



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant
DATE: May 2, 2005
RE: US Steel - Gary Works / 089-19709-00121
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 1/10/05



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
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May 2, 2005

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

Re: Significant Source Modification No:
089-19709-00121

Dear Mr. Alexander:

U. S. Steel – Gary Works applied for a Part 70 operating permit on December 13, 1996 for blast furnaces and steel mills. An application to modify the source was received on October 8, 2004. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

- (a) This project consists of reconfiguring the fuel supply piping at the four (4) slab reheat furnaces at the 84-inch Hot Strip Mill to enable the firing of coke oven gas, in conjunction with natural gas, above and below the slabs in the heating zones of each furnace. Currently, only the pre-heat and soak zones are able to burn coke oven gas. By enabling the conversion from natural gas to coke oven gas, there will be a reduction in the source operating costs because the coke oven gas, a byproduct of the coke-making process, is produced at the source while the natural gas is purchased from off-site sources. However, the maximum coke oven gas flow capability to the four (4) slab reheat furnaces will remain limited by the supply header to 1.044 MMSCF per hour.
- (b) The furnaces and the associated burners will not be modified, and there is no increased utilization or increased capacity in processes either upstream or downstream of the furnaces. The project is intended to increase the actual consumption of by-product coke oven gas (which is currently flared or burned at the plate mill), and decrease the actual consumption of purchased natural gas at the reheat furnaces.

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 Sanobar Durrani, ERG, 1600 Perimeter Park Drive, Morrisville, North Carolina 27560, or call (919) 468-7810 to speak directly to Ms. Durrani. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, Indianapolis, Indiana, 46204, 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

ERG/SD

cc: File – Lake County
U.S. EPA, Region V
Lake County Health Department
Gary Department of Environmental Affairs
Northwest Regional Office
Air Compliance Section Inspector – Rick Mazzoels
Compliance Data Section
Administrative and Development
Technical Support and Modeling - Michele Boner



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PART 70 SIGNIFICANT SOURCE MODIFICATION OFFICE OF AIR QUALITY

**U. S. Steel – Gary Works
One North Broadway Street
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.

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This 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.

Source Modification No.: 089-19709-00121	
Issued by: Original Signed by Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: May 2, 2005

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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:	Manager
Source Address:	One North Broadway Street, Gary, Indiana 46402
Mailing Address:	One North Broadway Street, Gary, Indiana 46402
General Source Phone Number:	(219) 888-3387
SIC Code:	3312
County Location:	Lake County
Source Location Status:	Nonattainment for ozone under the 1-hour and 8-hour standard Primary non-attainment for SO ₂ Attainment for all other criteria pollutants
Source Status:	Part 70 Permit Program Major Source, under PSD or Emission Offset Rules; Minor Source, Section 112 of the Clean Air Act 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) This project consists of reconfiguring the fuel supply piping at the four (4) slab reheat furnaces at the 84-inch Hot Strip Mill to enable the firing of coke oven gas, in conjunction with natural gas, above and below the slabs in the heating zones of each furnace. Currently, only the pre-heat and soak zones are able to burn coke oven gas. By enabling the conversion from natural gas to coke oven gas, there will be a reduction in the source operating costs because the coke oven gas, a byproduct of the coke-making process, is produced at the source while the natural gas is purchased from off-site sources. However, the maximum coke oven gas flow capability to the four (4) slab reheat furnaces will remain limited by the supply header to 1.044 MMSCF per hour.
- (b) The furnaces and the associated burners will not be modified, and there is no increased utilization or increased capacity in processes either upstream or downstream of the furnaces. The project is intended to increase the actual consumption of by-product coke oven gas (which is currently flared or burned at the plate mill), and decrease the actual consumption of purchased natural gas at the reheat furnaces.

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 [40CFR 124]

Pursuant to 40 CFR 124.15, 40 CFR 124.19, and 40 CFR 124.20, the effective date of this permit will be thirty-three (33) days after issuance.

