.

### **Enforcement Issue**

There are no enforcement actions pending.

### **Recommendation**

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on February 16, 2006. Additional information received on April 14, 2006 and May 16, 2006 makes the New Source Construction and MSOP application administratively complete.

There was no notice of completeness letter mailed to the source.

### **Emission Calculations**

See Appendix A of this document for detailed emission calculations (pages 1 through 6).

### Potential to Emit of the Source Before Controls

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

Pollutant	Potential To Emit (tons/year)*
PM	14.8
PM10	18.8
SO <sub>2</sub>	0.4
VOC	90.9*
CO	58.0*
NO <sub>x</sub>	52.6*

\*Note: The potential to emit of VOC, CO and NOx is calculated after the effect of the integral thermal oxidizer.

HAPs	Potential to Emit (tons/yr)
1-2-4 Trimethylbenzene	9.12
Ethylbenzene	1.62
Xylene	3.75
Butoxyethoxyethylacetate	2.23
Naphthalene	1.18
Isophorone	0.97
All Others	1.48
Total	20.4

\*Note: The potential to emit of HAPs is calculated after the effect of the integral thermal oxidizer.

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all regulated pollutants are less than 100 tons per year. Therefore, the source is subject to the provisions of 326 2-6.1. An MSOP will be issued.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is equal to or greater than one (1) ton per year and less than ten (10) per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is equal to or greater than two and five tenths (2.5) tons per year and less than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1. An MSOP will be issued.
- (c) Fugitive Emissions  
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

### Air Quality Impacts from Minor Sources

Modeling Overview: Pursuant to 326 IAC 2-1.1-5, IDEM, OAQ, has conducted a modeling analysis of the Limited Potential to Emit (PTE) criteria pollutants from this source to estimate whether the Limited PTE criteria pollutants will cause or contribute to a violation of any National Ambient Air Quality Standard (NAAQS). The results are attached as Appendix B (Pages 1 and 2).

Modeling Results – Criteria Pollutants: The modeling results indicate that the Limited PTE criteria pollutants from this source will not exceed the National Ambient Air Quality Standards (NAAQS).

### County Attainment Status

The source is located in Clark County.

Pollutant	Status
PM-10	Attainment
PM2.5	Nonattainment
SO <sub>2</sub>	Attainment
NO <sub>2</sub>	Attainment
1-hour Ozone	Maintenance Attainment
8-hour Ozone	Nonattainment
CO	Attainment
Lead	Attainment

- (a) Clark County has been classified as nonattainment for PM2.5 in 70 FR 943 dated January 5, 2005. Until U.S. EPA adopts specific New Source Review rules for PM2.5 emissions, it has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions pursuant to the Non-attainment New Source Review requirements. See the State Rule Applicability for the 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 the ozone standards. Clark County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.
- (c) Clark 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.

### Source Status

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

The following table shows the potential to emit from this Registration-level source prior to the proposed modification in this MSOP, and the potential to emit from the MSOP source after the modification.

Pollutant	Before Modification Emissions (tons/yr)	After Modification Emissions (tons/yr)*
PM	1.51	2.10
PM-10	3.70	6.04
SO <sub>2</sub>	0.23	0.41
VOC	2.11	90.9
CO	32.2	58.0
NO <sub>x</sub>	21.7	52.6
Single HAP	0.5	9.1
Combination HAPs	0.73	20.4

\* This represents the total potential to emit of the entire source after this modification.

This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or greater, no nonattainment regulated pollutant is emitted at a rate of 100 tons per year or greater, and it is not in one of the 28 listed source categories.

### Federal Rule Applicability

- (a) The requirements of the New Source Performance Standards for Surface Coating of Metal Furniture (40 CFR 60, Subpart EE, 326 IAC 12) are not included in this permit for the coil coating line because this steel coil coating facility does not apply organic surface coatings to metal furniture.
- (b) The requirements of the New Source Performance Standards for Automobile and Light Duty Truck Surface Coating Operations (40 CFR 60, Subpart MM, 326 IAC 12) are not included in this permit for the coil coating line because this steel coil coating facility does not apply surface coatings to automobiles or light duty trucks.
- (c) The coil coating line is subject to the New Source Performance Standards for Metal Coil Surface Coating (40 CFR 60, Subpart TT, 326 IAC 12) because this operation applies prime coats and finish coats to metal coil and this coating line will commence construction after January 5, 1981.

The coil coating line is subject to the following portions of Subpart TT. Non applicable portions of the NSPS will not be included in the permit.

