INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
*We make Indiana a cleaner, healthier place to live.*

*Joseph E. Kernan*
Governor

*Lori F. Kaplan*
Commissioner

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.in.gov/idem

October 29, 2004

TO: Interested Parties / Applicant

RE: U.S. Steel - Gary Works / 089-19678-00121

FROM: Paul Dubenetzky
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 9/16/03

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October 29, 2004

Mr. James Alexander
U.S. Steel - Gary Works
One North Broadway
Gary, Indiana 46402

Re: Significant Source Modification No:
089-19678-00121

Dear Mr. Alexander:

U.S. Steel - Gary Works applied for a Part 70 operating permit on December 13, 1996 for a steel mill. An application to modify the source was received on July 12, 2004. Pursuant to 326 IAC 2-7-10.5, the following emission units are approved for construction at the source:

(a) One (1) natural gas fired boiler at the coke plant boiler house, identified as the temporary rental boiler (CSS80163), to be constructed in 2004, with a maximum heat input capacity of 235 MMBtu/hr and equipped with a low NOx burner, and exhausting to the existing stack CS6066.

(b) Two (2) boilers at the coke plant boiler house, identified as boilers No. 9 (CSS80164) and No. 10 (CSS80165), to be constructed in 2004, each with a maximum heat input capacity of 235 MMBtu/hr, and exhausting to stacks CS6067 and CS6068, respectively. These boilers are equipped to combust natural gas and/or coke oven gas.

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

Pursuant to Contract No. A305-0-00-36, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Yu-Lien Chu, ERG, 1600 Perimeter Park Drive, Morrisville, North Carolina 27560, or call (919) 468-7871 to speak directly to Ms. Chu. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call (800) 451-6027, and ask for Duane Van Laningham, or extension 3-6878, or dial (317) 233-6878.

Sincerely,

Original Signed by

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments

ERG/YC

cc: File - Lake County
U.S. EPA, Region V
Lake County Health Department
Northwest Regional Office
Air Compliance Section Inspector – Rick Massoels/Ramesh Rejuja
Compliance Data Section
Administrative and Development
Technical Support and Modeling - Michele Boner
Title V Reviewer – Gail McGarrity
Title V File – T089-7663-00121

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# PART 70 SIGNIFICANT SOURCE MODIFICATION
# OFFICE OF AIR QUALITY

## U.S. Steel - Gary Works
## One North Broadway
## Gary, Indiana 46402

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this approval.

This approval is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

| Significant Source Modification No.: 089-19678-00121 | |
|---|---|
| Issued by: Original Signed by<br>Paul Dubenetzky, Branch Chief<br>Office of Air Quality | Issuance Date: October 29, 20004 |

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## SECTION A SOURCE SUMMARY

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

### A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)][326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary steel mill.

| | |
|---|---|
| Responsible Official: | Gary Works General Manager |
| Source Address: | One North Broadway, Gary, Indiana 46402 |
| Mailing Address: | One North Broadway, Gary, Indiana 46402 |
| General Source Phone Number: | (219) 888-3387 |
| SIC Code: | 3312 |
| County Location: | Lake |
| Source Location Status: | Nonattainment for $SO_2$ and Ozone under 1-hour and 8-hour Standards<br>Attainment for all other criteria pollutants |
| Source Status: | Part 70 Permit Program<br>Major Source, under PSD, Emission Offset, and Nonattainment NSR Rules;<br>Major Source, Section 112 of the Clean Air Act<br>1 of 28 Source Categories |

### A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

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

(a) Two (2) natural gas fired boilers at the coke plant boiler house, identified as boiler No. 1 (CSS10155) and No. 2 (CSS20156), constructed prior to 1970, each with a maximum heat input capacity of 130 MMBtu/hr, and exhausting to stack CS6061.

(b) One (1) boiler at the coke plant boiler house, identified as boiler No. 3 (CSS30157), constructed in 1943, with a maximum heat input capacity of 156 MMBtu/hr, and exhausting to stack CS6062. This boiler is equipped to combust natural gas and/or coke oven gas.

(c) Two (2) boilers at the coke plant boiler house, identified as boiler No. 4 (CSS40158) and No. 5 (CSS50159), constructed prior to 1955, each with a maximum heat input capacity of 169 MMBtu/hr, and exhausting to stack CS6063. These boilers are equipped to combust natural gas and/or coke oven gas.

(d) One (1) boiler at the coke plant boiler house, identified as boiler No. 6 (CSS60160), constructed in 1955, with a maximum heat input capacity of 169 MMBtu/hr, and exhausting to stack CS6064. This boiler is equipped to combust natural gas and/or coke oven gas.

(e) One (1) boiler at the coke plant boiler house, identified as boiler No. 7 (CSS70161), constructed in 1976, with a maximum heat input capacity of 162 MMBtu/hr, and exhausting to stack CS6065. This boiler is equipped to combust natural gas and/or coke oven gas.

(f) One (1) boiler at the coke plant boiler house, identified as boiler No. 8 (CSS80162), constructed in 1981, with a maximum heat input capacity of 249 MMBtu/hr, and exhausting to stack CS6066. This boiler is equipped to combust natural gas and/or coke oven gas.

(g) One (1) natural gas fired boiler at the coke plant boiler house, identified as the temporary rental boiler (CSS80163), to be constructed in 2004, with a maximum heat input capacity of 235 MMBtu/hr and equipped with a low NOx burner, and exhausting to the existing stack CS6066.

(h) Two (2) boilers at the coke plant boiler house, identified as boilers No. 9 (CSS80164) and No. 10 (CSS80165), to be constructed in 2004, each with a maximum heat input capacity of 235 MMBtu/hr, and exhausting to stacks CS6067 and CS6068, respectively. These boilers are equipped to combust natural gas and/or coke oven gas.

A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

## SECTION B GENERAL CONSTRUCTION CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

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

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

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

B.3 Revocation of Permits [326 IAC 2-1.1-9(5)][326 IAC 2-7-10.5(i)]

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

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

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

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

(b) If actual construction of the emissions units differs from the construction proposed in the application, the source may not begin operation until the source modification has been revised pursuant to 326 IAC 2-7-11 or 326 IAC 2-7-12 and an Operation Permit Validation Letter is issued.

(c) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.

(d) The Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.

(e) In the event that the Part 70 application is being processed at the same time as this application, the following additional procedures shall be followed for obtaining the right to operate:

(1) If the Part 70 draft permit has not gone on public notice, then the change/addition covered by the Significant Source Modification will be included in the Part 70 draft.

(2) If the Part 70 permit has gone through final EPA proposal and would be issued ahead of the Significant Source Modification, the Significant Source Modification will go through a concurrent 45 day EPA review. Then the Significant Source Modification will be incorporated into the final Part 70 permit at the time of issuance.

(3) If the Part 70 permit has gone through public notice, but has not gone through final EPA review and would be issued after the Significant Source Modification is issued, then the Modification would be added to the proposed Part 70 permit, and the Title V permit will issued after EPA review.

B.5 NSPS Reporting Requirement

Pursuant to the New Source Performance Standards (NSPS), 40 CFR 60, Subpart Db, the source owner/operator 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) Anticipated start-up date (not more than 60 days or less than 30 days prior to such date);

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

(d) 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 Data Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

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.

B.6 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314]

Notwithstanding the conditions of this permit that state specific methods that may be used to demonstrate compliance with, or a violation of, applicable requirements, any person (including the Permittee) may also use other credible evidence to demonstrate compliance with, or a violation of, any term or condition of this permit.

## SECTION C GENERAL OPERATION CONDITIONS

C.1 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

(a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification.

(c) A responsible official is defined at 326 IAC 2-7-1(34).

C.2 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) when operation begins, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

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

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

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

The PMP extension notification does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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

(c) A copy of the PMPs shall be submitted to IDEM, OAQ 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 contributes to any violation. The PMP does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(d) 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 the unit.

C.3 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

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

Any such application shall be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

(d) No permit amendment or modification is required for the addition, operation or removal of a nonroad engine, as defined in 40 CFR 89.2.

C.4 Opacity [326 IAC 5-1]

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

(a) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

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

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

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 Fugitive Dust Emissions [326 IAC 6-1-11.1]

Pursuant to 326 IAC 6-1-11.1 (Lake County Fugitive Particulate Matter Control Requirements), the particulate matter emissions from source wide activities shall meet the following requirements:

(a) The average instantaneous opacity of fugitive particulate emissions from a paved road shall not exceed ten percent (10%).

(b) The average instantaneous opacity of fugitive particulate emissions from an unpaved road shall not exceed ten percent (10%).

(c) The average instantaneous opacity of fugitive particulate emissions from batch transfer shall not exceed ten percent (10%).

(d) The opacity of fugitive particulate emissions from continuous transfer of material onto and out of storage piles shall not exceed ten percent (10%) on a three (3) minute average.

(e) The opacity of fugitive particulate emissions from storage piles shall not exceed ten percent (10%) on a six (6) minute average.

(f) There shall be a zero (0) percent frequency of visible emission observations of a material during the inplant transportation of material by truck or rail at any time.

(g) The opacity of fugitive particulate emissions from the inplant transportation of material by front end loaders and skip hoists shall not exceed ten percent (10%).

(h) There shall be a zero (0) percent frequency of visible emission observations from a building enclosing all or part of the material processing equipment, except from a vent in the building.

(i) The $PM_{10}$ emissions from building vents shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.

(j) The opacity of particulate emissions from dust handling equipment shall not exceed ten percent (10%).

(k) Any facility or operation not specified in 326 IAC 6-1-11.1(d) shall meet a twenty percent (20%), three (3) minute average opacity standard.

The Permittee shall achieve these limits by controlling fugitive particulate matter emissions according to the Fugitive Dust Control Plan.

C.7 Operation of Equipment [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule, or in this permit, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission unit vented to the control equipment is in operation.

C.8 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using good engineering practices (GEP) pursuant to 326 IAC 1-7-3.

**Testing Requirements [326 IAC 2-7-6(1)]**

C.9 Performance Testing [326 IAC 3-6][326 IAC 2-1.1-11]

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

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

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

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(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 source submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

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

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

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

**Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]**

C.11 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

If required by Section D, all monitoring and record keeping requirements shall be implemented when operation begins. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment.

C.12 Maintenance of Emission Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

(a) The Permittee shall install, calibrate, maintain, and operate all necessary continuous emission monitoring systems (CEMS) and related equipment.

(b) In the event that a breakdown of a continuous emission monitoring system occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem.