B.3 Revocation of Permits [326 IAC 2-2-8]

Pursuant to 326 IAC 2-2-8(a)(1), 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 eighteen (18) months 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 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314][326 IAC 1-1-6]

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

SECTION C 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
Indianapolis, Indiana 46204

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
Indianapolis, Indiana 46204

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 PM₁₀ 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 units vented to the control equipment are 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.

Compliance Requirements [326 IAC 2-1.1-11]

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

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements. 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.10 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.11 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

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

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

C.12 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, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone 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

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

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

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.13 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.14 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6] [326 IAC 2-2] [326 IAC 2-3]

- (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 or 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) If there is a reasonable possibility that a “project” (as defined in 326 IAC 2-2-1 (qq) and 326 IAC 2-3-1 (ll)) at an existing emissions unit, other than projects at a Clean Unit, which is not part of a “major modification” (as defined in 326 IAC 2-2-1 (ee) or 326 IAC 2-3-1 (z)) may result in significant emissions increase and the Permittee elects to utilize the “projected actual emissions” (as defined in 326 IAC 2-2-1 (rr) and 326 IAC 2-3-1 (mm)), the Permittee shall comply with following:
 - (1) Prior to commencing the construction of the “project” (as defined in 326 IAC 2-2-1 (qq) and 326 IAC 2-3-1 (ll)) at an existing emissions unit, document and maintain the following records:
 - (A) A description of the project;
 - (B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project;
 - (C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:

- (i) Baseline actual emissions;
 - (ii) Projected actual emissions;
 - (iii) Amount of emissions excluded under section 326 IAC 2-2-1(rr)(2)(A)(iii) and 326 IAC 2-3-1(mm)(2)(A)(3); and
 - (iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.
- (2) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and
- (3) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

C.15 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2] [326 IAC 2-3

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:
- Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).
- (e) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.
- (f) If the Permittee is required to comply with the recordkeeping provisions of (c) in Section C- General Record Keeping Requirements for any “project” (as defined in 326 IAC 2-2-1 (qq) and 326 IAC 2-3-1 (ll), at an existing emissions unit and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:

- (1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C- General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1 (xx) and 326 IAC 2-3-1 (qq) for that regulated NSR pollutant, and
 - (2) The emissions differ from the preconstruction projection as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(ii).
- (g) The report for project at an existing emissions unit shall be submitted within sixty (60) days after the end of the year and contain the following:
- (1) The name, address, and telephone number of the major stationary source.
 - (2) The annual emissions calculated in accordance with (c)(2) and (3) in Section C- General Record Keeping Requirements.
 - (3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and 326 IAC 2-3-2(c)(3).
 - (4) Any other information that the Permittee deems fit to include in this report,

Reports required in this part shall be submitted to:

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

- (h) The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C- General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.

SECTION D.1 FACILITY OPERATION CONDITIONS

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

- (a) This project consists of reconfiguring the fuel supply piping at the four (4) slab rehear furnaces at the 84-inch Hot Strip Mill to enable the firing of coke oven gas, in conjunction with natural gas, above and below the slabs in the heating zones of each furnace. Currently, only the pre-heat and soak zones are able to burn coke oven gas. By enabling the conversion from natural gas to coke oven gas, there will be a reduction in the source operating costs because the coke oven gas, a byproduct of the coke-making process, is produced at the source while the natural gas is purchased from off-site sources. However, the maximum coke oven gas flow capability to the four (4) slab rehear furnaces will remain limited by the supply header to 1.044 MMSCF per hour.
- (b) The furnaces and the associated burners will not be modified, and there is no increased utilization or increased capacity in processes either upstream or downstream of the furnaces. The project is intended to increase the actual consumption of by-product coke oven gas (which is currently flared), and decrease the actual consumption of purchased natural gas at the rehear furnaces.