- (1) 40 CFR 60.460
- (2) 40 CFR 60.461
- (3) 40 CFR 60.462(a)(2)
- (4) 40 CFR 60.462(a)(3)
- (5) 40 CFR 60.463(a), (b)
- (6) 40 CFR 60.463(c)(2)
- (7) 40 CFR 60.464(a)
- (8) 40 CFR 60.464(c)
- (9) 40 CFR 60.465
- (10) 40 CFR 60.466

The provisions of 40 CFR 60 Subpart A – General Provisions, which are incorporated as 326 IAC 12-1-1, apply to the coil coating line except when otherwise specified in 40 CFR 60 Subpart TT.

- (d) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14 and 20, and 40 CFR Part 61 and 63) included in this permit. The potential to emit of the entire source for any single HAP is less than ten (10) tons per year, and any combination of HAPs is less than twenty-five (25) tons per year.
- (e) The requirements of the National Emission Standards for Hazardous Air Pollutants for Surface Coating of Metal Coil (40 CFR 63.5080, Subpart SSSS) are not included in this permit for the coil coating line. The potential to emit of any single HAP is less than ten (10) tons per year, and any combination of HAPs is less than twenty-five (25) tons per year.

### State Rule Applicability – Entire Source

#### 326 IAC 1-5-3 (Emergency Reduction Plan)

The source-wide potential to emit of PM, PM10, VOC, CO, NO<sub>x</sub>, and SO<sub>2</sub> is less than 100 tons per year. Therefore, the requirements of 326 IAC 1-5 are not applicable to this source.

326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), 326 IAC 2-3 (Emission Offset) and 326 IAC 2-1.1-5 (Nonattainment New Source Review)

This source is located in Clark County. This source is not in 1 of the 28 source categories and there are no applicable New Source Performance Standards that were in effect on August 7, 1980. Therefore, fugitive emissions of VOC and PM are not counted towards applicability of PSD and Emission Offset.

This source was constructed in 1998. The potential to emit of PM, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO and VOC at the time of construction were each less than 100 tons per year. At the time that this source was constructed, Clark County was designated a nonattainment area for the 1-hour ozone standard. The source was a minor source under PSD and Emission Offset at the time of construction.

On October 23, 2001, Clark County was designated as an attainment area for the 1-hour ozone standard.

Clark County was designated as a nonattainment area for the 8-hour ozone standard on June 15, 2004. The potential to emit of VOC and NO<sub>x</sub> for the source was less than 100 tons per year at the time that Clark County was designated a nonattainment area for the 8-hour ozone standard. Therefore, this source was a minor source under Emission Offset.

Clark County was designated as non-attainment for PM 2.5 in 70 FR 943 dated January 5, 2005. According to the April 5, 2005 EPA memo titled "Implementation of New Source Review Requirements in PM<sub>2.5</sub> Nonattainment Areas" authored by Steve Page, Director of OAQPS, until EPA promulgates the PM 2.5 major NSR regulations, states should assume that a major stationary source's PM<sub>10</sub> emissions represent PM<sub>2.5</sub> emissions. IDEM will use the PM<sub>10</sub> nonattainment major NSR program as a surrogate to address the requirements of nonattainment major NSR for the PM<sub>2.5</sub> NAAQS. A major source in a nonattainment area as a source that emits or has the potential to emit 100 tons per year of any regulated pollutant. Steel Dynamics, Inc. has a potential to emit before controls of PM<sub>10</sub> below 100 tons per year. Therefore, assuming that PM<sub>10</sub> emissions represent PM<sub>2.5</sub> emissions, this source was a minor source under 326 IAC 2-1.1-5 Nonattainment New Source Review.

The source proposes to add a new coating line in this New Source Construction and Minor Source Operating Permit (MSOP). This modification to this minor source does not trigger PSD review because the potential to emit of PM from the new coating line (0.62 tons per year) is less than 250 tons per year. The potential to emit of PM, SO<sub>2</sub>, and CO after this modification are all less than 250 tons per year. The increase in potential to emit of PM<sub>2.5</sub> and NO<sub>x</sub> due to this modification (2.34 and 30.7 tons per year, respectively) is less than 100 tons per year. The increase in potential to emit of VOC due to this modification is 88.8 tons per year. This modification to this minor source does not trigger emission offset because the increase in VOC emissions due to this modification will be less than 100 tons per year and the source-wide emissions of VOC after this modification will be less than 100 tons per year.