(c) Whenever a continuous emission monitor other than an opacity monitor is malfunctioning or will be down for calibration, maintenance, or repairs for a period of four (4) hours or more, a calibrated backup CEMS shall be brought online within four (4) hours of shutdown of the primary CEMS, and shall be operated until such time as the primary CEMS is back in operation.

(d) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to 40 CFR 60, Subpart Db.

C.13 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

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

**Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]**

C.14 Compliance Response Plan - Preparation, Implementation, Records, and Reports [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. If a Permittee is required to have an Operation, Maintenance and Monitoring (OMM) Plan or Parametric Monitoring Plan and Start-up, Shutdown, and Malfunction (SSM) Plan under 40 CFR 60/63, such plans shall be deemed to satisfy the requirements for a CRP for those compliance monitoring conditions. A CRP shall be submitted to IDEM, OAQ upon request. The CRP shall be

prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and comprised of:

(1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected timeframe for taking reasonable response steps.

(2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan or Operation, Maintenance and Monitoring (OMM) Plan or Parametric Monitoring Plan and Start-up, Shutdown, and Malfunction (SSM) Plan and the Permittee documents such response in accordance with subsection (e) below, the Permittee shall amend its Compliance Response Plan or Operation, Maintenance and Monitoring (OMM) Plan or Parametric Monitoring Plan and Start-up, Shutdown, and Malfunction (SSM) Plan to include such response steps taken.

The OMM Plan or Parametric Monitoring and SMM Plan shall be submitted within the time frames specified by the applicable 40 CFR60/63 requirement.

(b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:

(1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan or Operation, Maintenance and Monitoring (OMM) Plan or Parametric Monitoring Plan and Start-up, Shutdown, and Malfunction (SSM) Plan; or

(2) If none of the reasonable response steps listed in the Compliance Response Plan or Operation, Maintenance and Monitoring (OMM) Plan or Parametric Monitoring Plan and Start-up, Shutdown, and Malfunction (SSM) Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.

(3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, and it will be 10 days or more until the unit or device will be shut down, then the permittee shall promptly notify the IDEM, OAQ and OES of the expected date of the shut down, the status of the applicable compliance monitoring parameter with respect to normal, and the results of the actions taken up to the time of notification.

(4) Failure to take reasonable response steps shall be considered a deviation from the permit.

(e) The Permittee is not required to take any further response steps for any of the following reasons:

(1) A false reading occurs due to the malfunction of the monitoring equipment and prompt action was taken to correct the monitoring equipment.

(2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for a minor permit modification to the permit, and such request has not been denied.

(3) An automatic measurement was taken when the process was not operating.

(4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.

(d) When implementing reasonable steps in response to a compliance monitoring condition, if the Permittee determines that an exceedance of an emission limitation has occurred, the Permittee shall report such deviations pursuant to Section B-Deviations from Permit Requirements and Conditions.

(e) The Permittee shall record all instances when, in accordance with Section D, response steps are taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

(f) Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.

C.15 Emergency Provisions [326 IAC 2-7-16]

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

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

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

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

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

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

For IDEM, OAQ:
Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section), or
Telephone Number: 317-233-5674 (ask for Compliance Section)
Facsimile Number: 317-233-5967

For the Northwest Regional Office:
Telephone Number: 1-800-209-8892 or
Telephone Number: 219-881-6712
Facsimile Number: 219-881-6745

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

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

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

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

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

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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

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

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

(e) IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4-(c)() be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

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

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

C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

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

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.

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

The response action documents submitted pursuant to this condition do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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

C.17 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

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

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

C.18 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

(a) The 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, P. O. Box 6015
Indianapolis, Indiana 46206-6015

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

(d) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

**SECTION D.1 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]**:

(a) Two (2) natural gas fired boilers at the coke plant boiler house, identified as boiler No. 1 (CSS10155) and No. 2 (CSS20156), constructed prior to 1970, each with a maximum heat input capacity of 130 MMBtu/hr, and exhausting to stack CS6061.

(b) One (1) boiler at the coke plant boiler house, identified as boiler No. 3 (CSS30157), constructed in 1943, with a maximum heat input capacity of 156 MMBtu/hr, and exhausting to stack CS6062. This boiler is equipped to combust natural gas and/or coke oven gas.

(c) Two (2) boilers at the coke plant boiler house, identified as boiler No. 4 (CSS40158) and No. 5 (CSS50159), constructed prior to 1955, each with a maximum heat input capacity of 169 MMBtu/hr, and exhausting to stack CS6063. These boilers are equipped to combust natural gas and/or coke oven gas.

(d) One (1) boiler at the coke plant boiler house, identified as boiler No. 6 (CSS60160), constructed in 1955, with a maximum heat input capacity of 169 MMBtu/hr, and exhausting to stack CS6064. This boiler is equipped to combust natural gas and/or coke oven gas.

(e) One (1) boiler at the coke plant boiler house, identified as boiler No. 7 (CSS70161), constructed in 1976, with a maximum heat input capacity of 162 MMBtu/hr, and exhausting to stack CS6065. This boiler is equipped to combust natural gas and/or coke oven gas.

(f) One (1) boiler at the coke plant boiler house, identified as boiler No. 8 (CSS80162), constructed in 1981, with a maximum heat input capacity of 249 MMBtu/hr, and exhausting to stack CS6066. This boiler is equipped to combust natural gas and/or coke oven gas.

(g) One (1) natural gas fired boiler at the coke plant boiler house, identified as the temporary rental boiler (CSS80163), to be constructed in 2004, with a maximum heat input capacity of 235 MMBtu/hr and equipped with a low NOx burner, and exhausting to the existing stack CS6066.

(h) Two (2) boilers at the coke plant boiler house, identified as boilers No. 9 (CSS80164) and No. 10 (CSS80165), to be constructed in 2004, each with a maximum heat input capacity of 235 MMBtu/hr, and exhausting to stacks CS6067 and CS6068, respectively. These boilers are equipped to combust natural gas and/or coke oven gas.

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

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

D.1.1 Nonattainment NSR Minor Limits [326 IAC 2-1.1-5]

In order to make the requirements of 326 IAC 2-1.1-5 (Nonattainment NSR) not applicable, the Permittee shall comply with following requirements:

(a) The $NO_x$ emissions from each boilers No. 1 through No. 8 shall not exceed 280 pounds per million cubic feet (MMCF) of natural gas. (This is the $NO_x$ emission factor in AP-42, Table 1.4-1 for uncontrolled boilers.)

(b) The $NO_x$ emissions from the temporary rental boiler shall not exceed 36.0 pounds per million cubic feet (MMCF) of natural gas.

(c) The $NO_x$ emissions from each of the boilers No. 9 and No. 10 shall not exceed 129 pounds per million cubic feet (MMCF) of natural gas.

(d) The total $NO_x$ emissions from boilers No. 1 through No. 10 and the temporary rental boiler at the coke plant boiler house (CPBH) shall be limited to less than 64.6 tons per twelve (12) consecutive month period with compliance determined at the end of each month. The monthly $NO_x$ emissions shall be calculated using the following equation:

$NO_x$ Emissions (tons/month) = (280 X + 36 Y + 129 Z) / 2,000

Where:

X = total monthly natural gas usage in boilers No. 1 through No. 8 (MMCF/month)
Y = monthly natural gas usage in the temporary rental boiler (MMCF/month)
Z = total monthly natural gas usage in boilers No. 9 and No. 10 (MMCF/month)

Therefore, the net $NO_x$ emission increase from this modification is limited to less than 40 tons/yr and the requirements of 326 IAC 2-1.1-5 (Nonattainment NSR) are not applicable.

D.1.2 PSD Minor Limits [326 IAC 2-2]

In order to make the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall limit the total natural gas usage from boilers No. 1 though No. 10 and the temporary rental boiler to less than 2,550 MMCF per twelve (12) consecutive month period with compliance determined at the end of each month.

This is equivalent to 9.69 tons/yr of PM10 emissions and 107 tons/yr of CO emissions from boilers No. 1 through No. 10 and the temporary rental boiler. The net emission increases from this modification are limited to less than 15 tons/yr for PM10 and less than 100 tons/yr for CO. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable.

D.1.3 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR Part 60, Subpart A]

(a) The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to boilers No. 9, No. 10, and the temporary rental boiler at the coke plant boiler house, except when otherwise specified in 40 CFR Part 60, Subpart Db.

(b) Since boilers No. 9 and No. 10 shall use natural gas only pursuant to 326 IAC 7-4-1.1 (Lake County $SO_2$ Emission Limitations) and Condition D.1.6(b), the emission limitations and the compliance requirements for coke oven gas combustion at boilers No. 9 and No. 10 are not included in this permit. After receiving the rule variance from 326 IAC 7-4-1.1, the Permittee shall submit a significant permit application to include the specific requirements in this subpart for coke oven gas combustion.

D.1.4 NOx Emissions [326 IAC 12-1][40 CFR 60, Subpart Db]

(a) Pursuant to 40 CFR 60.44b(a), the NOx emissions from each of the boilers No. 9, No. 10, and the temporary rental boiler at the coke plant boiler house shall not exceed 0.2 lbs/MMBtu when combusting natural gas.

(b) Pursuant to 40 CFR 60.48b, the Permittee shall comply with one of the following monitoring conditions for boilers No. 9, No. 10, and the temporary rental boiler at the coke plant boiler house when combusting natural gas:

(1) Pursuant to 40 CFR 60.48b(b), the Permittee shall install, calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring nitrogen oxides emissions discharged to the atmosphere; or

(2) Pursuant to 40 CFR 60.48b(g)(2), the Permittee shall monitor the operating conditions for the affected boilers and predict nitrogen oxides emission rates as specified in a plan submitted pursuant to 40 CFR 60.49b(c).

D.1.5 PM and PM10 Limits [326 IAC 6-1-2] [326 IAC 6-1-10.1]

(a) Pursuant to 326 IAC 6-1-10.1(d)(36)(Lake County PM10 Emission Requirements), the PM10 emissions from boilers No. 1 through No. 8 shall not exceed the following limits:

| Unit | PM10 Emission Limit (lbs/MMBtu) | PM10 Emission Limit (lbs/hr) |
|---|---|---|
| Boiler No. 1 | 0.003 | 0.75 |
| Boiler No. 2 | 0.003 | |
| Boiler No. 3 | 0.012 | 1.80 |
| Boiler No. 4 | 0.012 | 3.90 |
| Boiler No. 5 | 0.012 | |
| Boiler No. 6 | 0.012 | 2.00 |
| Boiler No. 7 | 0.012 | 1.90 |
| Boiler No. 8 | 0.012 | 2.90 |

(b) Pursuant to 326 IAC 6-1-2(b)(3) (Nonattainment Area Particulate Limitations), particulate matter (PM) from each of boilers No. 9, No. 10, and the temporary rental boiler shall not exceed 0.01 grain per dry standard cubic foot (gr/dscf) of exhaust air.