(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 Lake County PM10 Emission Requirements [326 IAC 6-1-10.1]

Pursuant to 326 IAC 6-1-10.1 (Lake County PM10 Emission Requirements), for the 84-inch hot strip mill continuous slab rehear furnaces, the particulate emissions are limited as follows:

Emission Unit	Heat Input Limit (lb/MMBTU)	Emission Limit (lb/hour)
Each stack serving the 84-inch hot strip mill slab rehear furnaces (four (4) units)	0.017	40.80 (total)

D.1.2 Lake County Sulfur Dioxide (SO₂) Emission Limitation [326 IAC 7-4-1.1]

Pursuant to 326 IAC 7-4-1.1(c)(22)(G)(iv), the fuel supplied to the four (4) rehear furnaces (coke oven gas, fuel oil, and natural gas) shall not result in a sulfur dioxide emission rate exceeding four hundred forty-seven thousandths (0.447) pounds per million Btu actual heat-input.

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

D.1.3 Record Keeping Requirements

- (a) The Permittee shall keep records and report in accordance with source obligation in 326 IAC 2-3-2 and 326 IAC 2-2-8 and as described in Conditions C.14 and C.15.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements of this permit.

D.1.4 Reporting Requirements

Within thirty (30) days of the occurrence of an exceedance of the applicable limit under conditions D.1.1 or D.1.2, the Permittee shall submit a report containing the following:

- (a) Facility identification;
- (b) Date or time period of occurrence;
- (c) Nature of exceedance;

- (d) PM10 and sulfur dioxide emission rate in pounds per hour and pounds per million British Thermal Unit, total fuel usage of each type;
- (e) Cause of exceedance; and
- (f) Corrective action taken.

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 Street, Gary, Indiana 46402
Mailing Address: One North Broadway Street, Gary, Indiana 46402
Source Modification No.: 089-19709-00121

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 BRANCH
100 North Senate Avenue
Indianapolis, Indiana 46204
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 Street, Gary, Indiana 46402
Mailing Address: One North Broadway Street, Gary, Indiana 46402
Source Modification No.: 089-19709-00121

This form consists of 2 pages

Page 1 of 2

<p>9 This is an emergency as defined in 326 IAC 2-7-1(12)</p> <ul style="list-style-type: none">• The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and• The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16.

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

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

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

Page 2 of 2

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO ₂ , VOC, NO _x , CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

A certification is not required for this report.

Indiana Department of Environmental Management Office of Air Quality

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 Street, Indiana 46402
County:	Lake
SIC Code:	3312
Operation Permit No.:	T089-7663-00121
Operation Permit Issuance Date:	Not yet issued
Significant Source Modification No.:	089-19709-00121
Permit Reviewer:	ERG/SD

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) This project consists of reconfiguring the fuel supply piping at the four (4) slab reheat furnaces at the 84-inch Hot Strip Mill to enable the firing of coke oven gas, in conjunction with natural gas, above and below the slabs in the heating zones of each furnace. Currently, only the pre-heat and soak zones are able to burn coke oven gas. By enabling the conversion from natural gas to coke oven gas, there will be a reduction in the source operating costs because the coke oven gas, a byproduct of the coke-making process, is produced at the source while the natural gas is purchased from off-site sources. However, the maximum coke oven gas flow capability to the four (4) slab reheat furnaces will remain limited by the supply header to 1.044 MMSCF per hour.
- (b) The furnaces and the associated burners will not be modified, and there is no increased utilization or increased capacity in processes either upstream or downstream of the furnaces. The project is intended to increase the actual consumption of by-product coke oven gas (which is currently flared or burned at the plate mill), and decrease the actual consumption of purchased natural gas at the reheat furnaces.

History

On October 8, 2004, U.S. Steel - Gary Works submitted an application to IDEM, OAQ requesting to reconfigure the fuel distribution system at the four (4) slab reheat furnaces at the 84-inch Hot Strip Mill. These furnaces have been operating under approvals from the Gary Department of Environmental Affairs, including but not limited to Certificate of Operation Permit Numbers 02534, 02535, 02356, and 02537, re-issued on August 17, 1999.

U.S. Steel - Gary Works submitted an application for a Part 70 permit on December 13, 1996. Since that time, U.S. Steel has applied for and received several source modification approvals. The scope of this project will not affect the capacity or throughput of any other operations at the source.

Enforcement Issue

There is no enforcement action applicable to this modification.

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 October 8, 2004. Additional information was received on January 14, 2005 and February 3, 2005.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (page 1 and 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 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 increase in PTE after modification based on COG usage in burners previously capable of utilizing natural gas only.

Pollutant	Potential To Emit (tons/year)
PM	No increase
PM10	No increase
*SO ₂	1, 238
VOC	67.0
CO	No increase
NO _x	No increase

Potential to Emit of Modification After Issuance Reflecting major PSD or Emission Offset applicability

The Permittee has provided information as part of the application for this approval that based on an Actual to Projected Actual test in 326 IAC 2-3-2 and 326 IAC 2-2-2, this modification at a major stationary source will not be major for Prevention of Significant Deterioration under 326 IAC 2-2-1 or Emission Offset under 326 IAC 2-3-1. IDEM, OAQ has not reviewed this information and will not be making any determination in this regard as part of this approval. The applicant will be required to keep records and report in accordance with source obligation requirements in 326 IAC 2-2-8 and Applicability in 326 IAC 2-3-2.

Justification for Modification

The Part 70 Operating permit is being modified through a Part 70 Significant Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(f)(4) because the potential to emit of SO₂ and VOC are greater than 40 and 25 tons per year, respectively.

County Attainment Status

The source is located in Lake County.

Pollutant	Status
PM10	Attainment
SO ₂	Primary non-attainment
NO ₂	Attainment
1-hour Ozone	Severe Non-attainment
8-hour Ozone	Moderate Non-attainment
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 Emission Offset, 326 IAC 2-3.
- (b) Lake County has been classified as attainment in Indiana for PM10, CO and Pb. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (c) Lake County has been classified as primary nonattainment in Indiana for SO₂. Therefore, SO₂ emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.
- (d) Fugitive Emissions
 Since this type of operation is 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

Pollutant	*Emissions (tons/year)
PM	2,207
PM10	2,207
SO ₂	4,182
VOC	1,941
CO	68,687
NOx	5,343

*These emissions are based on 2001 Lake County Plant Emissions as reported to IDEM, OAQ.

This existing source is a major stationary source because:

- (a) An attainment regulated pollutant is emitted at a rate of 100 tons per year or more, and it is in one of the 28 listed source categories.
- (b) A non-attainment regulated pollutant is emitted at a rate of 100 tons per year or more.

Federal Rule Applicability

- (a) This significant source modification does not involve a pollutant-specific emissions unit:
 - (1) with the potential to emit before controls equal to or greater than one hundred (100) tons per year, and
 - (2) that is subject to an emission limit and has a control device that is necessary to meet that limit.

Therefore, the requirements of 40 CFR Part 64, Compliance Assurance Monitoring, are not applicable to this modification.

- (b) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) included in the permit to this proposed modification.
- (c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20, 40 CFR 61, and 40 CFR Part 63) included in the permit for this proposed modification.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration); 326 IAC 2-3 (Emission Offset)

U.S. Steel is in one (1) of the twenty-eight (28) source categories. The source has a potential to emit each of the criteria pollutants above Part 70 major source levels and applied for a Part 70 permit on December 13, 1996, which is currently being drafted. The Permittee submitted an application on October 8, 2004 requesting the reconfiguration of the fuel supply piping at the four (4) existing continuous slab reheat furnaces at the 84-inch Hot Strip Mill. The potential to emit of CO, NOx, and VOC from this modification are greater than 100, 40 and 25 tons per year, respectively. However, as per the information provided by the Permittee in the permit application, based on Actual to Projected Actual test in 326 IAC 2-3-2 and 326 IAC 2-2-2, this modification at a major stationary source will not be major for Emission Offset under 326 IAC 2-3-1 and Prevention of Significant Deterioration under 326 IAC 2-2-1.

Also, the modification will result in a net decrease in VOC emissions. However, an evaluation of VOC emissions from U.S. Steel - Gary Works during the five-year period prior to and including 2004 were evaluated for emissions offset applicability as follows:

Project	VOC Emission Increases (tons/year)
Plate Mill Heat Treat Furnace	0.42
Batch Anneal Furnaces	0.05
Levy Modifications	0.17
RTO Sludge Dryers	0.02
Modified Oil Reclamation Plant	0.17

Project	VOC Emission Increases (tons/year)
US Aggregates Slag Processing Facility	0.01
Boiler No. 4A	0.36
Tar Centrifuge Plant	7.03
Sinter Plant Burners/Coke Oven Battery injection jets	0.75
EGL Boiler Modifications	0.54
Brandenburg Blast and Paint Booths	0.12
84-inch hot strip mill COG re-distribution project	1.06
Total Emissions	8.58

The emission increases for VOC over the last five (5) years are less than the de minimis levels of twenty-five (25) tons per year.

Therefore, this modification is not subject to the requirements of 326 IAC 2-3 (Emission Offset).

326 IAC 5-1 (Opacity Limitations)

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

- (a) Opacity shall not exceed an average of 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 non-overlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - 84-Inch Hot Strip Mill Continuous Slab Reheat Furnaces

326 IAC 7-4-1.1 (Lake County SO₂ Emission Limitations)

Pursuant to 326 IAC 7-4-1.1(c)(22)(G)(iv), the fuel supplied to the four (4) re-heat furnaces (coke oven gas, fuel oil, and natural gas) shall not result in a sulfur dioxide emission rate exceeding four hundred forty-seven thousandths (0.447) pounds per million Btu actual heat input.

326 IAC 6-1-10.1 (Lake County PM₁₀ Emission Requirements)

The 84-inch hot strip mill continuous slab reheat furnaces (# 1, 2, 3 and 4) are subject to 326 IAC 6-1-10.1 (Lake County PM₁₀ Emission Requirements), which was promulgated on November 8, 2001. Pursuant to this rule:

- (a) The particulate emissions are limited as follows:

Emission Unit	Heat Input Limit (lb/MMBTU)	Emission Limit (lb/hour)
Each stack serving the 84-inch hot strip mill slab re-heat furnaces (four (4) units)	0.017	40.80 (total)

- (b) There are no opacity limits specified for the four (4) continuous slab reheat furnaces [326 IAC 6-1-10.1(e)]. Therefore, the four (4) continuous slab reheat furnaces shall comply with the requirements of 326 IAC 5-1-2 (Opacity Limitations) as given under the state rule

applicability section for the entire source.

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

The 84-inch hot strip mill continuous slab reheat furnaces (# 1, 2, 3 and 4) are not subject to the requirements of 326 IAC 8-1-6 (New Facilities: General Reduction Requirements) because these reheat furnaces were constructed before January 1, 1980, the applicability date for this rule.

Compliance Testing

No testing is required for this modification. However, if IDEM, OAQ require testing, the Permittee shall perform testing for these facilities to verify compliance with applicable rules of this permit utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

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.

There are no compliance monitoring requirements applicable to this modification.

Conclusion

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 089-19709-00121.

**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 Street, Gary, Indiana 46402
County:	Lake
SIC Code:	3312
Operation Permit No.:	T089-7663-00121
Operation Permit Issuance Date:	Not yet issued
Significant Source Modification No.:	089-19709-00121
Permit Reviewer:	ERG/SD

On March 15, 2005, the Office of Air Quality (OAQ) had a notice published in The Post Tribune, Merrillville, Indiana, stating that U. S. Steel – Gary Works had applied for a Part 70 Significant Source Modification relating to reconfiguring the fuel supply piping at the four (4) slab reheat furnaces at the 84-inch Hot Strip Mill to enable the firing of coke oven gas, in conjunction with natural gas, above and below the slabs in the heating zones of each furnace. The furnaces and the associated burners will not be modified. The maximum coke oven gas flow capability to the four (4) slab reheat furnaces will remain limited by the supply header to 1.044 MMSCF per hour. 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 modified, if applicable, to reflect these changes.

1. Indiana was required to incorporate credible evidence provisions into state rules consistent with the SIP call published by U.S. EPA in 1997 (62 FR 8314). Indiana has incorporated the credible evidence provision in 326 IAC 1-1-6, therefore, the condition reflecting this rule has been added to the permit.

B.5 Credible Evidence [326 IAC 2-7-5(3)]~~[326 IAC 2-7-6]~~[62 FR 8314] **[326 IAC 1-1-6]**

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

**Appendix A: Emission Calculations
Natural Gas Combustion Only
Four (4) Reheat Furnaces**

Company Name: U.S. Steel - Gary Works
Address: One North Broadway Street, Gary, Indiana 46204
SSM: 089-19709
Plt ID: 089-00121
Reviewer: ERG/SD
Date: March 10, 2005

Heat Input Capacity
MMBtu/hour

Potential Throughput
MMCF/year

1186

10386

	Pollutant					
	* PM	* PM10	SO ₂	** NO _x	VOC	CO
Emission Factor (lb/MMCF)	7.6	7.6	0.6	280	5.5	84.0
Potential To Emit (tons/year)	39.5	39.5	3.12	1454	28.6	436

*PM and PM10 emission factors are filterable and condensable PM and PM10 combined.

** Emission factor for NO_x = 280 lb/MMCF.

All Emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (July, 1998).

METHODOLOGY

Potential Throughput (MMCF/year) = Heat Input Capacity (MMBtu/hour) * 8760 hours/year * 1 MMCF/1000 MMBtu

Potential To Emit (tons/year) = Potential Throughput (MMCF/year) * Emission Factor (lb/MMCF) * 1 ton/2000 lbs

See next page for HAPs emissions calculations.

Appendix A: Emission Calculations
Natural Gas Combustion Only
Four (4) Reheat Furnaces

Company Name: U.S. Steel - Gary Works
Address: One North Broadway Street, Gary, Indiana 46204
SSM: 089-19709
Plt ID: 089-00121
Reviewer: ERG/SD
Date: March 10, 2005

HAPs - Organics

Emission Factor (lb/MMCF)	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential To Emit (tons/year)	1.09E-02	6.23E-03	3.89E-01	9.35E+00	1.77E-02

HAPs - Metals

Emission Factor (lb/MMCF)	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential To Emit (tons/year)	2.60E-03	5.71E-03	7.27E-03	1.97E-03	1.09E-02

Methodology is the same as previous page.

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

**Appendix A: Emission Calculations
Coke Gas Combustion Only
Four (4) Reheat Furnaces**

Company Name: U.S. Steel - Gary Works
Address: One North Broadway Street, Gary, Indiana 46204
SSM: 089-19709
Plt ID: 089-00121
Reviewer: ERG/SD
Date: March 10, 2005

Heat Input Capacity
MMBtu/hour

Potential Throughput
MMCF/year

1186

10386

Pollutant

	⁽¹⁾ PM	⁽¹⁾ PM10	⁽²⁾ SO ₂	NO _x	VOC	CO
Emission Factor (lb/MMCF)	6.20	4.35	239	80	18.4	1.20
Potential To Emit (tons/year)	32.2	22.6	1241	415	95.5	6.23

(1) PM and PM10 emission factors are filterable and condensable PM and PM10 combined.

(2) Emission factor for desulfurized coke oven gas is based on higher heating value of 535 BTU/SCF and SO₂ emission factor of 0.447 lbs/MMBTU as per 326 IAC 7-4-1.1(c)(22)(G)(iv).

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

METHODOLOGY

Potential Throughput (MMCF/year) = Heat Input Capacity (MMBtu/hour) * 8760 hours/year * 1 MMCF/1000 MMBtu

Potential To Emit (tons/year) = Potential Throughput (MMCF/year) * Emission Factor (lb/MMCF) * 1 ton/2000 lbs

**Appendix A: Emission Calculations
Future PTE minus Past PTE**

Company Name: U.S. Steel - Gary Works
Address: One North Broadway Street, Gary, Indiana 46204
SSM: 089-19709
Pit ID: 089-00121
Reviewer: ERG/SD
Date: March 10, 2005

Potential To Emit in Four (4) Reheat Furnaces

	PM	PM10	SO ₂	NO _x	VOC	CO
Future PTE (Burning COG)	32.2	22.6	1241	415	95.5	6.23
Past PTE (Burning NG)	39.5	39.5	3.12	1454	28.6	436
Net Emission Increases	-7.3	-16.9	1238	-1039	67.0	-430