The potential to emit of PM, SO<sub>2</sub>, and CO, after controls, are less than 250 tons per year. Therefore, this source is a minor source under PSD. The potential to emit of PM<sub>10</sub>, NO<sub>x</sub>, and VOC are less than 100 tons per year. Therefore, this source is a minor source under Emission Offset.

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

The operation of the coil coating line has a potential to emit less than ten (10) tons per year of a single hazardous air pollutant (HAP) and less than twenty-five (25) tons per year of a combination of hazardous air pollutants (HAPs). Therefore, 326 IAC 2-4.1 does not apply.

**326 IAC 2-6 (Emission Reporting)**

This source is located in Clark County, the potential to emit of PM, PM<sub>10</sub>, VOC, CO, NO<sub>x</sub>, and SO<sub>2</sub> is less than one hundred (100) tons per year and the potential to emit of Lead is less than five (5) tons per year. Therefore, 326 IAC 2-6 does not apply.

**326 IAC 5-1 (Opacity Limitations)**

This source is located in Clark County, Jeffersonville Township. Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in the permit:

- (a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

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

The source is subject to 326 IAC 6-4 (Fugitive Dust Emissions) because the source maintains paved and unpaved roads and parking lots with public access. Pursuant to 326 IAC 6-4, the Permittee shall not generate fugitive dust to the extent that some portion of the material escapes 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.

**326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)**

The source is located in Clark County, was constructed after December 13, 1985 and does not have the potential to emit equal to or greater than 25 tons per year of fugitive particulate emissions. Therefore, the source is not subject to the requirements of 326 IAC 6-5.

**326 IAC 6.5 (Particulate Emission Limitations: Clark County)**

This source is located in Clark County. This source is not specifically listed in 326 IAC 6.5-2. The source-wide potential to emit of particulate is less than 100 tons per year and the actual emissions of particulate are less than ten (10) tons per year. Therefore, the requirements of 326 IAC 6.5 do not apply.

**326 IAC 8-6 (Organic Solvent Emission Limitations)**

The source is not subject to 326 IAC 8-6 (Organic Solvent Emission Limitations) because it was constructed after January 1, 1980, and the source has accepted federally enforceable limits on emissions of VOC such that the potential to emit of VOC is less than 100 tons per year.

**State Rule Applicability – Coil Coating Line**

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

The coatings applied to steel coil are applied with rolling application methods. Therefore, pursuant to 326 IAC 6-3-1(b)(6), the requirements of 326 IAC 6-3-2 are not applicable to the coil coating line.

**326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)**

The natural gas fired combustion units (thermal oxidizer, Primer Curing Oven, and Finish Curing Oven) are not subject to the requirements of 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations) because they each have the potential to emit less than 25 tons per year of SO<sub>2</sub>.

326 IAC 8-1-6 (Best Available Control Technology (BACT))

The coil coating line will commence construction after January 1, 1980, and the potential to emit of VOC before controls from this facility is greater than 25 tons per year. However, this facility is regulated by another Article 8 rule. Therefore, the requirements of 326 IAC 8-1-6 do not apply.

326 IAC 8-2-4 (Surface Coating Emission Limitations: Coil Coating)

The coil coating line applies coatings to metal coil and will commence construction after July 1, 1990. Based on MSDS and calculations, the coil coating line will have actual emissions of less than fifteen (15) pounds of VOC per day before add-on controls, based on an assumption that the expected VOC control efficiency of the integral thermal oxidizer will exceed 99%. With the use of the integral thermal incinerator, the VOC emissions from the coil coating line will be below the applicability threshold for this rule (see calculations in Appendix A to this TSD). Therefore, the requirements of 326 IAC 8-2-4 are not applicable. The source is required under conditions of this permit to test for VOC destruction efficiency.

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

This source is located in Clark County and the coil coating line will commence construction after October 1, 1995. However, the organic liquids that are used in the coil coating process are not stored in stationary vessels onsite, but are pumped directly from the shipping containers that they are delivered in. Therefore, the requirements of 326 IAC 8-9 do not apply.

326 IAC 10 (Nitrogen Oxides Control in Clark and Floyd Counties)

This source is located in Clark County. The entire coil coating line, including the surface coating operation, the primer curing oven, the finish curing oven and the integral thermal oxidizer is considered a facility, pursuant to 326 IAC 1-2-27. This facility is a source of nitrogen oxide emissions, will commence construction after June 12, 1996, and requires a permit under 326 IAC 2. This facility is subject to an NSPS, (40 CFR 60, Subpart TT), but the NSPS regulates VOC emissions from this facility, and not NOx emissions.