D.1.6 Sulfur Dioxide Emission Limitations [326 IAC 7-4]

(a) Pursuant to the rule variance from 326 IAC 7-4-1.1(c)(22), issued on April 30, 2001 (the variance renewal expires on May 18, 2005), the Permittee shall comply with the following $SO_2$ emission limits for boilers No. 1 through No. 8 at the coke plant boiler house:

(1) The Permittee shall comply with the following $SO_2$ emission limits when the coke oven gas desulfurization facility is operating:

| Unit | $SO_2$ Emission Limit (lbs/MMBtu) | $SO_2$ Emission Limit (lbs/hr) |
|---|---|---|
| Boilers No. 1 and No. 2 | 0.0006 (each) | - |
| Boiler No. 3 | 0.26 | 40.6 |
| Boilers No. 4 and No. 5 | 0.26 | 87.9 (total) |
| Boiler No. 6 | 0.26 | 44.0 |
| Boiler No. 7 | 0.26 | 42.1 |
| Boiler No. 8 | 0.26 | 64.7 |

(2) The Permittee shall comply with the following $SO_2$ emission limits when the coke oven gas desulfurization facility is not operating:

| Unit | Condition (see note) | Season | $SO_2$ Emission Limit (lbs/MMBtu) | $SO_2$ Emission Limit (lbs/hr) |
|---|---|---|---|---|
| Boilers Nos. 1, 2, 3, and 7 | - | - | 0.0006 (each) | - |
| Boiler No. 6 | - | - | 1.27 | 214.6 |
| Boiler No. 8 | - | - | 1.27 | 316.2 |
| Boilers No. 4 and No. 5 | (1) - Yes<br>(2) - No | Jan - Apr<br>May - Oct<br>Nov & Dec | 1.130<br>1.183<br>0.905 | 382 (total)<br>400 (total)<br>306 (total) |
| | (1) - Yes<br>(2) - Yes | Jan - Apr<br>May - Oct<br>Nov & Dec | 0.592<br>1.095<br>0.716 | 200 (total)<br>370 (total)<br>242 (total) |
| | (1) - No<br>(2) - No | Jan - Apr<br>May - Oct<br>Nov & Dec | 0.512<br>1.139<br>0.704 | 173 (total)<br>385 (total)<br>238 (total) |
| | (1) - No<br>(2) - Yes | Jan - Apr<br>May - Oct<br>Nov & Dec | 0.638<br>1.139<br>0.639 | 231 (total)<br>385 (total)<br>216 (total) |

Note: (1) refers to when Blast Furnace No. 13 is combusting blast furnace gas.
(2) refers to when Turboblower Boiler Hose Boiler No. 4A or any Plate Mill Furnace is combusting coke oven gas.
"-" means no specific requirements.

(b) Pursuant to 326 IAC 7-4-1.1(a), boilers No. 9 and No. 10 shall combust natural gas only.

D.1.7 General Provisions Relating to NESHAP [326 IAC 20-1][40 CFR Part 63, Subpart A]

The provisions of 40 CFR 63 Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the affected source listed in Condition D.1.8, as designated by 40 CFR 63.7506(b), except when otherwise specified in 40 CFR Part 63, Subpart DDDDD.

D.1.8 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters [40 CFR Part 63, Subpart DDDDD]

Pursuant to National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters (40 CFR 63, Subpart DDDDD), the Permittee shall comply with the following:

(a) Boilers No. 1 through No. 8 at the coke plant boiler house comprise the affected source for the existing large gaseous fuel subcategory. Pursuant to 40 CFR 63.7506(b)(1) and 40 CFR 63.7545(b), these existing boilers shall submit a initial notification to IDEM, OAQ by March 12, 2005.

(b) The temporary rental boiler, boiler No. 9, and boiler No. 10 comprise the affected source for the new large gaseous fuel subcategory. Pursuant to 40 CFR 63.7500(a)(1), upon startup or by November 14, 2004, the CO emissions from each of these new boilers shall not exceed 400 ppm by volume on a dry basis corrected to 7 percent oxygen based on 30-day rolling average.

(c) The definitions of 40 CFR 63, Subpart DDDDD at 40 CFR 63.7575 are applicable to the affected sources.

(d) Pursuant to 40 CFR Part 63.7505(e), the Permittee shall develop and implement a written startup, shutdown and malfunction plan (SSMP) for the temporary rental boiler, boiler No. 9, and boiler No. 10 according to the provisions of 40 CFR Part 63.6(e)(3).

D.1.9 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for these facilities.

**Compliance Determination Requirements**

D.1.10 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11] [326 IAC 2-1.1-5] [40 CFR 60, Subpart Db] [40 CFR 63, Subpart DDDDD]

In order to demonstrate compliance with Conditions D.1.1, D.1.4(a), and D.1.8(b), the Permittee shall perform NOx and CO testing for boilers No. 9, No. 10, and the temporary rental boiler within 60 days after achieving the maximum production, but not later than 180 days after initial startup, utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with Section C - Performance Testing. Pursuant to 40 CFR 60.46b(e), the performance test requirements may be satisfied by using 30-day average emission rate data from NOx CEMs.

D.1.11 Sulfur Dioxide Emissions [326 IAC 7-4]

In order to demonstrate compliance with Condition D.1.6(a), the Permittee shall comply with the following:

(a) The $SO_2$ emissions shall be determined using a calendar day average $SO_2$ emission rate in lbs/MMBtu as calculated using the average daily sulfur content and heating value of the fuel as determined via a fuel sampling and analysis protocol approved by IDEM, OAQ.

(b) The fuel sampling and analysis protocol shall be prepared according to procedures in 326 IAC 3-3-5(a) and 326 IAC 7-4-1.1(d).

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.1.12 Continuous Emissions Monitoring [326 IAC 3-5] [326 IAC 12] [40 CFR 60, Subpart Db] [326 IAC 2-7-6(1),(6)] [40 CFR 63, Subpart DDDDD]

(a) In order to demonstrate compliance with Condition D.1.4 (b)(1), the Permittee shall install, calibrate, maintain, and operate a continuous monitoring system for boilers No. 9, No. 10, and the temporary rental boiler for measuring NOx emissions discharged to the atmosphere. The continuous monitoring system shall meet the performance specifications of 326 IAC 3-5-2, and 40 CFR 60.48(b), and 40 CFR 60.13(h). 326 IAC 3-5 is not federally enforceable.

(b) In order to demonstrate compliance with Condition D.1.8(b) and pursuant to 40 CFR 63.7525(a), the Permittee shall install, operate, and maintain a continuous emission monitoring system (CEMS) for carbon monoxide for the temporary rental boiler, boiler No. 9, and boiler No. 10. The continuous monitoring system shall meet the performance specification of 326 IAC 3-5-2 and 40 CFR 63.7525(a)(1) through (6). The requirements of 326 IAC 3-5 is not federally enforceable.

(c) The continuous monitors shall be operated according to Section C - Maintenance of Continuous Emission Monitoring Equipment. In the event that the nitrogen oxide continuous emissions monitor fails, the Permittee shall monitor the oxygen content and temperature once per hour. If the oxygen content or temperature is outside the range established in the latest compliance stack test, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

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

D.1.13 Record Keeping Requirements

(a) To document compliance with Conditions D.1.1(b), D.1.1(c), and D.1.4, the Permittee shall maintain records of the NOx emissions from boilers No. 9, No. 10, and the temporary rental boiler in accordance with 40 CFR 60.49b.

(b) To document compliance with Condition D.1.1(d), the Permittee shall maintain monthly records of the following:

(1) total natural gas usage for boilers No. 1 through No. 8;

(2) natural gas usage for the temporary rental boiler;

(3) total natural gas usage for boilers No. 9 and No. 10; and

(4) calculated NOx emissions using the equation listed in Condition D.1.1(d).

(c) To document compliance with Condition D.1.2, the Permittee shall maintain monthly records of the total natural gas usage for boilers No. 1 through No. 10 and the temporary rental boiler.

(d) To document compliance with Condition D.1.6(a), the Permittee shall maintain the following records for boilers No. 1 through No. 8:

(1) daily records of the total coke oven gas and natural gas usage;

(2) daily records of the average sulfur content and heating value for each fuel type used;

(3) calendar dates covered in the compliance determination period; and

(4) the operating scenario chosen.

(e) To document compliance with Conditions D.1.8(b), the Permittee shall maintain records of the CO CEM data for boilers No. 9, No. 10, and the temporary rental boiler in accordance with 40 CFR 63.7555(b).

(f) Pursuant to 40 CFR 63.7555(a)(1), the Permittee shall keep records of a copy of each notification and report to comply with 40 CFR Part 63, Subpart DDDDD, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report.

(g) Pursuant to 40 CFR 63.7555(a)(2), the Permittee shall keep records related to startup, shutdown and malfunction.

(h) To document compliance with Condition D.1.9, the Permittee shall maintain records of any additional inspections prescribed by the Preventive Maintenance Plan.

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

D.1.14 Reporting Requirements

(a) The natural gas boiler certification for boilers No. 3 through No. 10 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or its equivalent, within thirty (30) days after the end of the six (6) month period being reported. The natural gas-fired boiler

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

(b) A quarterly summary of the information to document compliance with Conditions D.1.1(d) and D.1.2 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee shall comply with the reporting requirements in 40 CFR 63.7550 for the temporary rental boiler, boiler No. 9, and boiler No. 10.

D.1.15 Requirement to Submit a Significant Permit Modification Application [326 IAC 2-7-12][326 IAC 2-7-5][40 CFR 60, Subpart Db]

The Permittee shall submit an application for a significant permit modification to IDEM, OAQ after receiving the rule variance from 326 IAC 7-4-1.1 for boilers No. 9 and No. 10 to include information regarding which compliance option or options will be chosen for boilers No. 9 and No. 10 when combusting coke oven gas.

(a) The significant permit modification application shall be consistent with 326 IAC 2-7-12, including information sufficient for IDEM, OAQ to incorporate into this permit the applicable requirements of 40 CFR 60, Subpart Db for boilers No. 9 and No. 10, and a description of how the Permittee will meet the applicable requirements of the standard.