Pursuant to 326 IAC 10-1-1(a)(3), the Permittee shall comply with this rule or best available control technology (BACT), whichever is more stringent. This facility is not one of the types of facilities regulated in 326 IAC 10-1-4(b)(1) – (3), and the facility's potential to emit of NOx is less than 40 tons per year. Therefore, BACT is the most stringent requirement. IDEM has determined that low-NOx burners are BACT for this emissions unit. The primer curing oven and integral thermal oxidizer are equipped with low-NOx burners. The following requirements are included in the permit:

Pursuant to 326 IAC 10-1-1(a)(3), for the primer curing oven and integral thermal oxidizer, the Permittee shall:

- (a) Utilize low-NOx burners to satisfy the requirements of BACT; and
- (b) Limit NOx emissions to less than 3.51 pounds per hour.

The pound per hour limit specified above represents the NOx emissions expected from this facility when using the AP 42 emission factor for low-NOx burners with the burners operating at their maximum heat input capacity.

326 IAC 12 (New Source Performance Standards)

The Permittee shall comply with the requirements of 40 CFR 60, Subpart TT for the coil coating line as described in the Federal Rule Applicability section.

### State Rule Applicability – Hot Dip Galvanizing Line – Alkaline Cleaning Process

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

Pursuant to 326 IAC 6-3-2, the particulate from the alkaline cleaning process blower shall not exceed the pound per hour emission rate established as E in the following formula:

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

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

The demister shall be in operation at all times the alkaline cleaning process is in operation, in order to comply with this limit.

Based on the results of a stack test conducted on particulate emissions from the alkaline cleaning process blower on November 16, 2000, the emissions from the alkaline cleaning process were in compliance with the limit.

#### 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

The natural gas fired combustion units (hot air dryers) are not subject to the requirements of 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations) because they each have the potential to emit less than 25 tons per year of SO<sub>2</sub>.

#### 326 IAC 10 (Nitrogen Oxides Control in Clark and Floyd Counties)

This source is located in Clark County, and the two (2) MMBtu/hr hot air dryers associated with the alkaline cleaning process are a source of nitrogen oxide emissions, were constructed after July 12, 1996, and are not a facility to which an NSPS applies. The requirements of Article 10 apply to individual facilities. The hot air dryers associated with the alkaline cleaning process would not be required to be permitted if they were the only equipment at the source and they do not require a permit under 326 IAC 2, therefore, the requirements of 326 IAC 10 do not apply to this facility.

### State Rule Applicability – Hot Dip Galvanizing Line – Annealing Furnaces

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

- (a) The galvanizing process does not result in the emissions of particulate. Pursuant to 326 IAC 6-3-2(b)(5), the requirements of 326 IAC 6-3-2 are not applicable to the galvanizing line.
- (b) The annealing furnaces are a source of direct heating. Pursuant to 326 IAC 6-3-2, the particulate from the hot dip galvanizing line shall be limited to 48.3 pounds per hour when operating at a process weight rate of 74 tons per hour.

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

$$E = 4.1 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

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

The two-section annealing furnace, cleaner heater, rinse water heater, cleaner dryer heater, and chem treat dryer are not subject to this rule because they are not considered sources of indirect heating.

### 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

The natural gas fired combustion units (annealing furnaces: preheat section and radiant tube section) are not subject to the requirements of 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations) because they each have the potential to emit less than 25 tons per year of SO<sub>2</sub>.

### 326 IAC 10 (Nitrogen Oxides Control in Clark and Floyd Counties)

This source is located in Clark County, and the annealing furnaces are a source of nitrogen oxide emissions, require a permit under 326 IAC 2, were constructed after July 12, 1996, and are not a facility to which an NSPS applies. Pursuant to CP 019-9559-00089, issued on June 23, 1998, and 326 IAC 10-1, the annealing furnaces shall:

- (a) Utilize low-NO<sub>x</sub> burners to satisfy the requirements of BACT and 326 IAC 10-1-1(a)(3).
- (b) Not exceed 8.9 pounds per hour of NO<sub>x</sub> to avoid the requirements of 326 IAC 10-1-4(b)(5).

The source conducted stack tests on November 16, 2000 on NO<sub>x</sub> emissions from the annealing furnace burners. The stack test results showed that the burners demonstrated compliance with the limit.

### **State Rule Applicability – Welding**

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

The insignificant lap seam welder fuses the coil ends together with heat welding. This process does not use any electrode and no particulate is formed. Pursuant to 326 IAC 6-3-1(b)(9), the requirements of 326 IAC 6-3-2 do not apply to this facility.

### **State Rule Applicability – Surface Treatment Dip Tank**

The insignificant surface chemical treatment dip tank applies a chromic acid solution to the steel coil using dipping methods. Excess solution is removed from the surface with a flexible blade (squeegee) and reused. No particulate is formed in the process and the solution does not contain VOC.

### **Testing Requirements**

In order to demonstrate compliance with the requirements of 326 IAC 8-2-4, the Permittee shall perform a VOC test for the thermal oxidizer, which is used to control VOC and HAP emissions from the coil coating line, within 60 days after achieving the maximum capacity but not later than 180 days after initial startup of this metal coil coating line.

### **Compliance Requirements**

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

The compliance monitoring requirements applicable to this source are as follows:

1. The integral thermal oxidizer for the coil coating line has applicable compliance monitoring conditions as specified below:

- (a) A continuous monitoring system shall be calibrated, maintained, and operated on the thermal oxidizer for measuring operating temperature. For the purposes of this condition, "continuous" shall mean no less than once per fifteen (15) minutes. The output of this system shall be recorded as a 3-hour average. From the date of initial startup until the approved stack test results are available, the Permittee shall take appropriate response steps in accordance with Section C - Response to Excursions and Exceedances whenever the 3-hour average temperature of the thermal oxidizer is below 1275°F. A 3-hour average temperature that is below 1275°F is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances shall be considered a deviation from this permit.
- (b) The Permittee shall determine the 3-hour block average minimum temperature from the most recent valid stack test that demonstrates compliance with VOC content limits, as approved by IDEM.
- (c) On and after the date the approved stack test results are available, the Permittee shall take appropriate response steps in accordance with Section C - Response to Excursions and Exceedances whenever the 3-hour average temperature of the integral thermal oxidizer is below the 3-hour block average minimum temperature as observed during the compliant stack test. A 3-hour average temperature that is below the 3-hour block average minimum temperature as observed during the compliant stack test is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances shall be considered a deviation from this permit.

These monitoring conditions are necessary because the integral thermal oxidizer must operate properly to ensure compliance with 326 IAC 8-2-4 (Volatile Organic Compounds) and 326 IAC 2-6.1 (MSOP).

## Conclusion

The construction and operation of this steel coil coating facility shall be subject to the conditions of the New Source Construction and Minor Source Operating Permit 019-22695-00089.

**Appendix A: Emission Calculations**  
**VOC and Particulate Emissions From Coil Steel Surface Coating Operations**

Company Name: Steel Dynamics, Inc.  
 Address: 5134 Loop Road, Jeffersonville, Indiana 47130  
 NSC MSOP: 019-22695-00089  
 Reviewer: ERG/ST  
 Date: July 6, 2006

Material	Density (lbs/gal)	Weight % Volatile (H <sub>2</sub> O & Organics)	Weight % Water	Weight % Organics	Maximum Usage* (gals/year)	Percentage of Total Throughput	Pounds VOC per gallon of coating	Integral Oxidizer Destruction Efficiency (%)	PTE of VOC (lbs/day)	PTE of VOC (tons/year)	PTE of PM/PM10 Before Controls** (tons/year)
Primer 45Y54	11.44	50.2%	0.00%	50.2%	637,523	100%	5.74	99%	4.18	18.3	0
Finish Poly-White	11.5	29.6%	0.00%	29.6%	739,922	50%	3.40	99%	2.87	12.6	0
Finish Poly-Color	9.35	32.3%	0.00%	32.3%	369,961	25%	3.02	99%	1.28	5.6	0
Finish SMP-White	10.4	35.9%	0.00%	35.9%	221,977	15%	3.74	99%	0.95	4.15	0
Finish SMP-Color	9.5	38.8%	0.00%	38.8%	73,992	5%	3.68	99%	0.31	1.36	0
Finish Kynar-White	11.5	35.9%	0.00%	35.9%	44,395	3%	4.13	99%	0.21	0.92	0
Finish Kynar-Color	9.4	46.8%	0.00%	46.8%	29,597	2%	4.38	99%	0.15	0.65	0
<b>Totals</b>									<b>9.94</b>	<b>43.6</b>	<b>0</b>

\* Maximum Usage figures for coatings are engineering estimates submitted by the source of the amount of coatings that are used at maximum production capacity.

\*\* Coatings are applied with rollers. Transfer efficiency is 100%. Therefore, no particulate is formed in the process of coating the steel coil.