(b) The significant permit modification application shall be submitted to:

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

(c) The Permittee shall comply with the reporting requirements in 40 CFR 63.7550 for the temporary rental boiler, boiler No. 9, and boiler No. 10.

D.1.16 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters - Notification Requirements [40 CFR 63, Subpart DDDDD]

(a) Pursuant to 40 CFR 63.7545(a) and 40 CFR 63.7506(b), the Permittee shall submit an Initial Notification containing the information specified in 40 CFR 63.9(b)(2) for boilers No. 1 through No. 8 not later than March 12, 2005, as required by 40 CFR 63.7545(b).

(b) Pursuant to 40 CFR 63.7545(c), the Permittee shall submit an Initial Notification no later than 120 days after the initial startup of the rental boiler, boiler No. 9, and boiler No. 10.

(c) The notification and reports required by paragraphs (a) and (b) shall be submitted to:

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

The notification requires the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY

## PART 70 SOURCE MODIFICATION CERTIFICATION

Source Name: U.S. Steel - Gary Works
Source Address: One North Broadway, Gary, Indiana 46402
Mailing Address: One North Broadway, Gary, Indiana 46402
Source Modification No.: 089-19678-00121

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

Please check what document is being certified:

Test Result (specify) _____

Report (specify) _____

Notification (specify) _____

Affidavit (specify) _____

Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

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

## PART 70 OPERATING PERMIT
## SEMI-ANNUAL NATURAL GAS FIRED BOILER CERTIFICATION

Source Name: U.S. Steel - Gary Works
Source Address: One North Broadway, Gary, Indiana 46402
Mailing Address: One North Broadway, Gary, Indiana 46402
Source Modification No.: 089-19678-00121

(Copy this form for each of the boilers No. 3 through No. 10)

| |
|---|
| Natural Gas Only<br>Alternate Fuel burned<br>From: _____ To: _____ |

| |
|---|
| I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. |
| Signature: |
| Printed Name: |
| Title/Position: |
| Phone: |
| Date: |

A certification by the responsible official as defined by 326 IAC 2-7-1(34) is required for this report.

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

## Part 70 Source Modification Quarterly Report

Source Name: U.S. Steel - Gary Works
Source Address: One North Broadway, Gary, Indiana 46402
Mailing Address: One North Broadway, Gary, Indiana 46402
Source Modification No.: 089-19678-00121
Facility: Boilers No. 1 through No. 10 and the temporary rental boiler at the coke plant boiler house
Parameter: Total NOx Emissions
Limit: Less than 64.6 tons per twelve (12) consecutive month period with compliance determined at the end of each month

$NO_x$ Emissions (tons/month) = (280 X + 36 Y + 129 Z) / 2,000

Where X = total monthly natural gas usage in boilers No. 1 through No. 8 (MMCF/month)
Y = monthly natural gas usage in the temporary rental boiler (MMCF/month)
Z = total monthly natural gas usage in boilers No. 9 and No. 10 (MMCF/month)

YEAR: _____

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

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
Deviation has been reported on: _____

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

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

## Part 70 Source Modification Quarterly Report

Source Name: U.S. Steel - Gary Works
Source Address: One North Broadway, Gary, Indiana 46402
Mailing Address: One North Broadway, Gary, Indiana 46402
Source Modification No.: 089-19678-00121
Facility: Boilers No. 1 through No. 10 and the temporary rental boiler at the coke plant boiler house
Parameter: Total Natural Gas Usage
Limit: Less than 2,550 MMCF per twelve (12) consecutive month period with compliance determined at the end of each month

YEAR: _____

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

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
Deviation has been reported on: _____

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

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**
**OFFICE OF AIR QUALITY**
**COMPLIANCE DATA SECTION**
**100 North Senate Avenue**
**P.O. Box 6015**
**Indianapolis, Indiana 46206-6015**
**Phone: 317-233-5674**
**Fax: 317-233-5967**

# PART 70 OPERATING PERMIT
# EMERGENCY OCCURRENCE REPORT

Source Name: U.S. Steel - Gary Works
Source Address: One North Broadway, Gary, Indiana 46402
Mailing Address: One North Broadway, Gary, Indiana 46402
Source Modification No.: 089-19678-00121

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

**9** This is an emergency as defined in 326 IAC 2-7-1(12)

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

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

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

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

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

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

A certification is not required for this report.

# Indiana Department of Environmental Management
# Office of Air Quality

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

**Source Background and Description**

| | |
|---|---|
| Source Name: | U. S. Steel - Gary Works |
| Source Location: | One North Broadway, Gary, Indiana 46402 |
| County: | Lake |
| SIC Code: | 3312 |
| Operation Permit No.: | T089-7663-00121 |
| Operation Permit Issuance Date: | Not issued yet |
| Significant Source Modification No.: | 089-19678-00121 |
| Permit Reviewer: | ERG/YC |

The Office of Air Quality (OAQ) has reviewed a modification application from U. S. Steel - Gary Works relating to the construction of the following emission units and pollution control devices:

(a) One (1) natural gas fired boiler at the coke plant boiler house, identified as the temporary rental boiler (CSS80163), to be constructed in 2004, with a maximum heat input capacity of 235 MMBtu/hr and equipped with a low NOx burner, and exhausting to the existing stack CS6066.

(b) Two (2) boilers at the coke plant boiler house, identified as boilers No. 9 (CSS80164) and No. 10 (CSS80165), to be constructed in 2004, each with a maximum heat input capacity of 235 MMBtu/hr, and exhausting to stacks CS6067 and CS6068, respectively. These boilers are equipped to combust natural gas and/or coke oven gas.

The source also requested to include a natural gas usage limit for the newly constructed units and the following existing units:

(a) Two (2) natural gas fired boilers at the coke plant boiler house, identified as boiler No. 1 (CSS10155) and No. 2 (CSS20156), constructed prior to 1970, each with a maximum heat input capacity of 130 MMBtu/hr, and exhausting to stack CS6061.

(b) One (1) boiler at the coke plant boiler house, identified as boiler No. 3 (CSS30157), constructed in 1943, with a maximum heat input capacity of 156 MMBtu/hr, and exhausting to stack CS6062. This boiler is equipped to combust natural gas and/or coke oven gas.

(c) Two (2) boilers at the coke plant boiler house, identified as boiler No. 4 (CSS40158) and No. 5 (CSS50159), constructed prior to 1955, each with a maximum heat input capacity of 169 MMBtu/hr, and exhausting to stack CS6063. These boilers are equipped to combust natural gas and/or coke oven gas.

(d) One (1) boiler at the coke plant boiler house, identified as boiler No. 6 (CSS60160), constructed in 1955, with a maximum heat input capacity of 169 MMBtu/hr, and

exhausting to stack CS6064. This boiler is equipped to combust natural gas and/or coke oven gas.

(e) One (1) boiler at the coke plant boiler house, identified as boiler No. 7 (CSS70161), constructed in 1976, with a maximum heat input capacity of 162 MMBtu/hr, and exhausting to stack CS6065. This boiler is equipped to combust natural gas and/or coke oven gas.

(f) One (1) boiler at the coke plant boiler house, identified as boiler No. 8 (CSS80162), constructed in 1981, with a maximum heat input capacity of 249 MMBtu/hr, and exhausting to stack CS6066. This boiler is equipped to combust natural gas and/or coke oven gas.

**History**

U.S. Steel - Gary Works is an existing steel mill and is an existing PSD, Emission Offset, and Nonattainment NSR major source. On July 12, 2004, U.S. Steel - Gary Works submitted an application to the OAQ requesting to construct and operate three (3) new boilers at the existing Coke Plant Boiler House (CPBH). Currently, there are eight (8) existing boilers operating at this boiler house. The Permittee stated that a recent inspection revealed that several of the existing boilers at CPBH will need to be repaired soon. Currently, the boilers at CPBH use either natural gas or coke oven gas as fuels. Coke oven gas is a waste gas generated from the coking process at this source and is otherwise flared or combusted by other existing units. The Permittee also requested to establish a total natural gas usage limit for all the boilers at the CPBH.

This modification is related to the installation of three (3) new boilers due to the repair of the existing units. Therefore, this modification will not result in debottlenecking of the existing steam generating process and will not result in increased utilization of the existing units. The Permittee submitted their Title V permit application on December 13, 1996. Their Title V permit (T089-7663-00121) is currently being drafted and has not yet been issued.

**Enforcement Issue**

There are no enforcement actions pending.

**Stack Summary**

| Stack ID | Operation | Height (feet) | Diameter (feet) | Flow Rate (acfm) | Temperature ($^0$F) |
|---|---|---|---|---|---|
| CS6066 | Boilers No. 8 and the temporary rental boiler | 309.5 | 10.0 | 273,000 | 333 |
| CS6067 | Boiler No. 9 | 200 | 9.25 | 99,519 | 360 |
| CS6068 | Boiler No. 10 | 200 | 9.25 | 99,519 | 360 |

**Recommendation**

The staff recommends to the Commissioner that the Part 70 Significant Source Modification be approved. This recommendation is based on the following facts and conditions:

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

An application for the purposes of this review was received on July 12, 2004. Additional information was received on July 22, 2004, July 26, 2004, July 30, 2004, August 9, 2004, September 3, 2004, September 8, 2004, and September 9, 2004.

**Emission Calculations**

See Appendix A of this document for detailed emissions calculations (Appendix A, pages 1 through 4).

**Potential To Emit of Modification**

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source 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."

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

| Pollutant | Potential To Emit (tons/year) |
|---|---|
| PM | 31.5 |
| PM10 | 24.3 |
| $SO_2$ | 305 |
| VOC | 16.5 |
| CO | 253 |
| $NO_x$ | 344 |

Note: This is the PTE of proposed boilers No. 9, No. 10, and the temporary rental boiler, and is the worst case scenario between combusting natural gas and coke oven gas.

**Justification for Modification**

This modification is being performed through a Part 70 Significant Source Modification because: (1) the potential to emit PM, $SO_2$, and NOx is each greater than 25 tons per year, pursuant to 326 IAC 2-7-10.5(f)(4); and (2) the potential to emit CO is greater than 100 tons per year, pursuant to 326 IAC 2-7-10.5(f)(7).

**County Attainment Status**

The source is located in Lake County.

| Pollutant | Status |
|---|---|
| PM10 | Attainment |
| $SO_2$ | Primary nonattainment |
| $NO_2$ | Attainment |
| 1-hour Ozone | Severe nonattainment |
| 8-hour Ozone | Moderate nonattainment |
| CO | Attainment |
| Lead | Attainment |

(a) 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.

(1) On January 26, 1996 in 40 CFR 52.777(i), the U.S. EPA granted a waiver of the requirements of Section 182(f) of the CAA for Lake and Porter Counties, including the lower NOx threshold for nonattainment new source review. Therefore, VOC emissions alone are considered when evaluating the rule applicability relating to the 1-hour ozone standards. Lake County has been designated as nonattainment in Indiana for the 1-hour ozone standard. Therefore, VOC emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

(2) VOC and NOx emissions are considered when evaluating the rule applicability relating to the 8-hour ozone standard. Lake County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for nonattainment new source review.

(b) Part of Lake County has been classified as nonattainment in Indiana for $SO_2$. Therefore, these emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

(c) Lake 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.

(d) Fugitive Emissions
Since this type of operation is in one of the 28 listed source categories under 326 IAC 2-2 or 2-3, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are counted toward determination of PSD and Emission Offset applicability.

**Actual Emissions**

The following table shows the actual emissions from the source. This information reflects the 2001 OAQ emission data:

| Pollutant | Emissions (tons/year) |
|---|---|
| PM | 2,207 |
| PM10 | 2,207 |
| $SO_2$ | 4,182 |
| VOC | 1,941 |
| CO | 68,687 |
| $NO_x$ | 5,343 |

**Potential to Emit of Modification After Issuance**

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

| | Potential to Emit (tons/year) | | | | | | |
|---|---|---|---|---|---|---|---|
| Process/facility | PM | PM-10 | $SO_2$ | VOC | CO | $NO_X$ | HAPs |
| PTE of boilers No. 1 through No. 10 and the temporary rental boiler while using NG | Less than 9.69 | Less than 9.69 | Less than 0.77 | Less than 7.01 | Less than 107 | Less than 64.6 | Negligible |

| | Potential to Emit (tons/year) | | | | | | |
|---|---|---|---|---|---|---|---|
| Process/facility | PM | PM-10 | $SO_2$ | VOC | CO | $NO_X$ | HAPs |
| Actual emissions from No. 1 through No. 8 while using NG* | (0.70) | (0.70) | (0.05) | (0.50) | (7.69) | (25.6) | (Negligible) |
| Net emission increase for boilers No. 3 through 10 while using coke oven gas** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total PTE of this Modification | Less than 8.99 | Less than 8.99 | Less than 0.72 | Less than 6.51 | Less than 99.3 | Less than 39.0 | Negligible |
| PSD and Nonattainment NSR Significant Thresholds | 25 | 15 | 40 | 25*** | 100 | 40 | NA |

Note: (*) This is the averaged emissions from boilers No. 1 through No. 8 (see page 3 of Appendix A). Boilers Nos. 9 and 10, and the temporary rental boiler have not been constructed yet and have no actual emissions.
(**) The coke oven gas generated from this source is currently combusted in the flares or some of the existing boilers. Therefore, there are no emission increases from the entire source when combusting more coke oven gas in the boilers, instead of in the flares.
(***) De minimis threshold.

This modification to an existing major stationary source is not major because the net emission increases of PM, PM10, $SO_2$, CO, and NOx are less than the Nonattainment NSR and PSD significant levels. Therefore, pursuant to 326 IAC 2-1.1-5 and 326 IAC 2-2, the Nonattainment NSR and PSD requirements do not apply.

This source is located in Lake County, which is a severe nonattainment area for the 1-hour ozone standard. The VOC emission increases at U.S. Steel - Gary Works during the five-year prior to and including 2004 were evaluated as follows:

| Project | PTE of VOC (tons/yr) |
|---|---|
| Tar Centrifuge Plant | 1.87 |
| BFG Burner Replacement for TBBH Boiler No. 6 (#089-10160-00121, issued 01/13/00) | 0.91 |
| Sinter Plant Burners/Coke Oven Battery Injection Jets (#089-12880-00121, issued 07/26/01) | 0.75 |
| Increasing Capacity for Boiler EGL-1 (#089-14424-00121, issued 08/02/01) | 0.072 |
| Revising NG Limits for Furnaces (#089-14988-00121, issued on 07/19/02) | 0.42 |
| EGL Boiler Modifications (#089-15694-00121, issued on 8/21/02) | 0.54 |
| Brandenburg Blast and Paint Booths (#089-16450-00176, issued on 12/31/03) | 0.12 |
| Addition of Three (3) New Boilers at Coke Plant Boiler House (this modification) | 6.51 |
| Net Emission Increase | 11.2 |

The net VOC emission increase over the past five (5) years is less than the de minimis level of 25 tons/yr. Therefore, the requirements of 326 IAC 2-3 (Emission Offset) are not applicable.

**Federal Rule Applicability**

(a) Each of the existing boilers at the coke plant boiler house (boilers No.1 through No. 8) has a maximum heat input capacity greater than 100 MMBtu/hr, but was constructed before June 19, 1984. Therefore, the New Source Performance Standards for Industrial-Commercial-Institutional Steam Generating Units (326 IAC 12, 40 CFR 60.40b-49b, Subpart Db) are not included for boilers No. 1 through No. 8.

(b) Each of the proposed boilers No. 9, No. 10, and the temporary rental boiler has a maximum heat input capacity greater than 100 MMBtu/hr, and will be constructed after June 19, 1984. Therefore, these boilers are subject to the New Source Performance Standards for Industrial-Commercial-Institutional Steam Generating Units (326 IAC 12, 40 CFR 60.40b-49b, Subpart Db).

Pursuant to 326 IAC 7-4-1.1 (Lake County $SO_2$ Emission Limitations), boilers No. 9 and No. 10 shall combust natural gas only (see the discussion of State Rule Applicability for 326 IAC 7-4-1.1). Currently, the Permittee is applying for a rule variance from 326 IAC 7-4-1.1 to use coke oven gas at boilers No. 9 and No. 10 and this rule variance is pending during the review of this modification. Therefore, the Permittee shall only combust natural gas at boilers No. 9 and No. 10 before receiving the rule variance. When combusting natural gas, there are no applicable $SO_2$ and PM emission limits for boilers No. 9, No. 10, and the temporary rental boiler in 40 CFR 60, Subpart Db.

According to the information submitted by the source on July 30, 2004, the volume of the temporary rental boiler is 2,362 cubic feet, and the volume for each of the boilers No. 9 and No. 10 is 2,562 cubic feet. According to the definition in 40 CFR 60.41b, the heat release rates for these boilers are calculated as follows:

For the temporary rental boiler, the heat release rate =
235 MMBtu/hr / 2,362 $ft^3$ x 1,000,000 Btu/MMBtu = 99,492 Btu/(hr-$ft^3$)

For each of the No. 9 and No. 10 boilers, the heat release rate =
235 MMBtu/hr / 2,562 $ft^3$ x 1,000,000 Btu/MMBtu = 91,725 Btu/(hr-$ft^3$)

Since the heat release rate for these three boilers are greater than 70,000 Btu/(hr-$ft^3$), these three boilers are considered high heat release rate boilers, based on the definition in 40 CFR 60.41b. Pursuant to 40 CFR 60.44b(a), the NOx emissions from each of boilers No. 9, No. 10, and the temporary rental boiler (high heat release rate units) shall not exceed 0.2 lbs/MMBtu when combusting natural gas.

Since each of the boilers No. 9, No. 10, and the temporary rental boiler has a maximum heat input capacity less than 250 MMBtu/hr and uses natural gas as fuel, the Permittee shall comply with one of the following monitoring requirements for these units:

(1) Pursuant to 40 CFR 60.48b(b), except for 40 CFR 60.48(b)(g), (h), and (i), the Permittee shall install, calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring nitrogen oxides emissions discharged to the atmosphere.

(2) Pursuant to 40 CFR 60.48b(g)(2), the Permittee shall monitor the operating conditions for the affected boilers and predict nitrogen oxides emission rates as specified in a plan submitted pursuant to 40 CFR 60.49b(c).

The Permittee is also required to comply with the NOx testing requirements in 40 CFR 60.46b and the reporting and recordkeeping requirements in 40 CFR 60.49b for boilers No. 9, No. 10, and the temporary rental boiler.

According to the EPA NSPS determination letter from Ms. Beverly H. Banister to Mr. Scott Gibbs on September 12, 2003, coke oven gas is considered equivalent to coal under NSPS, Subpart Db because coke oven gas is a coal-derived synthetic fuel, which meets the definition of coal in 40 CFR 60.41b. Therefore, the requirements for coal fired units in this subpart are applicable to boilers No. 9 and No. 10 while combusting coke oven gas.

Since boilers No. 9 and No. 10 shall use natural gas only before receiving the rule variance from 326 IAC 7-4-1.1(Lake County $SO_2$ Emission Limitations), the specific details of 40 CFR 60, Subpart Db requirements for coke oven gas combustion and how the Permittee will demonstrate compliance with these limits while combusting coke oven gas are not specified in the permit. After receiving the rule variance, the Permittee shall submit an application for a significant permit modification that will specify the methods for determining compliance chosen by the Permittee. At that time, IDEM, OAQ will include the specific details of the rule and how the Permittee will demonstrate compliance.

(c) This existing steel mill is a major source for HAPs. Therefore, all the boilers at this coke plant boiler house are subject to the National Emission Standards for Hazardous Air Pollutants - Industrial/Commercial/Institutional Boilers and Process Heaters (40 CFR 63.7480-63.7575, Subpart DDDDD).

The existing boilers No. 1 through No. 8 at the coke plant boiler house, which were constructed before January 13, 2003, comprise one existing affected source for the large gaseous fuel subcategory, as defined by 40 CFR 63.7506(b), because they meet the criteria in the definition in 40 CFR 63.7575 for the large gaseous fuel subcategory.

When combusting natural gas, the proposed boilers No. 9, No. 10, and the temporary rental boiler belong to the large gaseous fuel subcategory as defined in 40 CFR 63.7575. The construction of the boilers No. 9, No. 10, and the temporary rental boiler is not considered reconstruction (as defined in 40 CFR 63.2) of the existing large gaseous fuel subcategory because the cost of construction for boilers No. 9, No. 10, and the temporary rental boiler does not exceed 50 percent of the fixed capital cost that would be required to construct all the existing gas fired boilers at the coke plant boiler house. Therefore, the existing boilers No. 1 through No. 8 and the new boilers No. 9, No. 10, and the temporary rental boiler are subject to the requirements for the existing large gaseous fuel subcategory in 40 CFR 63, Subpart DDDDD.

The provisions of 40 CFR 63 Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the affected source after the effective date of 40 CFR 63, Subpart DDDDD, except when otherwise specified in 40 CFR 63 Subpart DDDDD. This rule is not yet published in the Federal Register. A copy of the signed, final rule is available at http://www.epa.gov/ttn/atw/boiler/boilerpg.html.