Coil steel is 58 inches wide. Line speed is 400 feet per minute. Both sides are coated with primer and then finish in one pass through the coating line.

**METHODOLOGY**

Pounds of VOC per Gallon Coating = (Density (lbs/gal) x Weight % Organics)

PTE of VOC (lbs/day) = Density (lbs/gal) x Weight % Organics x Maximum Usage (gals/year) x 1 year/8760 days x (1- Destruction Efficiency (%))

PTE of VOC (tons/year) = Density (lbs/gal) x Weight % Organics x Maximum Usage (gals/year) x 1 ton/2,000 lbs x (1- Destruction Efficiency (%))

**Appendix A: Emission Calculations**  
**HAP Emissions From Coil Steel Surface Coating Operations**

Company Name: Steel Dynamics, Inc.  
 Address: 5134 Loop Road, Jeffersonville, Indiana 47130  
 NSC MSOP: 019-22695-00089  
 Reviewer: ERG/ST  
 Date: July 6, 2006

Material	Density (lbs/gal)	Maximum Usage* (gals/year)	Weight % 1-2-4-Trimethyl benzene	Weight % Ethyl benzene	Weight % Xylene	Weight % Naphthalene	Weight % Butoxy ethoxyethyl Acetate	Weight % Butyl carbitol Acetate	Weight % Isophorone	Weight % Diethylene Glycol Butyl Ether Acetate	Weight % Form-aldehyde	Weight % Propyl Cellosolve
Primer 45Y54	11.44	637,523	3.4%	1.0%	4.2%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Finish Poly-White	11.5	739,922	6.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Finish Poly-Color	9.35	369,961	0.0%	2.2%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Finish SMP-White	10.4	221,977	4.7%	0.1%	1.0%	0.0%	8.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Finish SMP-Color	9.5	73,992	2.6%	0.3%	1.1%	2.0%	0.0%	1.9%	0.0%	0.0%	0.0%	0.0%
Finish Kynar-White	11.5	44,395	0.0%	1.5%	6.4%	0.0%	4.5%	0.0%	19.0%	0.0%	0.0%	0.0%
Finish Kynar-Color	9.4	29,597	0.0%	0.0%	1.6%	2.2%	0.0%	0.0%	0.0%	2.5%	0.4%	1.8%

Potential to Emit of HAPs (tons/year)												
Material	Density (lbs/gal)	Maximum Usage* (gals/year)	PTE of 1-2-4-Trimethyl benzene	PTE of Ethyl benzene	PTE of Xylene	PTE of Naphthalene	PTE of Butoxy ethoxyethyl Acetate	PTE of Butyl carbitol Acetate	PTE of Isophorone	PTE of Diethylene Glycol Butyl Ether Acetate	PTE of Form-aldehyde	PTE of Propyl Cellosolve
Primer 45Y54	11.44	637,523	124	36.5	153	43.8	0.0	0.0	0.0	0.0	0.0	0.0
Finish Poly-White	11.5	739,922	268	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Finish Poly-Color	9.35	369,961	0.0	38.1	0.0	5.19	0.0	0.0	0.0	0.0	0.0	0.0
Finish SMP-White	10.4	221,977	54.8	1.62	11.9	0.0	100	0.0	0.0	0.0	0.0	0.0
Finish SMP-Color	9.5	73,992	9.12	1.05	3.86	7.01	0.0	6.66	0.0	0.0	0.0	0.0
Finish Kynar-White	11.5	44,395	0.0	3.86	16.5	0.0	11.5	0.0	48.5	0.0	0.0	0.0
Finish Kynar-Color	9.4	29,597	0.0	0.0	2.21	3.04	0.0	0.0	0.0	3.46	0.55	2.49
<b>Total PTE of HAP (tons/year)</b>			<b>4.56</b>	<b>0.81</b>	<b>1.88</b>	<b>0.59</b>	<b>1.12</b>	<b>0.07</b>	<b>0.49</b>	<b>0.03</b>	<b>0.01</b>	<b>0.02</b>

\* Maximum Usage figures for coatings are based on engineering estimates of the amount of coatings that are used at maximum production capacity. The PTE of HAPs is calculated after the effect of the integral thermal oxidizer. The destruction efficiency (%) for HAPs is 98%.

**METHODOLOGY**

PTE of HAPS Before Controls (tons/year) = Density (lbs/gal) x Maximum Usage (gals/year) x Weight % HAP x 1 ton/2000 lbs x (1- Destruction Efficiency %)

**Appendix A: Emission Calculations**  
**Combustion Emissions for Natural Gas Fired Combustion From**  
**Annealing Furnace, Alkaline Cleaning Process, Paint Curing Ovens and Integral Thermal Oxidizer**

Company Name: Steel Dynamics, Inc.  
Address: 5134 Loop Road, Jeffersonville, Indiana 47130  
NSC MSOP: 019-22695-00089  
Reviewer: ERG/ST  
Date: July 6, 2006

Emission Unit Description	Heat Input Capacity (MMBtu/hour)	Maximum Potential Throughput (MMCF/year)
Annealing Furnace: Preheat Section	56.0	481
Annealing Furnace: Radiant Tube Section	21.0	180
Cleaner Heater	5.3	45.5
Rinse Water Heater	3.0	25.8
Cleaner Dryer Heater	2.0	17.2
Chem Treat Dryer	2.0	17.2
Primer Curing Oven	11.6	100
Thermal Oxidizer	60.0	515

	Pollutant Emission Factors (lbs/MMCF)						
	PM*	PM10*	SO <sub>2</sub>	NOx**	CO	VOC	HAPs
Low-NOx Annealing Furnace Burners	1.9	7.6	0.6	50	84.0	5.5	1.89
Low-NOx Curing Oven and Thermal Oxidizer Burners	1.9	7.6	0.6	50	84.0	5.5	1.89
All Other Combustion	1.9	7.6	0.6	100	84.0	5.5	1.89

Emission Unit ID	Potential To Emit (tons/year)						
	PM	PM10	SO <sub>2</sub>	NOx	CO	VOC	HAPs
Annealing Furnace: Preheat Section	0.46	1.83	0.14	12.0	20.2	1.32	0.45
Annealing Furnace: Radiant Tube Section	0.17	0.69	0.05	4.51	7.57	0.50	0.17
Cleaner Heater	0.04	0.17	0.01	2.28	1.91	0.13	0.04
Rinse Water Heater	0.02	0.10	0.01	1.29	1.08	0.07	0.02
Cleaner Dryer Heater	0.02	0.07	0.01	0.86	0.72	0.05	0.02
Chem Treat Dryer	0.02	0.07	0.01	0.86	0.72	0.05	0.02
Primer Curing Oven	0.09	0.38	0.03	2.49	4.18	0.27	0.09
Thermal Oxidizer	0.49	1.96	0.15	12.9	21.6	1.42	0.49
<b>TOTALS</b>	<b>1.31</b>	<b>5.25</b>	<b>0.41</b>	<b>37.2</b>	<b>58.0</b>	<b>3.80</b>	<b>1.30</b>

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

\*\*Emission factors for NOx: Uncontrolled = 100 lb/MMCF, Low NOx burners = 50 lb/MMCF

Emission factors are from AP-42, Chapter 1.4 - Natural Gas Combustion, Tables 1.4-1, 1.4-2, 1.4-3 and 1.4-4. SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03. (AP-42 Supplement D 7/98)

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

**Methodology**

Maximum Potential Throughput (MMCF/year) = Heat Input Capacity (MMBtu/hour) x 8,760 (hours/year) x 1 MMCF/1,020 MMBtu

PTE (tons/year) = Max. Potential Throughput (MMCF/year) x Emission Factor (lbs/MMCF) x 1 ton/2,000 lbs

**Appendix A: Emission Calculations**  
**Particulate Emissions From Alkaline Cleaning Process on Hot Dip Galvanizing Line**

Company Name: Steel Dynamics, Inc.  
 Address: 5134 Loop Road, Jeffersonville, Indiana 47130  
 NSC MSOP: 019-22695-00089  
 Reviewer: ERG/ST  
 Date: July 6, 2006

Location	Control Device ID	Outlet Grain Loading (gr/dscf)	Maximum Air Flow Rate (scfm)	Control Efficiency* (%)	PTE of PM/PM10 After Control (lbs/hour)	PTE of PM/PM10 After Control (tons/year)	PTE of PM/PM10 Before Control (lbs/hour)	PTE of PM/PM10 Before Control (tons/year)
Alkaline Cleaning Process	Demister	0.0017	10,500	95.0%	0.15	0.67	3.06	13.4

Assume all PM emissions equal PM10 emissions.

The outlet grain loading of the demister was established in a stack test conducted at the source on November 16, 2000. IDEM, CDS approved these results and deemed the facility to be in compliance with the applicable regulations

\* Control efficiency is based on engineering estimate.

**Methodology**

$$\text{PTE of PM/PM10 After Control (lbs/hour)} = \text{Grain Loading (gr/dscf)} \times \text{Max. Air Flow Rate (scfm)} \times 60 \text{ (mins/hour)} \times 1/7000 \text{ (lbs/gr)}$$

$$\text{PTE of PM/PM10 After Control (tons/year)} = \text{Grain Loading (gr/dscf)} \times \text{Max. Air Flow Rate (scfm)} \times 60 \text{ (mins/hour)} \times 1/7000 \text{ (lbs/gr)} \times 8760 \text{ (hours/year)} \times 1 \text{ ton}/2000 \text{ lbs}$$

$$\text{PTE of PM/PM10 Before Control (lbs/hour)} = \text{PTE of PM/PM10 After Control (lbs/hour)} / (1 - \text{Control Efficiency}\%)$$

$$\text{PTE of PM/PM10 Before Control (tons/year)} = \text{PTE of PM/PM10 After Control (tons/year)} / (1 - \text{Control Efficiency}\%)$$

**Appendix A: Emission Calculations  
Particulate and HAP Emissions from Welding Operations**

Company Name: Steel Dynamics, Inc.  
 Address: 5134 Loop Road, Jeffersonville, Indiana 47130  
 NSC MSOP: 019-22695-00089  
 Reviewer: ERG/ST  
 Date: July 6, 2006

Type of Welder	# of Welding Stations	Maximum Electrode Usage Rate (lbs/hr/welder)	PM/PM10 Emission Factor (lbs PM10/1,000 lbs electrode)	Manganese Emission Factor (lbs Mn/1,000 lbs electrode)	PTE of PM/PM10 Uncontrolled (lbs/hr)	PTE of PM/PM10 Uncontrolled (tons/yr)	PTE of Manganese Uncontrolled (tons/yr)	Control Efficiency (%)	PTE of PM/PM10 Controlled (tons/yr)	PTE of Manganese Controlled (tons/yr)
Robotic High Frequency	1	5	5.2	0.318	0.03	0.11	0.01	0%	0.11	0.01

Assume all PM emissions are equal to PM10.

Emission factors are from AP 42, Chapter 12.19, Electric Arc Welding, Tables 12.19-1 and 12.19-2 (1/95).

**Methodology**

PTE PM/PM10/Mn Uncontrolled (tons/yr) = # of Welding Stations x Electrode Usage x Emission Factor (lbs/1,000 lbs electrode) x 8760 (hrs/yr) x 1 ton/2,000 lbs

PTE PM/PM10/Mn Controlled (tons/yr) = # of Welding Stations x Electrode Usage x Emission Factor (lbs/1,000 lbs electrode) x 8760 (hrs/yr) x 1 ton/2,000 lbs x (1 - Control Efficiency %)

**Appendix A: Emission Calculations  
Particulate and HAP Emissions from Welding Operations**

Company Name: Steel Dynamics, Inc.  
 Address: 5134 Loop Road, Jeffersonville, Indiana 47130  
 NSC MSOP: 019-22695-00089  
 Reviewer: ERG/ST  
 Date: July 6, 2006

Type of Welder	# of Welding Stations	Maximum Electrode Usage Rate (lbs/hr/welder)	PM/PM10 Emission Factor (lbs PM10/1,000 lbs electrode)	Manganese Emission Factor (lbs Mn/1,000 lbs electrode)	PTE of PM/PM10 Uncontrolled (lbs/hr)	PTE of PM/PM10 Uncontrolled (tons/yr)	PTE of Manganese Uncontrolled (tons/yr)	Control Efficiency (%)	PTE of PM/PM10 Controlled (tons/yr)	PTE of Manganese Controlled (tons/yr)
Robotic High Frequency	1	5	5.2	0.318	0.03	0.11	0.01	0%	0.11	0.01

Assume all PM emissions are equal to PM10.

Emission factors are from AP 42, Chapter 12.19, Electric Arc Welding, Tables 12.19-1 and 12.19-2 (1/95).

**Methodology**

PTE PM/PM10/Mn Uncontrolled (tons/yr) = # of Welding Stations x Electrode Usage x Emission Factor (lbs/1,000 lbs electrode) x 8760 (hrs/yr) x 1 ton/2,000 lbs

PTE PM/PM10/Mn Controlled (tons/yr) = # of Welding Stations x Electrode Usage x Emission Factor (lbs/1,000 lbs electrode) x 8760 (hrs/yr) x 1 ton/2,000 lbs x (1 - Control Efficiency %)