Pursuant to 40 CFR 63.7506(b), the only requirements that apply to the existing affected source for the large gaseous fuel subcategory are the initial notification requirements in 40 CFR 63.9(b). The Permittee shall submit an Initial Notification containing the information specified in 40 CFR 63.9(b)(2) not later than 120 days after the date of publication of the final rule for 40 CFR 63, Subpart DDDDD in the Federal Register, as required by 40 CFR 63.7545(b).

(d) This modification does not involve a pollutant-specific emissions unit as defined in 40 CFR 64.1:

(1) With the potential to emit before controls equal to or greater than the major source threshold;

(2) That is subject to an emission limitation or standard; and

(3) Uses a control device as defined in 40 CFR 64.1 to comply with that emission limitation or standard.

Therefore, the requirements of 40 CFR 64 (Compliance Assurance Monitoring) are not applicable.

**State Rule Applicability - Boilers No. 1 through No. 10 and the Temporary Rental Boiler at the Coke Plant Boiler House (CPBH)**

326 IAC 2-3 (Emission Offset) and 326 IAC 2-1.1-5 (Nonattainment NSR)

This source is located in Lake County, which has been designated as a severe nonattainment area for 1-hour ozone standard, a moderate nonattainment area for 8-hour ozone standard, and a primary nonattainment area for $SO_2$. This source is an existing Emission Offset major source. The potential to emit $SO_2$ of this modification is less than 40 tons/yr, and the potential to emit VOC is less than the de minimis threshold of 25 tons/yr. Therefore, the requirements of 326 IAC 2-3 (Emission Offset) are not applicable.

The potential to emit $NO_x$ from this modification is greater than 40 tons/yr. In order to limit the potential to emit $NO_x$ from this modification to less than 40 tons/yr, the Permittee shall comply with the following:

(a) The $NO_x$ emissions from each boilers No. 1 through No. 8 shall not exceed 280 pounds per million cubic feet (MMCF) of natural gas. (This is the $NO_x$ emission factor in AP-42, Table 1.4-1 for uncontrolled boilers.)

(b) The $NO_x$ emissions from the temporary rental boiler shall not exceed 36.0 pounds per million cubic feet (MMCF) of natural gas.

(c) The $NO_x$ emissions from each of the boilers No. 9 and No. 10 shall not exceed 129 pounds per million cubic feet (MMCF) of natural gas.

(d) The total $NO_x$ emissions from boilers No. 1 through No. 10 and the temporary rental boiler at the coke plant boiler house shall be limited to less than 64.6 tons per twelve (12) consecutive month period with compliance determined at the end of each month. The monthly $NO_x$ emissions shall be calculated using the following equation:

$NO_x$ Emissions (tons/month) = (280 X + 36 Y + 129 Z) / 2,000

Where

X = total monthly natural gas usage in boilers No. 1 through No. 8 (MMCF/month)
Y = monthly natural gas usage in the temporary rental boiler (MMCF/month)
Z = total monthly natural gas usage in boilers No. 9 and No.10 (MMCF/month)

Since the actual NOx emissions from boilers No. 1 through No. 8 are 25.6 tons/yr, the net $NO_x$ emission increase from this modification is limited to less than 40 tons/yr. Therefore, the requirements of 326 IAC 2-1.1-5 (Nonattainment NSR) are not applicable.

326 IAC 2-2 (PSD)

This source is an existing PSD major source. The potential to emit PM from this modification is less than 25 tons/yr. However, the potential to emit PM10 from this modification is greater than 15 tons/yr and the potential to emit CO from this modification is greater than 100 tons/yr. In order to make this modification minor under PSD, the total natural gas usage from boilers No. 1 through No. 10 and the temporary rental boiler shall not exceed 2,550 MMCF per twelve (12) consecutive month period with compliance determined at the end of each month.

Using the emission factors in AP-42, this is equivalent to 9.69 tons/yr of PM10 emissions and 107 tons/yr of CO emissions from boilers No. 1 through No. 10 and the temporary rental boiler. The actual PM10 emissions are 0.70 tons/yr and the actual CO emissions are 7.69 tons/yr. Therefore, the net emission increases from this modification are limited to less than 15 tons/yr for PM10 and less than 100 tons/yr for CO. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable.

326 IAC 2-4.1-1 (New Sources of Hazardous Air Pollutants)

The potential to emit HAP of this modification is less than 10 tons/yr for a single HAP and less than 25 tons/yr for total HAPs. Therefore, the requirements of 326 IAC 2-4.1 (MACT) are not applicable to this modification.

326 IAC 5-1 (Opacity Limitations)

This source is located in Lake County. 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 twenty percent (20%) 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 6-1-10.1 (Lake County PM10 Emission Requirements)

This source in located in Lake County and the existing boilers No. 1 through No. 8 at the coke plant boiler house are specifically listed under 326 IAC 6-1-10.1(d). Pursuant to 326 IAC 6-1-10.1 (d)(36), the PM10 emissions from boilers No. 1 through No. 8 shall not exceed the following limits:

| Unit | PM10 Emission Limit (lbs/MMBtu) | PM10 Emission Limit (lbs/hr) |
|---|---|---|
| Boiler No. 1 | 0.003 | 0.75 |
| Boiler No. 2 | 0.003 | |
| Boiler No. 3 | 0.012 | 1.80 |
| Boiler No. 4 | 0.012 | 3.90 |
| Boiler No. 5 | 0.012 | |
| Boiler No. 6 | 0.012 | 2.00 |
| Boiler No. 7 | 0.012 | 1.90 |
| Boiler No. 8 | 0.012 | 2.90 |

326 IAC 6-1-2 (Nonattainment Area Particulate Limitations)

This source is located in Lake County and boilers No. 9, No. 10, and the temporary rental boiler are not specifically listed in Sections 326 IAC 6-1-8.1 through 326 IAC 6-1-18. The potential to emit PM of this source is greater than 100 tons/yr. Therefore, these boilers are subject to the requirements of 326 IAC 6-1-2. Pursuant to 326 IAC 6-1-2(b)(3), particulate matter (PM) from each of boilers No. 9, No. 10, and the temporary rental boiler shall not exceed 0.01 grain per dry standard cubic foot (gr/dscf) of exhaust air.

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

Since boilers No. 1 through 10 and the temporary rental boiler are subject to the emission

limitations in 326 IAC 6-1, the requirements of 326 IAC 6-2 are not applicable to these boilers, pursuant to 326 IAC 6-2-1(e).

326 IAC 7-4-1.1 (Lake County Sulfur Dioxide Emission Limitations)

(a) Pursuant to 326 IAC 7-4-1.1(c)(22)(D), the existing boilers No. 1 through No. 8 at the coke plant boiler house shall comply with the following specific $SO_2$ emission limits:

| Unit | $SO_2$ Emission Limit (lbs/MMBtu) |
|---|---|
| Boiler No. 1 | Use Natural Gas Only |
| Boiler No. 2 | Use Natural Gas Only |
| Boiler No. 3 | 1.20 |
| Boiler No. 4 | 1.20 |
| Boiler No. 5 | 1.20 |
| Boiler No. 6 | 1.20 |
| Boiler No. 7 | 1.07 |
| Boiler No. 8 | 1.07 |

However, the Permittee has received a rule variance from 326 IAC 7-4-1.1(c)(22) on April 30, 2001. This variance has been extended annually and the new expiration date is May 18, 2005. According to this variance, the Permittee shall comply with the following $SO_2$ emission limits for boilers No. 1 through No. 8 at the coke plant boiler house:

(1) The Permittee shall comply with the following $SO_2$ emission limits when the coke oven gas desulfurization facility is operating:

| Unit | $SO_2$ Emission Limit (lbs/MMBtu) | $SO_2$ Emission Limit (lbs/hr) |
|---|---|---|
| Boilers No. 1 and No. 2 | 0.0006 (each) | - |
| Boiler No. 3 | 0.26 | 40.6 |
| Boilers No. 4 and No. 5 | 0.26 | 87.9 (total) |
| Boiler No. 6 | 0.26 | 44.0 |
| Boiler No. 7 | 0.26 | 42.1 |
| Boiler No. 8 | 0.26 | 64.7 |

(2) The Permittee shall comply with the following $SO_2$ emission limits when the coke oven gas desulfurization facility is not operating:

| Unit | Condition (see note) | Season | $SO_2$ Emission Limit (lbs/MMBtu) | $SO_2$ Emission Limit (lbs/hr) |
|---|---|---|---|---|
| Boilers Nos. 1, 2, 3, and 7 | - | - | 0.0006 (each) | - |
| Boiler No. 6 | - | - | 1.27 | 214.6 |
| Boiler No. 8 | - | - | 1.27 | 316.2 |
| Boilers No. 4 and No. 5 | (1) - Yes<br>(2) - No | Jan - Apr<br>May - Oct<br>Nov & Dec | 1.130<br>1.183<br>0.905 | 382 (total)<br>400 (total)<br>306 (total) |

| Unit | Condition (see note) | Season | $SO_2$ Emission Limit (lbs/MMBtu) | $SO_2$ Emission Limit (lbs/hr) |
|---|---|---|---|---|
| | (1) - Yes<br>(2) - Yes | Jan - Apr<br>May - Oct<br>Nov & Dec | 0.592<br>1.095<br>0.716 | 200 (total)<br>370 (total)<br>242 (total) |
| | (1) - No<br>(2) - No | Jan - Apr<br>May - Oct<br>Nov & Dec | 0.512<br>1.139<br>0.704 | 173 (total)<br>385 (total)<br>238 (total) |
| | (1) - No<br>(2) - Yes | Jan - Apr<br>May - Oct<br>Nov & Dec | 0.638<br>1.139<br>0.639 | 231 (total)<br>385 (total)<br>216 (total) |

Note: (1) refers to when Blast Furnace No. 13 is combusting blast furnace gas.
(2) refers to when Turboblower Boiler Hose Boiler No. 4A or any Plate Mill Furnace is combusting coke oven gas.
"-" means no specific requirements.

Compliance with the $SO_2$ emission limits shall be demonstrated with fuel sampling and analysis protocol approved by IDEM, OAQ.

(b) U.S. Steel - Gary Works is a source specifically listed in 326 IAC 7-4-1.1(c). However, the proposed new boilers are not specifically listed in 326 IAC 7-4-1.1(c). The temporary rental boiler, which uses natural gas only, has a potential to emit $SO_2$ of less than 25 tons/yr. Therefore, the requirements of 326 IAC 7-4-1.1 are not applicable to the proposed the temporary rental boiler.

Boilers No. 9 and No. 10 have a potential to emit $SO_2$ greater than 25 tons/yr. Pursuant to 326 IAC 7-4-1.1(a), these boilers shall combust natural gas only. In order to combust coke oven gas generated from this source in these boilers, the Permittee submitted a letter on August 23, 2004 to request a rule variance from 326 IAC 7-4-1.1 for boilers No. 9 and No. 10 at the CPBH. This variance is currently being reviewed by IDEM. The Permittee shall use natural gas only in boilers No. 9 and No. 10 until the approval of rule variance. The source may combust coke oven gas in boilers No. 9 and No. 10 after receiving the rule variance and shall comply with the limitations specified in the rule variance received.

326 IAC 3-5 (Continuous Monitoring)

If the Permittee elects to comply with the NOx emission requirements in 40 CFR 60, Subpart Db for boilers No. 9, No. 10, and the temporary rental boiler by installing a NOx continuous emission monitoring systems (CEMs), the equipped CEM shall meet the performance specifications of 326 IAC 3-5-2.

326 IAC 8-1-6 (Volatile Organic Compounds Limitations - BACT)

Each of the boilers No. 1 through No. 10 and the temporary rental boiler has potential VOC emissions less than 25 tons/yr. Therefore, the requirements of 326 IAC 8-1-6 (BACT) are not applicable.

326 IAC 10-4 ($NO_x$ Budget Trading Program)

Each of boilers No. 1 through No. 10 and the temporary rental boiler at the coke plant boiler house has a maximum heat input capacity less than 250 MMBtu/hr. Therefore, none of these boilers is a "large affected unit" as defined in 326 IAC 10-4-2(27) and the requirements of 326 IAC 10-4 ($NO_x$ Budget Trading Program) are not applicable.

**Testing Requirements**

In order to comply with the NOx emission limits for boilers No. 9, No. 10, and the temporary rental boiler and to comply with the requirements of 40 CFR 60, Subpart Db, the Permittee shall conduct initial performance tests for NOx emissions for boilers No. 9, No. 10, and the temporary

rental boiler at the coke plant boiler house within 60 days after achieving the maximum production, but not later than 180 days after initial startup, pursuant to 40 CFR 60.46b(c).

Pursuant to 40 CFR 60.46b(e), the performance test requirements may be satisfied by using 30-day average emission rate data from NOx CEMs.

**Compliance Requirements**

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

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

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

1. The existing boilers No. 1 through No. 8 at the coke plant boiler house combust natural gas or coke oven gas. The PM/PM10 emissions from combusting coke oven gas are less than the PM/PM10 emissions from combusting natural gas. In addition, these boilers are not subject to 40 CFR 60, Subpart Db. Therefore, there are no specific applicable compliance monitoring requirements for these units.

2. The proposed new boilers No. 9, No. 10, and the temporary rental boiler at the coke plant boiler house have the following applicable compliance monitoring requirements:

    (a) If the Permittee elects to comply with 40 CFR 60.48b by NOx Continuous Emission Monitor (CEM) systems, the Permittee shall install, calibrate, maintain, and operate a NOx CEM for boilers No. 9, No.10, and the temporary rental boiler. The continuous monitoring systems shall meet the performance specifications of 326 IAC 3-5-2 and 40 CFR 60.13(h). 326 IAC 3-5 is not federally enforceable.

    (b) The continuous monitors shall be operated according to Section C - Maintenance of Continuous Emission Monitoring Equipment. In the event that the nitrogen oxide continuous emissions monitor fails, the Permittee shall monitor the oxygen content and temperature once per hour. If the oxygen content or temperature is outside the range established in the latest compliance stack test, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

    These monitoring conditions are necessary because the continuous emission monitoring systems must operate properly to ensure compliance with 40 CFR 60, Subpart Db.

## Conclusion

The construction and operation of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification 089-19678-00121.

# Indiana Department of Environmental Management
# Office of Air Quality

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

**Source Background and Description**

| | |
|---|---|
| Source Name: | U. S. Steel - Gary Works |
| Source Location: | One North Broadway, Gary, Indiana 46402 |
| County: | Lake |
| SIC Code: | 3312 |
| Operation Permit No.: | T089-7663-00121 |
| Operation Permit Issuance Date: | Not issued yet |
| Significant Source Modification No.: | 089-19678-00121 |
| Permit Reviewer: | ERG/YC |

On September 26, 2004, the Office of Air Quality (OAQ) had a notice published in the Times, Gary, Indiana, stating that U.S. Steel - Gary Works had applied for a Part 70 Significant Source Modification to construct and operate three (3) boilers. 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.

Upon further review, the OAQ has decided to make the following revisions to the permit (bolded language has been added, the language with a line through it has been deleted). The Table of Contents has been updated as necessary.

1. The final rule for the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters (40 CFR 63, Subpart DDDDD) was published in the Federal Register on September 13, 2004. Therefore, the specific compliance date for this NESHAP has been added to the permit. Pursuant to 40 CFR 63.7545(b), the Permittee shall submit the initial notification for the existing boilers (Boilers No.1 through 8) by March 12, 2005.

   The discussion for the 40 CFR 63, Subpart DDDDD applicability for the proposed new boilers in the Technical Support Document is incorrect. The proposed temporary rental boiler and the proposed boilers No. 9 and No. 10 shall be considered new affected units under this subpart and shall comply with this NESHAP by November 14, 2004 or upon startup of these boilers, pursuant to 40 CFR 60.7495(a). The applicable requirements in 40 CFR 63, Subpart DDDDD for these new boilers include, but are not limited to, the following:

   (a) Pursuant to 40 CFR 63.7500(a)(1), the CO emission from each of the rental boiler, boiler No. 9, and boiler No. 10 shall not exceed 400 ppm by volume on a dry basis corrected to 7 percent oxygen based on 30-day rolling average.

   (b) Pursuant to 40 CFR 63.7510(g), the Permittee must demonstrate initial compliance with the promulgated emission limits and work practice standards no later than 180 days after startup of these units.

   (c) Pursuant 40 CFR Part 63.7505(e), the Permittee shall develop and implement a written startup, shutdown and malfunction plan (SSMP) for the temporary rental boiler, boiler No. 9, and boiler No. 10 according to the provisions of 40 CFR Part 63.6(e)(3).

(d) Pursuant to 40 CFR 63.7525(a), the Permittee shall install, operate, and maintain a continuous emission monitoring system (CEMS) for carbon monoxide according to the procedures in 40 CFR 63.7525(a)(1) through (6).

(e) The Permittee shall maintain records of the CO CEM data for boilers No. 9, No. 10, and the temporary rental boiler in accordance with 40 CFR 63.7555(b).

(f) The Permittee shall comply with the notification requirements in 40 CFR 63.7545 and the reporting requirements in 40 CFR 63.7550 for the temporary rental boiler, boiler No. 9, and boiler No. 10.

The permit conditions in Section D.1 have been revised as follows to include these specific NESHAP requirements for the rental boiler and boilers No. 1 through No. 10.

D.1.7 General Provisions Relating to NESHAP [326 IAC 20-1][40 CFR Part 63, Subpart A]

The provisions of 40 CFR 63 Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the affected source **listed in Condition D.1.8**, as designated by 40 CFR 63.7506(b)**, except when otherwise specified in 40 CFR Part 63, Subpart DDDDD**. ~~The Permittee must comply with these requirements on and after the date of publication of the final rule for 40 CFR 63, Subpart DDDDD in the Federal Register~~.

D.1.8 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters [40 CFR Part 63, Subpart DDDDD]

**Pursuant to National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters (40 CFR 63, Subpart DDDDD), the Permittee shall comply with the following:**

**(a) Boilers No. 1 through No. 8 at the coke plant boiler house comprise the affected source for the existing large gaseous fuel subcategory. Pursuant to 40 CFR 63.7506(b)(1) and 40 CFR 63.7545(b), these existing boilers shall submit a initial notification to IDEM, OAQ by March 12, 2005.**

**(b) The temporary rental boiler, boiler No. 9, and boiler No. 10 comprise the affected source for the new large gaseous fuel subcategory. Pursuant to 40 CFR 63.7500(a)(1), upon startup or by November 14, 2004, the CO emissions from each of these new boilers shall not exceed 400 ppm by volume on a dry basis corrected to 7 percent oxygen based on 30-day rolling average.**

~~(a) The affected source is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, (40 CFR 63, Subpart DDDDD), as of the effective date of 40 CFR 63, Subpart DDDDD. Pursuant to this rule, the Permittee must comply with 40 CFR 63, Subpart DDDDD on and after three years after the date of publication of the final rule for 40 CFR 63, Subpart DDDDD in the Federal Register.~~

~~(b) Boilers No.1 through 10 and the temporary rental boiler at the coke plant boiler house comprise the affected source for the large gaseous fuel subcategory.~~

(c) The definitions of 40 CFR 63, Subpart DDDDD at 40 CFR 63.7575 are applicable to the affected sources.

**(d) Pursuant to 40 CFR Part 63.7505(e), the Permittee shall develop and implement a written startup, shutdown and malfunction plan (SSMP) for the temporary rental boiler, boiler No. 9, and boiler No. 10 according to the provisions of 40 CFR Part 63.6(e)(3).**

D.1.10 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11] [326 IAC 2-1.1-5] [40 CFR 60, Subpart Db] **[40 CFR 63, Subpart DDDDD]**

In order to demonstrate compliance with Conditions D.1.1**,** ~~and~~ D.1.4(a)**, and D.1.8(b)**, the Permittee shall perform NOx **and CO** testing for boilers No. 9, No. 10, and the temporary rental boiler within 60 days after achieving the maximum production, but not later than 180 days after initial startup, utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with Section C - Performance Testing. Pursuant to 40 CFR 60.46b(e), the performance test requirements may be satisfied by using 30-day average emission rate data from NOx CEMs.

D.1.12 Continuous Emissions Monitoring [326 IAC 3-5] [326 IAC 12] [40 CFR 60, Subpart Db] [326 IAC 2-7-6(1),(6)] **[40 CFR 63, Subpart DDDDD]**

(a) In order to demonstrate compliance with Condition D.1.4 (b)(1), the Permittee shall install, calibrate, maintain, and operate a continuous monitoring system for boilers No. 9, No. 10, and the temporary rental boiler for measuring NOx emissions discharged to the atmosphere. The continuous monitoring system shall meet the performance specifications of 326 IAC 3-5-2, and 40 CFR 60.48(b), and 40 CFR 60.13(h). 326 IAC 3-5 is not federally enforceable.

**(b) In order to demonstrate compliance with Condition D.1.8(b) and pursuant to 40 CFR 63.7525(a), the Permittee shall install, operate, and maintain a continuous emission monitoring system (CEMS) for carbon monoxide for the temporary rental boiler, boiler No. 9, and boiler No. 10. The continuous monitoring system shall meet the performance specification of 326 IAC 3-5-2 and 40 CFR 63.7525(a)(1) through (6). The requirements of 326 IAC 3-5 is not federally enforceable.**

(~~b~~**c**) The continuous monitors shall be operated according to Section C - Maintenance of Continuous Emission Monitoring Equipment. In the event that the nitrogen oxide continuous emissions monitor fails, the Permittee shall monitor the oxygen content and temperature once per hour. If the oxygen content or temperature is outside the range established in the latest compliance stack test, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

D.1.13 Record Keeping Requirements

. . . .

**(e) To document compliance with Conditions D.1.8(b), the Permittee shall maintain records of the CO CEM data for boilers No. 9, No. 10, and the temporary rental boiler in accordance with 40 CFR 63.7555(b).**

**(f) Pursuant to 40 CFR 63.7555(a)(1), the Permittee shall keep records of a copy of each notification and report to comply with 40 CFR Part 63, Subpart DDDDD, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report.**

**(g) Pursuant to 40 CFR 63.7555(a)(2), the Permittee shall keep records related to startup, shutdown and malfunction.**

(~~c~~**h**) To document compliance with Condition D.1.9, the Permittee shall maintain records of any additional inspections prescribed by the Preventive Maintenance Plan.

(~~f~~**i**) All records shall be maintained in accordance with Section C - General Record Keeping Requirements of this permit.

D.1.14 Reporting Requirements

.....

**(c) The Permittee shall comply with the reporting requirements in 40 CFR 63.7550 for the temporary rental boiler, boiler No. 9, and boiler No. 10.**

D.1.16 National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters - Notification Requirements [40 CFR 63, Subpart DDDDD]

(a) Pursuant to 40 CFR 63.7545(a) and 40 CFR 63.7506(b), the Permittee shall submit an Initial Notification containing the information specified in 40 CFR 63.9(b)(2) **for boilers No. 1 through No. 8** not later than **March 12, 2005**~~120 days after the date of publication of the final rule for 40 CFR 63, Subpart DDDDD in the Federal Register~~, as required by 40 CFR 63.7545(b).

**(b) Pursuant to 40 CFR 63.7545(c), the Permittee shall submit an Initial Notification no later than 120 days after the initial startup of the rental boiler, boiler No. 9, and boiler No. 10.**

(~~b~~**c**) The notification required by paragraph**s** (a) **and (b)** shall be submitted to:

. . . .

**Appendix A: Emission Calculations**
**Natural Gas Combustion**
**(MMBtu/hr > 100)**
**From Natural Fired Temporary Rental Boiler**

**Company Name: U.S. Steel -Gary Works**
**Address: One North Broadway, Gary, IN 46206**
**SSM#: 089-19678-00121**
**Reviewer: ERG/YC**
**Date: September 7, 2004**

| Heat Input Capacity MMBtu/hr | Potential Throughput MMCF/yr |
|---|---|
| 235 | 2,006 |

| | Pollutant | | | | | |
|---|---|---|---|---|---|---|
| | *PM | *PM10 | *$SO_2$ | **$NO_x$ | *VOC | *CO |
| Emission Factor | 7.6 (lbs/MMCF) | 7.6 (lbs/MMCF) | 0.6 (lbs/MMCF) | 35.9 (lbs/MMCF) | 5.5 (lbs/MMCF) | 84.0 (lbs/MMCF) |
| **Potential to Emit in tons/yr** | **7.62** | **7.62** | **0.60** | **36.0** | **5.52** | **84.3** |

*Emission factors for PM/PM10, $SO_2$, NOx, and CO are from AP-42, Chapter 1.4, Tables 1.4-1 and 1.4-2 (AP-42, 03/98).
PM and PM10 emission factors are condensable and filterable PM10 combined.
** Emission factor for NOx is provided by the manufacturer and will be verified by stack tests.

**Methodology**

Potential Throughput (MMCF/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,026 MMBtu
Potential to Emit (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

**Appendix A: Emission Calculations**
**From Natural Gas and Coke Oven Gas Fired Boiles No. 9 and No. 10**

**Company Name: U.S. Steel -Gary Works**
**Address: One North Broadway, Gary, IN 46206**
**SSM#: 089-19678-00121**
**Reviewer: ERG/YC**
**Date: September 7, 2004**

**1. PTE of the Boilers No. 9 and No. 10 While Burning Natural Gas:**

| Heat Input Capacity MMBtu/hr | | Potential Throughput MMCF/yr |
|---|---|---|
| 470 | (2 units total) | 4,013 |

| | Pollutant | | | | | |
|---|---|---|---|---|---|---|
| | *PM | *PM10 | *$SO_2$ | **$NO_x$ | *VOC | *CO |
| Emission Factor | 7.6 (lbs/MMCF) | 7.6 (lbs/MMCF) | 0.6 (lbs/MMCF) | 129 (lbs/MMCF) | 5.5 (lbs/MMCF) | 84.0 (lbs/MMCF) |
| **Potential to Emit in tons/yr** | **15.2** | **15.2** | **1.20** | **259** | **11.0** | **169** |

*Emission factors for PM/PM10, $SO_2$, NOx, and CO are from AP-42, Chapter 1.4, Tables 1.4-1 and 1.4-2 (AP-42, 03/98).
PM and PM10 emission factors are condensable and filterable PM10 combined.
** Emission factor for NOx is provided by the manufacturer and will be verified by stack tests.

**Methodology**

Potential Throughput (MMCF/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,026 MMBtu
Potential to Emit (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

**2. PTE of the Boiler No. 9 and No. 10 While Burning Coke Oven Gas**

| Heat Input Capacity MMBtu/hr | | Potential Throughput MMCF/yr |
|---|---|---|
| 470 | (2 units total) | 7,696 |

| | Pollutant | | | | | |
|---|---|---|---|---|---|---|
| | *PM | *PM10 | **$SO_2$ | *$NO_x$ | *VOC | *CO |
| Emission Factor in lbs/MMCF | 6.2 | 4.35 | 79.12 | 80 | 1.2 | 18.4 |
| **Potential to Emit in tons/yr** | **23.9** | **16.7** | **304** | **308** | **4.62** | **70.8** |

*Emission factors for PM/PM10, NOx, VOC, and CO are from EPA FIRE, Version 6.24, SCC#1-02-007-07.
** Emission factor for $SO_2$ is provided by the source based on the averaged sulfur content for coke oven gas in 2002 and 2004.

**Methodology**

The higher heating value of the coke oven gas = 535 MMBtu/MMCF.
Potential Throughput (MMCF/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/535 MMBtu
Potential to Emit (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

**3. PTE of the Boilers No. 9 and No. 10 (Worst Case Scenario):**

| Pollutant | PM | PM10 | $SO_2$ | NOx | VOC | CO |
|---|---|---|---|---|---|---|
| ***PTE (tons/yr)** | **23.9** | **16.7** | **304** | **308** | **11.0** | **169** |

*PTE of these units are the worst case scenario between burning natural gas and coke oven gas.

**Appendix A: Emission Calculations**
**Actual Emissions from Natural Gas Combustion Only**
**From Boilers No.1 through No. 8**

**Company Name: U.S. Steel -Gary Works**
**Address: One North Broadway, Gary, IN 46206**
**SSM#: 089-19678-00121**
**Reviewer: ERG/YC**
**Date: September 7, 2004**

Actual NG Usage* (For Boilers No. 1 through 8)
MMCF/yr

| 183 |
|---|

| | Pollutant | | | | | |
|---|---|---|---|---|---|---|
| | PM | PM10 | $SO_2$ | $NO_x$ | VOC | CO |
| **Emission Factor in lbs/MMCF | 7.6 | 7.6 | 0.6 | 280 | 5.5 | 84.0 |
| **Actual Emissions in tons/yr** | **0.70** | **0.70** | **0.05** | **25.6** | **0.50** | **7.69** |

* The actual NG usage information is provided by the source during the time period of October 2000 to September 2002, which is a time period that represents normal operations of these boilers.
**Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1 and 1.4-2 (AP-42, 03/98).
PM and PM10 emission factors are condensable and filterable PM10 combined.

**Methodology**

Actual Emissions (tons/yr) = Actual NG Usage (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

**Appendix A: Emission Calculations**
**Natural Gas Combustion**
**Limited PM, PM10, $SO_2$, VOC, and CO Emissions**
**From Boilers No.1 through No. 10 and the Temporary Rental Boiler**

**Company Name: U.S. Steel -Gary Works**
**Address: One North Broadway, Gary, IN 46206**
**SSM#: 089-19678-00121**
**Reviewer: ERG/YC**
**Date: September 7, 2004**

NG Usage Limit (11 boilers total)
MMCF/yr

| 2,550 |
|---|

| | Pollutant | | | | | |
|---|---|---|---|---|---|---|
| | *PM | *PM10 | *$SO_2$ | $NO_x$ | *VOC | *CO |
| Emission Factor | 7.6 (lbs/MMCF) | 7.6 (lbs/MMCF) | 0.6 (lbs/MMCF) | - (lbs/MMBtu) | 5.5 (lbs/MMCF) | 84.0 (lbs/MMCF) |
| **Limited Potential to Emit in tons/yr** | **9.69** | **9.69** | **0.77** | **See Note** | **7.01** | **107** |

*Emission factors for PM/PM10, $SO_2$, and CO are from AP-42, Chapter 1.4, Tables 1.4-1 and 1.4-2 (AP-42, 03/98).
PM and PM10 emission factors are condensable and filterable PM10 combined.
Note: NOx emissions will be limited to less than 64.6 tons/yr, using the equation specified in the permit and listed as follows:
NOx Emissions (tons/month) = (280 X + 36 Y + 129 Z) / 2,000
Where X = total monthly natural gas usage in boilers No. 1 through No. 8 (MMCF/month)
Y = monthly natural gas usage in the temporary rental boiler (MMCF/month)
Z = total monthly natural gas usage in boilers No. 9 and No.10 (MMCF/month)

**Methodology**

Limited Potential to Emit PM/PM10, $SO_2$, VOC, and CO (tons/yr) = NG Usage Limit (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs