PART 70 SIGNIFICANT SOURCE MODIFICATION
OFFICE OF AIR MANAGEMENT

Ironside Energy, LLC
3001 Dickey Road
East Chicago, Indiana 46312-1610

(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.

Source Modification No.: 089-10842-00448	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

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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 Management (OAM). 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)]

The Permittee owns and operates an industrial steam and electric power cogeneration plant.

Responsible Official:	Mr. V. Michael Alverson
Source Address:	3001 Dickey Road, East Chicago, Indiana 46312-1610
Mailing Address:	8407 Virginia Street, Merrillville, Indiana 46410
Phone Number:	(219)647-6065
SIC Code:	4911
County Location:	Lake
County Status:	Attainment for CO, NO2 Nonattainment for PM, PM10, and Ozone (NOx and VOC)
Source Status:	Part 70 Permit Program Major Source, under PSD or Emission Offset Rules; Major Source, Section 112 of the Clean Air Act

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) One industrial boiler, identified as Boiler No. 9, equipped with low-NOx burners. The boiler has a nominal heat input rate of 657 MMBtu per hour and a continuous nominal steam production rate of 460,000 pounds of steam per hour. The primary fuel will be blast furnace gas with natural gas as a backup/supplemental fuel;

(b) One steam turbine electric generator with a nominal rate of 50 MWe; and

(c) One cooling tower.

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); and

(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).

A.4 Source Definition

This stationary source (Ironside Energy, LLC) is defined as part of the LTV Steel-Indiana Harbor Works stationary source located at 3001 Dickey Road in East Chicago, Indiana.

SECTION B GENERAL CONSTRUCTION CONDITIONS

B.1 Permit No Defense [IC 13]

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

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

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

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

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

B.4 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.5 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 Management (OAM), 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.

However, in the event that the Title V 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 Title V draft permit has not gone on public notice, then the change/addition covered by the Significant Source Modification will be included in the Title V draft.

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

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

B.6 NSPS Reporting Requirement

Pursuant to the New Source Performance Standards (NSPS), Part 60.7 and 60.8, 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 along with the design heat input capacity of the boiler, identification of fuels to be combusted, and the anticipated annual capacity factor for each fuel fired (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 Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, IN 46206-6015

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

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 approval or required by an applicable requirement, any application form, report, or compliance certification submitted under this approval 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, on the attached Certification Form, with each submittal.

(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 approval, the Permittee shall prepare and implement Preventive Maintenance Plans (PMPs) upon commercial operation. Commercial operation is defined as the date in which operations produce steam or electricity for sale. The PMPs are comprised of:

(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;

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

If due to circumstances beyond its control, the PMP 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 Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.

(c) PMP's shall be submitted to IDEM, OAM upon request and shall be subject to review and approval by IDEM, OAM. IDEM, OAM may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

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

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this approval.

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

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

Any such application should be certified by the "responsible official" as defined by 326 IAC 2-7-1(34) only if a certification is required by the terms of the applicable rule

(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)]

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 Exemptions), visible emissions shall meet the following, unless otherwise stated in this approval:

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

Except as otherwise provided in this approval, all air pollution control equipment listed in this approval 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.6 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 ambient air quality modeling pursuant to 326 IAC 1-7-4.

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

C.7 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, OAM.
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 Management
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 Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

(b) All test reports must be received by IDEM, OAM within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAM, if the source submits to IDEM, OAM, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

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

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

C.8 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements shall be implemented within 60 days of commercial operation (as defined in Condition C.2), but no later than 180 days after initial startup, except as provided elsewhere in this approval.

C.9 Maintenance of Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

(a) In the event that a breakdown of the monitoring equipment occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem. To the extent practicable, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less frequent than required in Section D of this approval until such time as the monitoring equipment is back in operation. In the case of continuous monitoring, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less than one (1) hour until such time as the continuous monitor is back in operation.

(b) The Permittee shall install, calibrate, quality assure, maintain, and operate all necessary monitors and related equipment. In addition, prompt corrective action shall be initiated whenever indicated.

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

C.10 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5][326 IAC 2-7-6] [326 IAC 1-6]

(a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:

(1) This condition;

(2) The Compliance Determination Requirements in Section D of this approval;

(3) The Compliance Monitoring Requirements in Section D of this approval;

(4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this approval; and

(5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this approval. CRPs shall be submitted to IDEM, OAM upon request and shall be subject to review and approval by IDEM, OAM. The Permittee shall prepare and implement the CRPs upon commercial operation as defined in Condition C.2. The CRPs are comprised of:

(A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this approval; and

(B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.

(b) For each compliance monitoring condition of this approval, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall constitute a violation of the approval unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.

(c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:

(1) If the false reading is due to the malfunction of the monitoring equipment. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment; or

(2) The Permittee has determined that the compliance monitoring parameters established in the approval conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the approval, and such request has not been denied; or

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

(4) The process has already returned to operating within “normal” parameters and no response steps are required.

(d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps 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.

C.11 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 approval exceed the level specified in any condition of this approval, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAM, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected facility while the corrective actions are being implemented. IDEM, OAM shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAM within thirty (30) days of receipt of the notice of deficiency. IDEM, OAM reserves the authority to use enforcement activities to resolve noncompliant stack tests.

(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, OAM that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAM may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate approval conditions may be grounds for immediate revocation of the approval to operate the affected facility.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

C.12 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) These ERPs shall be submitted for approval to:

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

within 180 days from the date on which this source commences operation. The ERP does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) If the ERP is disapproved by IDEM, OAM, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.

(d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.

(e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.

(f) Upon direct notification by IDEM, OAM, that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

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

C.13 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

(a) The Permittee shall submit an annual emission statement certified pursuant to the requirements of 326 IAC 2-6, that must be received by April 15 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual emission statement shall meet the following requirements:

(1) Indicate actual emissions of criteria pollutants from the source, in compliance with 326 IAC 2-6 (Emission Reporting);

(2) Indicate actual emissions of other regulated pollutants from the source, for purposes of Part 70 fee assessment.

(b) The annual emission statement covers the twelve (12) consecutive month time period starting December 1 and ending November 30. The annual emission statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(c) The annual emission statement 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, OAM, on or before the date it is due.

C.14 Monitoring Data Availability [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)]

(a) With the exception of performance tests conducted in accordance with Section C-Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this approval shall be performed at all times the equipment is operating at normal representative conditions.

(b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this approval is not operating, the Permittee shall either record the fact that the equipment is not currently operating or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this approval.

(c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.

(d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.

(e) At its discretion, IDEM, OAM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.

(f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.15 General Recordkeeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

(a) Records of all required monitoring data and support information 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 kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAM representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available within a reasonable time upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Records of required monitoring information shall include, where applicable:

(1) The date, place, and time of sampling or measurements;

(2) The dates analyses were performed;

(3) The company or entity performing the analyses;

(4) The analytic techniques or methods used;

(5) The results of such analyses; and

(6) The operating conditions existing at the time of sampling or measurement.

(c) Support information shall include, where applicable:

(1) Copies of all reports required by this approval;

(2) All original strip chart recordings for continuous monitoring instrumentation;

(3) All calibration and maintenance records;

(4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures.

Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this approval, and whether a deviation from an approval condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.

(d) All record keeping requirements not already legally required shall be implemented upon commercial operation.

C.16 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

(a) The reports required by conditions in Section D of this approval shall be submitted to:

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

(b) Unless otherwise specified in this approval, any notice, report, or other submission required by this approval 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, OAM on or before the date it is due.

(c) Unless otherwise specified in this approval, any quarterly report shall be submitted within thirty (30) days of the end of the reporting period. The report does not 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 commercial operation and ending on the last day of the reporting period.

SECTION D.1 FACILITY OPERATION CONDITIONS

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

(a) One industrial boiler, identified as Boiler No. 9, equipped with low-NOx burners. The boiler has a nominal heat input rate of 657 MMBtu per hour and a nominal steam production rate of 460,000 pounds of steam per hour. The primary fuel will be blast furnace gas with natural gas as a backup/supplemental fuel;

(b) One steam turbine generator with a nominal rate of 50 MW; and

(c) One cooling tower.

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

Emission Limitations and Standards

D.1.1 Operation Limitations

(a) To avoid the requirements of 326 IAC 2-3 (Emission Offset), the natural gas fuel usage of Boiler No. 9 shall not exceed 2080 MMCF per twelve (12) month total, rolled on a monthly basis. This limitation also demonstrates that the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) do not apply.

(b) The existing Boiler No. 4 with a heat input rate of 260 MMBtu per hour shall be permanently removed from service upon commercial operation, as defined in Condition C.2(a), of Boiler No. 9 to demonstrate that the requirements of 326 IAC 2-3 (Emission Offset) and 326 IAC 2-2 (PSD) do not apply.

D.1.2 Nitrogen Oxides (NO_X) Emission Limitations

(a) To avoid the requirements of 326 IAC 2-3 (Emission Offset), the NOx emissions from natural gas combustion in Boiler No. 9 shall not exceed 56.3 tons per twelve (12) month total, rolled on monthly basis. This limitation also demonstrates that the requirements of 326 IAC 2-2 (PSD) do not apply.

(b) Pursuant to 326 IAC 12 and 40 CFR 60.44b(a) (New Source Performance Standard (NSPS) for Industrial Steam Generating Units - Nitrogen Oxide Standards), Boiler No. 9 shall not exceed 0.10 pounds of NO_X per MMBtu heat input from the combustion of natural gas. At maximum operation, this limitation is equivalent to 65.7 pounds of NO_X per hour.

D.1.3 Particulate Matter (PM and PM_{10}) Emission Limitations

Pursuant to 326 IAC 6-1-2(b)(5)), particulate matter emissions from natural gas combustion in Boiler No. 9 shall not exceed 0.01 grains per dry standard cubic feet (gr/dscf).

D.1.4 Opacity Limitations

Pursuant to 326 IAC 5-1 (Opacity Limitations) and Operation Condition C.4, the opacity standards apply at all times, except during periods of startup, shutdown or malfunction.

D.1.5 Sulfur Dioxide (SO_2) Emission Limitations

Pursuant to 326 IAC 7-2-1, the Permittee shall keep natural gas reports of calendar month average sulfur content, heat content, fuel consumption, and sulfur dioxide emission rate in pounds per million Btu, and submit such records upon request of the OAM.

D.1.6 New Source Performance Standards

Boiler No. 9 shall comply with the provisions of 40 CFR 60, Subpart A (NSPS General Provisions) and 40 CFR 60, Subpart Db (NSPS for Industrial Steam Generating Units) which are incorporated by reference in 326 IAC 12-1.

D.1.7 Acid Rain Requirements

To avoid the requirements of 326 IAC 21 and 40 CFR 72 (Acid Rain Requirements), Boiler No. 9 shall not, in any three calendar year period, sell to a utility power distribution system an annual average of more than one-third of its potential electrical output capacity and more than 219,000 MWe-hrs actual electric output (on a gross basis).

Compliance Determination and Monitoring:

D.1.8 Performance Testing

(a) Pursuant to 326 IAC 2-1-3 (Construction and Operating Permit Requirements) and 40 CFR 60 (NSPS), initial compliance tests of the Boiler No. 9 stack shall be performed for opacity, particulate matter (PM and PM_{10}) and NO_X to demonstrate compliance with Operation Conditions D.1.2(b) and D.1.3.

(b) EPA Method 9 opacity tests shall be performed concurrently with the PM and PM_{10} compliance tests, unless meteorological conditions require rescheduling the opacity tests to another date.

(c) IDEM, OAM retains the authority under 326 IAC 2-1-4(f) to require the Permittee to perform additional and future compliance testing as necessary.

D.1.9 Continuous Emission Monitoring

(a) Pursuant to 326 IAC 3-5 and 326 IAC 12 (40 CFR 60.48b (Emission Monitoring)), the Permittee shall continuously monitor and record the following parameters from the Boiler No. 9 stack to demonstrate compliance with the limitations and operation standards required by Operation Conditions D.1.2:

(1) nitrogen oxide emission rates; and

(2) oxygen or carbon dioxide emission rates.

(b) The continuous monitoring systems shall be installed and operational prior to conducting the performance tests. A monitoring protocol shall be performed in accordance with the applicable procedures under 40 CFR 60, Appendix B, Performance Specification 1 and 326 IAC 3-5 and shall be submitted to:

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

within 60 days of commercial operation, as defined in Condition C.2, but no later than 180 days after initial startup. Verification of operational status shall, as a minimum, include completion of the manufacturer written requirements or recommendations for installation, operation, and calibration of the device.

(c) Pursuant to 40 CFR 60.46b(e) (Compliance and Performance Test Methods and Procedures for Nitrogen Oxide), the proposed boiler is subject to the following requirements:

(1) The Permittee shall conduct the performance test as required under 40 CFR 60.8 using the continuous system;

(2) The initial compliance test shall be monitored for 30 successive steam generating unit operating days pursuant to 40 CFR 60.46b(e)(1). The 30-day average emission rate shall calculated as the average of all hourly emissions data recorded by the monitoring system during the 30-day test period to demonstrate compliance with Operation Condition D.1.2(b); and

(3) Following the date on which the initial performance test is completed, the Permittee shall determine compliance with Operation Condition D.1.2(b) on a continuous basis through the use of a 30-day rolling average emission rate pursuant to 40 CFR 60.46(e)(3). A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly NOx emission data for the preceding 30 steam generating unit operating days.

D.1.10 Natural Gas Monitoring

Upon commercial operation, as defined in Condition C.2, the Permittee shall monitor the following parameters for natural gas on a calendar month basis to demonstrate compliance with Operation Conditions D.1.1(a), D.1.2(a) and D.1.5:

(a) average sulfur content;

(b) heat content;

(c) natural gas fuel consumption; and

(d) sulfur dioxide emission rate in pounds per million Btu.

Recordkeeping and Reporting Requirements:

D.1.11 Recordkeeping Requirement

The Permittee shall maintain records of the parameters stated in Operation Conditions D.1.6, D.1.7 and D.1.8 to demonstrate compliance with Operation Conditions D.1.1(a), D.1.2, D.1.3 and D.1.4.

D.1.12 Reporting Requirement

The Permittee shall submit the following information on a quarterly basis:

(a) Records of excess emissions (defined in 326 IAC 3-5-7 and 40 CFR 60.49b(h)(4)) from the continuous emissions monitoring system for each parameter described in Operation Condition D.1.7 to demonstrate compliance with Operation Condition D.1.2.

If there are no excess emissions during the calendar quarter, the Permittee shall submit a report semiannually stating that no excess emissions occurred during the semiannual reporting period; and

(b) Monthly consumption records for the parameters required in Operation Condition D.1.1(a) to demonstrate that the requirements of 326 IAC 2-3 (Emission Offset) and 326 IAC 2-2 (PSD) do not apply.

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

PART 70 SOURCE MODIFICATION CERTIFICATION

Source Name: Ironside Energy, LLC
Source Address: 3001 Dickey Road, East Chicago, Indiana 46312-1610
Mailing Address: 8407 Virginia Street, Merrillville, Indiana 46410
Source Modification No.: 089-10842-00448

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:

9 Test Result (specify) _____

9 Report (specify) _____

9 Notification (specify) _____

9 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 MANAGEMENT
COMPLIANCE DATA SECTION

Part 70 Source Modification Quarterly Report

Source Name: Ironside Energy, LLC
Source Address: 3001 Dickey Road, East Chicago, Indiana 46312-1610
Mailing Address: 8407 Virginia Street, Merrillville, Indiana 46410
Source Modification No.: 089-10842-00448
Facility: Boiler No. 9
Parameter: Natural Gas Usage
Limit: 2080 MMCF per twelve (12) month total, rolled on a monthly basis

YEAR: _____

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

9 No deviation occurred in this quarter.

9 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 Management

Addendum to the
Technical Support Document for New Construction and Operation

Source Name: Ironside Energy, LLC
Source Location: 3001 Dickey Road, East Chicago, Indiana 46312-1610
County Location: Lake
Construction Permit No.: CP-089-10842-00448
SIC Code: 4911
Permit Reviewer: Michele Williams

On December 22, 1999, the Office of Air Management (OAM) had a notice published in *The Times & Post Tribune*, Hammond, Indiana stating that Ironside Energy, LLC had applied for a Significant Source Modification to a Part 70 source for the construction of an industrial steam and electric power cogeneration plant consisting of one industrial boiler with a nominal heat input rate of 657 MMBtu, one steam turbine generator with a nominal rate of 50 MW, and one cooling tower. The detailed description of equipment can be found in the Significant Source Modification.

The notice also stated that OAM proposed to issue a permit for this installation 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.

Written comments on various clarifications, additions and changes to the construction permit were received from Dames & Moore on behalf Ironside Energy, LLC, on January 21, 2000. The following sections summarize the comments made by Dames & Moore and responses made by OAM:

Comment 1:

Draft Permit, Section A.2 and Description Box in Section D.1 - Ironside wishes to point out that the maximum ratings of the equipment as described in this section are nominal design ratings. Though we believe these ratings are accurate A.2(b)(1); they are approximate.

Response 1:

The OAM has approved this change to accurately reflect the design ratings of the equipment. The following changes to Section A.2 and Section D.1 have been made (boldface characters represent additions to the original condition and strikeout characters represent deletions to the original condition):

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) One industrial boiler, identified as Boiler No. 9, equipped with low-NOx burners. The boiler has a ~~maximum~~ **nominal** heat input rate of 657 MMBtu per hour and a continuous ~~maximum~~ **nominal** steam production rate of 460,000 pounds of steam per hour. The primary fuel will be blast furnace gas with natural gas as a backup/supplemental fuel;

(b) One steam turbine electric generator with a ~~maximum~~ **nominal** rate of 50 MWe; and

(c) One cooling tower.

SECTION D.1 FACILITY OPERATION CONDITIONS

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

(a) One industrial boiler, identified as Boiler No. 9, equipped with low-NOx burners. The boiler has a ~~maximum~~ **nominal** heat input rate of 657 MMBtu per hour and a ~~maximum~~ **nominal** steam production rate of 460,000 pounds of steam per hour. The primary fuel will be blast furnace gas with natural gas as a backup/supplemental fuel;

(b) One steam turbine generator with a ~~maximum~~ **nominal** rate of 50 MW; and

(c) One cooling tower.

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

Comment 2:

Draft Permit, Section C.4(b) - It is understood that a continuous opacity monitor will not be installed at the facility, and compliance with these requirements will be met only by using Method 9.

Response 2:

The language used in Section C.4(b) is taken directly from the rule, and allows a source to demonstrate compliance using either Method 9 or COM data. The OAM duly notes that Ironside will demonstrate compliance with opacity using Method 9.

Comment 3:

Draft Permit, Section C.10(c)(1) - We recommend removing the phrase “giving a false reading” from the first sentence. If the monitor is malfunctioning, it can be assumed that the reading it is giving is inaccurate. Retaining the phrase “giving a false reading” implies that there is a need to demonstrate the reading is false to verify the monitor is malfunctioning.

Response 3:

The intent of the language in Condition C.10(c)(1) is to excuse the company from performing the response steps outlined in Condition C.10(a)(5) and (b) if the false reading is due to a malfunction of the monitoring equipment. However, if a false reading is a result of a calibration error, etc., which is not a malfunction, then the company is required to perform the response steps outlined in Condition C.10(a)(5) and (b). The OAM does recognize that the first sentence of Condition C.10(c)(1) is unclear; therefore, the OAM shall clarify this condition as follows (boldface characters represent additions to the original condition and strikeout characters represent deletions to the original condition):

C.10 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5][326 IAC 2-7-6] [326 IAC 1-6]

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(c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:

(1) ~~The monitoring equipment malfunctioned, giving a false reading~~. **If the false reading is due to the malfunction of the monitoring equipment.** This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment**; or**

(2) The Permittee has determined that the compliance monitoring parameters established in the approval conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the approval, and such request has not been denied**;** or

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

(4) The process has already returned to operating within “normal” parameters and no response steps are required.

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Comment 4:

Draft Permit, Section C.14(b) - The phrase “shut-down” could be taken to have too permanent a meaning. We suggest the phrase “not currently operating” be substituted.

Response 4:

The intent of Condition C.14(b) does not change by substituting the phrase “shut down” with “not currently operating”. Therefore, the OAM shall revise Condition C.14(b) as follows (boldface characters represent additions to the original condition and strikeout characters represent deletions to the original condition):

C.14 Monitoring Data Availability [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)]

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(b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this approval is not operating, the Permittee shall either record the fact that the equipment is ~~shut down~~ **not currently operating** or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this approval.

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Comment 5:

Draft Permit, Section C.15(a) - It is appropriate to include the phrase "within a reasonable time" prior to the word "upon" in the second and third sentences of this section. This would make these sentences consistent with the last sentence in this section.

Response 5:

The OAM believes that citing "upon request" as stated in the rule is the preferable language, specifically during the first three years. Generally sources and the OAM can come to an agreement on the amount of time needed to produce records, especially if the request requires a substantial amount of information. The OAM agrees that the language can be changed as suggested for the remaining two years. The OAM has clarified Condition C.15(a) as follows (boldface characters represent additions to the original condition and strikeout characters represent deletions to the original condition):

C.15 General Recordkeeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

(a) Records of all required monitoring data and support information 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 kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAM representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available **within a reasonable time** upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

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Comment 6:

Draft Permit, Section C.15(d) and Section C.16(d) - Recordkeeping should begin within 90 days of start-up of commercial operation to make this section consistent with other initial requirement dates.

Response 6:

The OAM has revised Conditions C.15(d) and C.16(d) to reflect that recordkeeping and reporting shall begin upon commercial operation. The recording and reporting period should begin immediately upon startup of commercial operation because emissions are being emitted. Conditions C.15(d) and C.16(d) have been revised as follows (boldface characters represent additions to the original condition and strikeout characters represent deletions to the original condition):

C.15 General Recordkeeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

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(d) All record keeping requirements not already legally required shall be implemented ~~within ninety (90) days of approval issuance~~ **upon commercial operation**.

C.16 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

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(d) The first report shall cover the period commencing on the date of ~~issuance of this approval~~ **commercial operation** and ending on the last day of the reporting period.

Comment 7:

Draft Permit, Section D.1.1(b) - The reference to Section C.2 should more correctly refer to Section C.2(a).

Response 7:

The OAM has revised Condition D.1.1(b) as follows for clarification (boldface characters represent additions to the original condition and strikeout characters represent deletions to the original condition):

D.1.1 Operation Limitations

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(b) The existing Boiler No. 4 with a heat input rate of 260 MMBtu per hour shall be permanently removed from service upon commercial operation, as defined in Condition C.2**(a)**, of Boiler No. 9 to demonstrate that the requirements of 326 IAC 2-3 (Emission Offset) and 326 IAC 2-2 (PSD) do not apply.

Comment 8:

Draft Permit, Section D.1.5 and D.1.10 - It is Ironside's understanding that a monthly sulfur content determination and a monthly heat content analysis of the natural gas will meet the sulfur content and heat content data requirements. Ironside expects very little variation in this data since it will use pipeline natural gas. This data will be used with actual monthly gas usage to calculate monthly average SO2 emission rates.

Response 8:

The OAM agrees with this methodology approach. The OAM has made the following change to cite the correct condition (boldface characters represent additions to the original condition and strikeout characters represent deletions to the original condition):

> D.1.10 Natural Gas Monitoring
> Upon commercial operation, as defined in Condition C.2, the Permittee shall monitor the following parameters for natural gas on a calendar month basis to demonstrate compliance with Operation Conditions D.1.1(a), D.1.2(a) and ~~D.1.4~~ **D.1.5**:
> .
> .
> .
> .

Comment 9:

Draft Permit, Section D.1.7 - Whereas it is the intent of Ironside only to supply the LTV mill with the steam and electricity generated by Boiler No. 9, the permit condition should reflect the regulatory limiting language. (Electricity supplied to the grid shall not exceed one-third of its potential output...). Correcting this language would protect Ironside from an unintentional permit violation from any unintentional incidental transfer of electricity.

Response 9:

The OAM agrees with the above comment. Condition D.1.7 has been revised as follows to reflect the regulatory language of 40 CFR 72 (boldface characters represent additions to the original condition and strikeout characters represent deletions to the original condition):

> D.1.7 Acid Rain Requirements
> To avoid the requirements of 326 IAC 21 and 40 CFR 72 (Acid Rain Requirements), ~~the steam and electricity generated by~~ Boiler No. 9 shall ~~only be utilized at the LTV mill~~ **not, in any three calendar year period, sell to a utility power distribution system an annual average of more than one-third of its potential electrical output capacity and more than 219,000 MWe-hrs actual electric output (on a gross basis).**

Comment 10:

Draft Permit, Section D.1.8 - It is our understanding that since permit limits and other underlying applicable requirement limits apply only to natural gas, all compliance stack testing will be conducted using natural gas fuel only.

Response 10:

The OAM agrees that compliance stack testing for Boiler No. 9 shall be conducted using natural gas fuel.

Comment 11:

Draft Permit, Section D.1.8(c) - The second and third sentences seem to be inconsistent. It is our understanding that this section is intended to mean that corrective actions should be implemented immediately if possible, but no later than within 30 days of receipt of the test results. Language in D.1.8(c) and (d) should be consistent with Section C.11(a) and (b).

Response 11:

The OAM addresses the corrective actions taken as a result of a noncompliant stack test in Condition C.11(a) and (b). The draft language in Condition D.1.8(c) and (d) is inconsistent and therefore has been removed as follows (strikeout characters represent deletions to the original condition):

D.1.8 Performance Testing

(a) Pursuant to 326 IAC 2-1-3 (Construction and Operating Permit Requirements) and 40 CFR 60 (NSPS), initial compliance tests of the Boiler No. 9 stack shall be performed for opacity, particulate matter and NO_X to demonstrate compliance with Operation Conditions D.1.2(b) and D.1.3.

(b) EPA Method 9 opacity tests shall be performed concurrently with the PM/PM_{10} compliance tests, unless meteorological conditions require rescheduling the opacity tests to another date.

(c) ~~Whenever the results of the stack test performed exceed the level specified in this permit, appropriate corrective actions shall be implemented within thirty (30) days of receipt of the test results. These actions shall be implemented immediately unless notified by OAM that they are acceptable. The Permittee shall minimize emissions while the corrective actions are being implemented.~~

~~(d) Whenever the results of the stack test performed exceed the level specified in this permit, a second test to demonstrate compliance shall be performed within 120 days. Failure of the second test to demonstrate compliance may be grounds for immediate revocation of this permit to operate the affected facility.~~

~~(e)~~ IDEM, OAM retains the authority under 326 IAC 2-1-4(f) to require the Permittee to perform additional and future compliance testing as necessary.

Comment 12:

Draft Permit, Part 70 Source Modification Certification form and Part 70 Source Modification Quarterly Report Form - The mailing addresses on these forms are incorrect. The new mailing address is correct as listed in Section A.1:

8407 Virginia Street
Merrillville, IN 46410

Response 12:

The OAM has approved the above clarification to the Part 70 Source Modification Certification form and Part 70 Source Modification Quarterly Report Form of the Significant Source Modification Permit.

Indiana Department of Environmental Management
Office of Air Management

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

Source Background and Description

Source Name:	Ironside Energy, LLC
Source Location:	3001 Dickey Road, East Chicago, Indiana 46312-1610
County:	Lake
Construction Permit No.:	CP-089-10842-00448
SIC Code:	4911
Permit Reviewer:	Michele M. Williams

The Office of Air Management (OAM) has reviewed an application from Ironside Energy, LLC (Ironside), relating to the construction and operation of an industrial steam and electric power cogeneration plant consisting of the following equipment:

(a) One industrial boiler, identified as Boiler No. 9, equipped with low-NOx burners. The boiler has a maximum heat input rate of 657 MMBtu per hour and a maximum continuous steam production rate of 460,000 pounds of steam per hour. The primary fuel will be blast furnace gas with natural gas as a backup/supplemental fuel.

(b) One steam turbine electric generator with a maximum rate of 50 MWe.

(c) One cooling tower.

Source Definition

Ironside, a wholly owned subsidiary of Primary Energy, Inc., is proposing to construct and operate the energy facility at the LTV Steel-Indiana Harbor Works (LTV) mill in East Chicago, Indiana. The steam and electricity produced will be used internally at the LTV mill. The boiler and steam turbine generator will be located in new buildings adjacent to the existing LTV boiler house. These two plants are considered one source because it meets all of the following criteria:

(a) Ironside and LTV are located on contiguous property;

(b) Ironside is an auxiliary activity which directly serves, and would otherwise not exist if not for, the purpose of LTV, the primary activity; and

(c) Ironside is characterized as a support facility to LTV because it provides all of its steam and electrical output to LTV.

Therefore, the term Asource@ in the Part 70 documents refers to both LTV Steel-Indiana Harbor Works and Ironside Energy, LLC as one source. Separate Part 70 permits will be issued to LTV and Ironside solely for administrative purposes.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (scfm)	Temperature (^{0}F)
9	Industrial Boiler No. 9	150	10.5	263,000	297
CT9	Cooling Tower	85	31.5	1,610,500	88

Recommendation

The staff recommends to the Commissioner that the Part 70 Significant Source Modification be approved. Information used in this review was derived from the application which was received on April 6,1999 and revised application material was received on October 19, 1999, October 22, 1999 and November 29, 1999.

Emissions Calculations

The emission calculations for the criteria pollutants and hazardous air pollutants (HAPs) are provided in Appendix A. Emission rates from the boiler are based on vendor data and Draft EPA AP-42 (5/98) emission factors utilizing 100 percent natural gas. Although the boiler will have the capability to burn natural gas and blast furnace gas (BFG), the emissions are calculated for natural gas only because the redistribution of BFG from the existing boilers or flares will offset any increases at the proposed boiler. Limited potential to emit calculations for natural gas have also been performed to demonstrate that PSD and emission offset requirements do not apply.

Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit (PTE) is defined as Athe 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.@

The following table reflects the PTE before controls of the criteria pollutants from the proposed modification. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	PTE (tons/year)
PM	25.2
PM-10	25.2
SO_2	1.7
VOC	15.8
CO	164
NO_x	156

The following table reflects the PTE before controls of the hazardous air pollutants (HAPs) from the proposed modification.

HAP	PTE (tons/year)	HAP	PTE (tons/year)	HAP	PTE (tons/year)
Benzene	0.0021	Arsenic	0.0002	Lead	0.0014
Formaldehyde	0.216	Beryllium	0.00001	Manganese	0.0011
Hexane	**5.18**	Cadmium	0.0011	Mercury	0.0007
Naphthalene	0.0018	Chromium	0.0040	Nickel	0.0060
Toluene	0.0098	Cobalt	0.0002	Selenium	0.00007
TOTAL					**5.43**

Justification for Modification

This approval to construct and operate an industrial steam and electric power cogeneration plant is being performed pursuant to 326 IAC 2-7-10.5(f)(4) as a Part 70 Significant Source Modification because at least one criteria pollutant (excluding lead) from the modification has a potential to emit 25 tons per year or more.

County Attainment Status

The source is located in Lake County.

Pollutant	Status
PM_{10}	Nonattainment
SO_2	Nonattainment
NO_2	Attainment or Unclassifiable
Ozone	Severe Nonattainment
CO	Attainment or Unclassifiable
Lead	Attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to the ozone standards. Lake County has been designated as nonattainment for ozone. 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 nonattainment for PM, PM10, and SO2. 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 for CO. Therefore, these emissions were reviewed pursuant to the requirements for PSD, 326 IAC 2-2 and 40 CFR 52.21.

Source Status

The following emissions summary table represents the existing source emissions after controls, based on 8,760 hours of operation per year at rated capacity according to the Facility Quick Look Report, dated January 22, 1999:

Pollutant	Emissions tons/year	Major Source Threshold Level tons/year	Program
PM	4825	100	326 IAC 2-3 - Emission Offset Rule
PM_{10}	3591	100	326 IAC 2-3 - Emission Offset Rule
SO_2	26214	100	326 IAC 2-3 - Emission Offset Rule
VOC	1490	25	326 IAC 2-3 - Emission Offset Rule
CO	46459	250	326 IAC 2-2 - PSD Rule
NO_x	22301	25	326 IAC 2-3 - Emission Offset Rule

(a) The existing source is a major PSD source as defined in 326 IAC 2-2-1 (PSD Definitions) because at least one regulated PSD pollutant (CO) is emitted at a rate of 250 tons per year or more.

(b) The existing source is a major stationary source as defined in 326 IAC 2-3-1 (Emission Offset Definitions) because at least one regulated nonattainment pollutant is emitted at a rate above its emission offset threshold level.

(c) The existing LTV source submitted its TV application (T-089-7099-00377) on November 6, 1996. The Ironside application submitted for this Part 70 Significant Source Modification shall also serve as its TV application (T-089-11557-00448).

Potential to Emit of Modification After Issuance

The following table summarizes the PTE, reflecting all limits, of the significant emission units after controls. The detailed calculations are provided in Appendix A. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

Pollutant	PM [1]	PM_{10} [1]	SO_2 [1]	CO [2]	VOC [3,4]	NO_x [3,4,5]
	tons/year					
Proposed Modification:						
Boiler with Limited NG Usage	7.9	7.9	0.6	59.4	5.7	56.3
Cooling Tower	3.4	3.4	0	0	0	0
Removal of Boiler No. 4	-1.0	-1.0	-0.1	---	-0.7	-38.2
Source Modification Project	10.3	10.3	0.5	---	5.0	18.1
Contemp Increases (Batch Anneal)	---	---	---	---	0.1	6.0
Contemp Decreases (None)	---	---	---	---	---	---
Net Emissions	---	---	---	---	5.1	24.1

PSD Significant Level	---	---	---	100	---	40 (NO_x)
Emission Offset Significant Level	25	15	40	---	25	25 (NO_x)

[1] The source modification project for PM, PM_{10} and SO_2 does not exceed its emission offset significant levels; therefore, contemporaneous emissions netting is not required for these pollutants

[2] The proposed modification for CO does not exceed its PSD significant level; therefore, contemporaneous emissions netting is not required

[3] The source modification project for ozone (NOx and VOC) exceeds zero; therefore, netting of all contemporaneous increases is required

[4] The contemporaneous decreases are not evaluated for ozone because it is a severe nonattainment pollutant

[5] NOx as NO2 is subject to PSD requirements pursuant to 326 IAC 2-2 and NOx as a precursor of ozone is subject to emission offset requirements pursuant to 326 IAC 2-3

(a) The source modification project involves the proposed new construction of Boiler No. 9 to be owned and operated by Ironside and the removal of the existing Boiler No. 4 which is owned and operated by LTV. The existing Boiler No. 4 at LTV was evaluated as part of the source modification project because Ironside is considered part of the same source as LTV. The existing 260 MMBtu per hour Boiler No. 4 has the capability of combusting BFG, natural gas, and No. 6 oil. The emission credits from the shutdown of Boiler No. 4 were determined using the most recent representative 2-year baseline period (1995-1996). The average annual emissions of criteria pollutants were determined for this baseline period for natural gas only. Boiler No. 4 did not burn No. 6 oil during this period and BFG was not included as an emission credit because the redistribution of BFG from the existing Boiler No. 4 or flare will offset any increases at the proposed Boiler No. 9.

(b) A federally enforceable natural gas fuel usage limit of 2080 MMCF per year shall be required on the proposed boiler to avoid the PSD (326 IAC 2-2 and 40 CFR 52.21) and emission offset (326 IAC 2-3) requirements. The boiler can utilize an unlimited amount of blast furnace gas (BFG) because the BFG is already generated by other existing processes.

(c) This proposed modification to an existing Major PSD Source, as defined in 326 IAC 2-2-1 (PSD Definitions), is not major for CO because the limited emissions of this attainment pollutant from the proposed modification is less than its PSD significant level. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

(d) This proposed modification to an existing Major Stationary Source, as defined in 326 IAC 2-3-1 (Emission Offset Definitions), is not major for PM, PM_{10} and SO_2 because the limited emissions of each of these nonattainment pollutants from the source modification project is less than its emission offset significant level (see the definition of ASignificant@ pursuant to 326 IAC 2-3-1(y)). Therefore, pursuant to 326 IAC 2-3, the emission offset requirements do not apply.

(e) This proposed modification to an existing AMajor Stationary Source@, as defined in 326 IAC 2-3-1 (Emission Offset Definitions), is not major for ozone (NOx and VOC), a severe nonattainment pollutant, because the respective sums of the NOx and VOC emission increases from the source modification project and all other NOx and VOC increases from the source over a five consecutive calendar year period prior to, and including, the year of the modification does not exceed its emission offset significant

level (see the definitions of ANet Emissions Increase@, ADe Minimis@, and ASignificant@ pursuant to 326 IAC 2-3-1(t), 326 IAC 2-3-1(j), and 326 IAC 2-3-1(y), respectively). Therefore, pursuant to 326 IAC 2-3, the emission offset requirements do not apply.

State and Federal Rule Applicability

326 IAC 1-5-2 and 326 IAC 1-5-3 (Emergency Reduction Plans)
Pursuant to 326 IAC 1-5-2 (Submission of Emergency Reduction Plan):

(a) The Permittee shall prepare a written emergency reduction plan (ERP) consistent with safe operating procedures.
(b) The ERP shall be submitted for approval to the IDEM, OAM Compliance Branch.

(c) If the ERP is disapproved by IDEM, OAM, the Permittee shall have an additional 30 days to resolve the differences and submit an approvable ERP. If after this time the Permittee does not submit an approvable ERP, then IDEM, OAM shall supply such a plan.

(d) The ERP shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.

(e) The ERP shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.

Pursuant to 326 IAC 1-5-3 (Implementation of ERP), the Permittee shall immediately put into effect the actions stipulated in the approved ERP upon direct notification by OAM that a specific air pollution episode level is in effect.

326 IAC 1-6-3 (Preventive Maintenance Plans)
(a) The Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within sixty (60) days upon commercial operation. The PMPs shall include the following information:

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

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

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

(b) The Permittee shall implement the PMPs as necessary to ensure that lack of proper maintenance does not cause or contribute to a violation of any limitation on emissions or potential to emit.

(c) PMPs shall be submitted to OAM upon request and shall be subject to review and approval by OAM.

326 IAC 2-1-3.4 (New Source Toxic Control)
The New Source Toxics Control rule requires any new or reconstructed major source of hazardous air pollutants (HAPs), for which there is no applicable NESHAP, to conduct a maximum achievable control technology (MACT) review on a case-by-case basis when the potential to emit is greater than 10 tons per year of any single

HAP or 25 tons per year of any combination of HAP. The proposed cogeneration plant is not defined as an electric utility steam generating unit; therefore, it is not exempt pursuant to 326 IAC 2-1-3.4(b)(1).

Ironside is not subject to the requirements of the New Source Toxics Control because the potential to emit of a single HAP (hexane = 5.18 tons per year) is less than 10 tons per year and the potential to emit of combined HAPs (5.43 tons per year) is less than 25 tons per year.

326 IAC 2-2 and 40 CFR 52.21 (Prevention of Significant Deterioration Requirements)
The proposed industrial steam and electric power cogeneration plant is not subject to the PSD rules because limited potential to emit for all attainment pollutants (CO and NOx) are below the significant threshold levels reported in 326 IAC 2-2-1.

326 IAC 2-3 (Emission Offset Requirements)
The proposed industrial steam and electric power cogeneration plant is not subject to the emission offset rules because the limited potential to emit for all nonattainment pollutants are below the significant threshold levels reported in 326 IAC 2-3-1.

326 IAC 2-6 (Emission Reporting)
The proposed industrial steam and electric power cogeneration plant is subject to 326 IAC 2-6 (Emission Reporting) because at least one listed pollutant exceeds its emission threshold level. Because the proposed source is located in Lake County, this rule applies when the NOx or VOC PTE exceeds 10 tons per year. This rule also applies to sources when the CO, PM10, or SO2 PTE exceeds 100 tons per year or when the lead PTE exceeds 5 tons per year.

Pursuant to 326 IAC 6-2-3(a), the owner or operator of the proposed source must annually submit an emission statement. The annual statement must be received by April 15 of each year and must contain the minimum requirements as specified in 326 IAC 2-6-4.

326 IAC 3-5 (Continuous Monitoring of Emissions)
The proposed industrial steam and electric power cogeneration plant is subject to 326 IAC 3-5 (Continuous Monitoring of Emissions) because the unit is a fossil fuel-fired steam generator with a heat input capacity greater than 100 MMBtu per hour as defined in 326 IAC 3-5-1(b)(2).

(a) Pursuant to 326 IAC 3-5-1(c)(2)(A)(i), an opacity monitor is not required because only gaseous fuel is combusted. The fuels to be combusted in the proposed Boiler No. 9 include natural gas and BFG.

(b) Pursuant to 326 IAC 3-5-1(c)(2)(B), an SO2 continuous emission monitor (CEM) is not required because the proposed boiler is not equipped with an SO2 control and 40 CFR 60 Subpart Db does not require and SO2 monitor because only gaseous fuel (natural gas and BFG) is combusted.

(c) Pursuant to 326 IAC 3-5-1(c)(2)(C), a NOx CEM is required because the boiler is equipped with low-NOx burners. The NOx CEM shall determine compliance with 326 IAC 12.

(d) Pursuant to 326 IAC 3-5-1(c)(2)(D), the percent O2 or CO2 if measurements of O2 or CO2 in the flue gas are required to convert NOx CEM data to units of the emission limitation for the particular facility.

(e) For NOx and CO2 or O2, the Permittee shall install, calibrate, certify, operate and maintain a continuous monitoring system for each steam generating unit in accordance with 326 IAC 3-5:

(1) The CEM shall measure NOx and CO2 or O2 emissions rates in pounds per hour and parts

per million (ppmvd). The use of CEMs to measure and record the NOx and CO2 or O2 hourly limits is sufficient to demonstrate compliance. The source shall maintain records of the parts per million and pounds per hour.

(2) The Permittee shall submit to OAM, within 90 days after monitor installation, a complete written continuous monitoring standard operating procedure (SOP), in accordance with the requirements of 326 IAC 3-5-4.

(3) The Permittee shall record the output of the system and shall perform the required record keeping, pursuant to 326 IAC 3-5-6, and reporting, pursuant to 326 IAC 3-5-7. The source shall also be required to maintain records of the amount of natural gas combusted per boiler on a monthly basis and the heat input capacity.

326 IAC 5-1 (Opacity Limitations)
The proposed industrial steam and electric power cogeneration plant is subject to 326 IAC 5-1-1 (Opacity Limitations) because opacity, not including condensed water vapor, is emitted from the facilities at the source. Pursuant to 326 IAC 5-1-1(c), sources located in Lake County are subject to 326 IAC 5-1-2(2). According to 326 IAC 5-1-2(2), opacity is limited to an average of 20 percent in any one 6 minute averaging period and 60 percent for more than a cumulative total of 15 minutes (60 readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen 1 minute nonoverlapping integrated averages for a continuous opacity monitor) in a 6 hour period.

326 IAC 6-1 (Nonattainment Area Particulate Limitations)
The proposed industrial steam and electric power cogeneration plant is subject to 326 IAC 6-1 (Nonattainment Area Particulate Limitations) because the existing source (LTV Steel) is located in Lake County, a nonattainment area for particulate matter as listed in 326 IAC 6-1-7, and has the potential to emit 100 tons or more of particulate matter per year.

The proposed gaseous fuel-fired boiler is subject to the Afuel combustion steam generator@ category requirements (326 IAC 6-1-2(b)(5)) which limits the particulate matter emissions from fossil fuel combustion (this does not include blast furnace gas) to no more than 0.01 grains per dry standard cubic feet (dscf).

326 IAC 6-2 (Particulate Emissions Limitations for Sources of Indirect Heating)
The proposed industrial steam and electric power cogeneration plant is not subject to the requirements of 326 IAC 6-2 because the proposed plant is subject to the requirements of 326 IAC 6-1 (Nonattainment Particulate Emission Limitations). Pursuant to the applicability requirements (326 IAC 6-2-1(d) and (e)), if any limitation established by this rule is inconsistent with applicable limitations contained in 326 IAC 6-1 (Nonattainment Particulate Emission Limitations) or 326 IAC 12 (New Source Performance Standards), then the limitations contained in 326 IAC 6-1 or 326 IAC 12 prevail.

326 IAC 6-3 (Particulate Emissions Limitations for Process Operations)
The proposed industrial steam and electric power cogeneration plant is not subject to the requirements of 326 IAC 6-3 because the proposed plant is subject to the requirements of 326 IAC 6-1 (Nonattainment Particulate Emission Limitations). Pursuant to the applicability requirements (326 IAC 6-3-1(b)), if any limitation established by this rule is inconsistent with applicable limitations contained in 326 IAC 6-1 (Nonattainment Particulate Emission Limitations) or 326 IAC 12 (New Source Performance Standards), then the limitations contained in 326 IAC 6-1 or 326 IAC 12 prevail.

326 IAC 6-4 (Fugitive Dust Emission Limitations)

The proposed industrial steam and electric power cogeneration plant is subject to the requirements of 326 IAC 6-4 because this rule applies to all sources of fugitive dust. Pursuant to the applicability requirements (326 IAC 6-2-1(d) and (e)), Afugitive dust@ means the generation of particulate matter to the extent that some portion of the material escapes beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located. The source shall be considered in violation of this rule if any of the criteria presented in 326 IAC 6-4-2 are violated.

326 IAC 6-5 (Fugitive Particulate Matter Emissions Limitations)
The proposed industrial steam and electric power cogeneration plant is subject to the requirements of 326 IAC 6-5 because the proposed new plant must obtain a permit pursuant to 326 IAC 2. However, the OAM shall exempt the source from the fugitive control plan pursuant to 326 IAC 6-5-3(b) because the proposed plant will not have material delivery or handling systems that would generate fugitive emissions and all the roads and parking areas will be paved.

326 IAC 7-1 (Sulfur Dioxide Emission Limitations)
The proposed industrial steam and electric power cogeneration plant is subject to the requirements of 326 IAC 7-1 because the plant is a fuel combustion facility and the SO2 potential to emit is greater than 25 tons per year. Pursuant to 326 IAC 7-1.1-2, there are no specific emission limitations for the combustion of natural gas. Pursuant to 326 IAC 7-2-1, the Permittee shall submit natural gas reports of calendar month average sulfur content, heat content, natural gas fuel consumption, and sulfur dioxide emission rate in pounds per million Btu upon request of the OAM.

326 IAC 8 (Volatile Organic Compound Requirements)
The proposed plant is not subject to any state VOC requirements because there is not a source specific RACT for the proposed operation and the VOC potential to emit does not exceed the BACT applicability requirements of 25 tons per year.

326 IAC 9 (Carbon Monoxide Emission Limitations)
The proposed plant is subject to 326 IAC 9 (Carbon Monoxide Emission Limitations) because it is a stationary source which emits CO emissions and commenced operation after March 21, 1972. However, there are no specific emission limitations required by this rule because the source is not an operation listed under 326 IAC 9-1-2.

326 IAC 10 (Nitrogen Oxide Emission Limitations)
The proposed plant is not subject to the requirements of 326 IAC 10 (Nitrogen Oxide Emission Limitations) because the proposed plant is not located in Clark County or Floyd County.

326 IAC 12 and 40 CFR 60 Subpart Da (NSPS for Electric Utility Steam Generating Units)
The proposed industrial steam and electric power cogeneration plant is not subject to the New Source Performance Standard (NSPS) for Electric Utility Steam Generating Units (40 CFR 60 Subpart Da) because the boiler is not defined as an electric utility steam generating unit. An electric utility steam generating unit means any steam electric generating unit that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam supplied to a steam distribution system for the purpose of providing steam to a steam-electric generator that would produce electrical energy for sale is also considered in determining the electrical energy output capacity of the affected facility.

According to source information, the proposed industrial steam and electric power co-generation plant only produces and supplies steam and electricity to the LTV mill. An operation condition has been included in the proposed construction permit to ensure that this rule does not apply.

326 IAC 12 and 40 CFR 60 Subpart Db (NSPS for Industrial Steam Generating Units)

The proposed industrial steam and electric power cogeneration plant is subject to the New Source Performance Standard (NSPS) for Industrial Steam Generating Units (40 CFR 60 Subpart Db) because the unit will be constructed after June 19, 1984 and will have a heat input capacity greater than 100 MMBtu per hour.

(a) The proposed gaseous fuel-fired boiler is not subject to the requirements of 40 CFR 60.42b (Sulfur Dioxide Standards) because these standards only apply to units that combust coal or oil.

(b) The proposed gaseous fuel-fired boiler is not subject to the requirements of 40 CFR 60.43b (Particulate Matter Standards) because these standards only apply to units that combust coal, oil, wood, and municipal-type solid waste.

(c) The proposed gaseous fuel-fired boiler is subject to the requirements of 40 CFR 60.44b(a) (Nitrogen Oxide Standards) because it combusts natural gas. Pursuant to this standard, the proposed boiler shall not cause to be discharged into the atmosphere any gases that contain NOx in excess of 0.10 pounds per MMBtu.

(d) Pursuant to 40 CFR 60.46b(e) (Compliance and Performance Test Methods and Procedures for Nitrogen Oxide), the proposed boiler is subject to the following requirements:

(1) The Permittee shall conduct the performance test as required under 40 CFR 60.8 using the continuous system;

(2) The initial compliance test shall be monitored for 30 successive steam generating unit operating days pursuant to 40 CFR 60.46b(e)(1). The 30-day average emission rate shall calculated as the average of all hourly emissions data recorded by the monitoring system during the 30-day test period to demonstrate compliance with the NOx emission rate required by 40 CFR 60.44b(a); and

(3) Following the date on which the initial performance test is completed, the Permittee shall determine compliance with the NOx emission rate required by 40 CFR 60.44b(a) on a continuous basis through the use of a 30-day rolling average emission rate pursuant to 40 CFR 60.46(e)(3). A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly NOx emission data for the preceding 30 steam generating unit operating days.

(e) Pursuant to 40 CFR 60.48b (Emission Monitoring), the proposed boiler is subject to the following requirements:

(1) The Permittee shall install, calibrate, maintain, and operate a continuous monitoring system for measuring NOx emissions discharged to the atmosphere and record the output of the system;

(2) The CEM shall be operated and data recorded during all periods of operation of the proposed boiler except for continuous monitoring system breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments;

(3) The 1-hour average NOx emission rates measured by the continuous NOx monitor shall be

expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rate. The 1-hour averages shall be calculated using the data points required by 40 CFR 60.13(b). At least 2 data points must be used to calculate each 1-hour average;

(4) The procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of the CEM. The span value for NOx is 500 ppm.

(5) When NOx emission data is not obtained due to CEM breakdowns, repairs, calibration checks and zero and span adjustments, emission data shall be obtained using standby monitoring systems, Method 7, Method 7A, or other approved reference methods to provide emission data for a minimum of 75 percent of the operating hours in each steam generating unit operating day, in at least 22 out of 30 successive steam generating unit operating days.

(f) Pursuant to 40 CFR 60.49b (Reporting and Recordkeeping Requirements), the proposed boiler is subject to the following requirements:

(1) The Permittee shall submit notification of the date of initial startup, as provided by 40 CFR 60.7. This notification shall include the design heat input capacity, identification of fuels to be combusted, and the anticipated annual capacity factor for each fuel fired. The Permittee shall also submit the performance test data from the initial performance test and the performance evaluation of the CEM using the applicable performance specifications in appendix B.

(2) The Permittee shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor for each fuel for each calendar quarter. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.

(3) The Permittee shall maintain records of the following information for each steam generating unit operating day and submit quarterly reports to be postmarked by the 30th day following the end of each calendar quarter:

(A) Calendar date;

(B) Average hourly NOx emission rates (expressed as NO2)(ng/J or lb/MMBtu heat input) measured or predicted.

(C) The 30-day average NOx emission rates (ng/J or lb/MMBtu heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly NOx emission rates for the preceding 30 steam generating unit operating days.

(D) Identification of the steam generating unit operating days when te calculated 30-day average NOx emission rates are in excess of the NOx emission standard under 40 CFR 60.44b, with the reasons for such excess emissions as well as a description of corrective actions taken.

(E) Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken.

(F) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data.

(G) Identification of AF@ factor used for calculations, method of determination, and type of

fuel combusted.

(H) Identification of the times when the pollutant concentration exceeded full span of the continuous monitoring system.

(I) Description of any modifications to the continuous monitoring system that could affect the ability of the continuous monitoring system to comply with Performance Specification 2 or 3.

(J) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1.

(4) Because the proposed boiler is subject to the NOx standard of 40 CFR 60.44b and combusts natural gas with a nitrogen content of 0.3 weight percent or less, the Permittee shall submit excess emission reports for any calendar quarter during which there are excess emissions. If there are no excess emissions during the calendar quarter, the Permittee shall submit a report semiannually stating that no excess emissions occurred during the semiannual reporting period. Excess emissions are defined as any calculated 30-day rolling average NOx emission rate.

(5) All records shall be maintained by the Permittee for a period of 2 years following the date of such record.

40 CFR 63 (National Emissions Standards for Hazardous Air Pollutants)
There are presently no proposed or final National Emissions Standards for Hazardous Air Pollutant (NESHAP) regulations for Industrial Steam Generating Units.

326 IAC 21 and 40 CFR 72 (Acid Rain Program)
The proposed industrial steam and electric power cogeneration plant is not subject to the requirements of the Acid Rain Program because it does not meet the definition of an affected unit. Pursuant to 40 CFR 72.6(b)(4)(ii), a cogeneration facility which supplies equal to or less than one-third its potential electrical output capacity on an annual basis to any utility power distribution system for sale is not considered an affected unit subject to the requirements of this rule. However, if in any three calendar year period after November 15, 1990, the unit sells to a utility power distribution system an annual average of more than one-third of its potential electrical output capacity and more than 219,000 MWe-hrs actual electric output (on a gross basis), that unit shall be an affected unit subject to the requirements of the Acid Rain Program.

The proposed industrial steam and electric power cogeneration plant only produces and supplies steam and electricity to the LTV mill. An operation condition has been included in the proposed construction permit that enforces that the steam and electricity generated shall only be utilized at the LTV mill.

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, OAM, 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.

Conclusion

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 089-10842-00448.

Appendix B: Air Quality Modeling Analysis

Source Name:	Ironside Energy, LLC
Source Location:	3001 Dickey Road, East Chicago, Indiana 46312-1610
County:	Lake
Construction Permit No.:	CP-089-10842-00448
Permit Reviewer:	Steve Sherman

Ironside Energy, LLC has requested a construction permit (CP 089-10842-00448) to construct and operate a 50 MW generator and cooling tower for internal use at the LTV mill in Lake County, Indiana. This site in Lake County is designated nonattainment for Ozone and portions of the county are Nonattainment for PM10 and SO2, while other portions of Lake County are nonattainment for CO.

The air quality impact analysis will accomplish the following objectives:

A. with respect to Good Engineering Practice (GEP)

B. Demonstrate that the source will not cause a violation of the National Ambient Air Quality Standards (NAAQS) or Prevention of Significant Deterioration (PSD) increment.

C. Perform analysis of any Hazardous Air Pollutant (HAP) for health risk factor on general population.

Dames & Moore prepared the revision to Ironside's permit application. This was received by the Office of Air Management (OAM) on October 22, 1999. This document provides the Air Quality Modeling Section's review of the application.

Executive Summary

Ironside has asked to construct a 50 MW condensing steam turbine electric generator, and a 657 MMBTU/hr steam boiler at its East Chicago facility. Portions of Lake County are non-attainment for CO, PM10 and SO2. Lake county is classified as severe non-attainment for ozone. Lake county is attainment for all other pollutants. Modeling for PM10, NOx and CO shows that the project will not contribute to a violation of the NAAQS.

Part A - Pollutants Analyzed for Impact

The net change in emissions due to the project are listed in Table 1. The figures for each pollutant are the worst-case scenario for that pollutant.

Table 1
Change in Total Emissions in Tons per year due to Project

	PM10	SO2	NOx	CO	VOC
Ironside Energy	24.6	1.7	152.5	161	15.8
Ironside Energy*	-32.5	-510.4	6.0	95.6	13.5
De Minimus Levels	15	40	40	100	25

* Net emission changes including emission reduction credits and contemporaneous changes after the proposed project

For this PSD permit, no modeling was performed for pollutants that did not have de minimus increases in emissions, and was not in or near a non-attainment area, namely VOC and NOx.

Dames and Moore performed modeling for CO, SO2 and PM10 which demonstrated that no air quality standard violation would result in the non-attainment area for the PM10 CO and SO2 air quality standards. Modeling was performed for all HAP emissions.

Additional modeling the source's impact on general growth, soils, vegetation and visibility in the impact area with emphasis on any Class I areas was not performed due to the lack of any pollutant exceeding De Minimus levels and no Class I areas exist within 100 kilometers within the project.

The Industrial Source Complex Short-Term Model version 3 (ISCST3 version 99155) was used to calculate impacts from this project. Meteorological data for ISCST3 consisted of surface data taken from the Hammond on-site tower combined with the mixing heights of Peoria, IL for the five year period (1991-1995) for CO. Guidance from the Emissions Trading Policy Statement only requires the most recent year of meteorology for Level II analysis that was performed for PM10 and SO2. Building dimension parameters for aerodynamic downwash were generated from EPA's Building Profile Input Program (BPIP).

Part B - Modeling for National Ambient Air Quality Standards

CO Modeling - Table 2 shows the modeling results for Carbon Monoxide. Emission increases were less than de minimus in this attainment area for this PSD permit, so only the project impact without decreases was modeled. The increasing sources are more than 2.5 kilometers away from the non-attainment area, receptors were placed every 100 meters around the perimeter of the non-attainment area. Since the project's impact is less than PSD significance levels, and less than one-sixth of the minimum monitor detection levels* the project could not contribute to any exceedence in the non-attainment area.

* This is calculated by the reporting level of monitors for CO 0.1 ppm multiplied by the conversion for CO: 1 ppm of CO = 1,145 ug/m3

Table 2
CO Modeling Results

Pollutant	Time Period	Project's Impact (ug/m3)	Peak Year	UTM's North (kilometers)	UTM's East (kilometers)	Significant Impact (ug/m3)	Minimum Detectable (ug/m3)
CO	1-Hour	17.6	1995	462.145	4609.653	2000	114.5
CO	8-Hour	4.8	1992	461.652	4609.653	500	114.5

PM10 Modeling - A Level II analysis was performed for PM10 using the 1995 meteorology. This involves simulating the project increases with positive emission rates and the project shut down and credits with negative emission rates. A 100 meter receptor grid was used around the LTV property. Results of the modeling are shown in Table 3. A decrease in emissions results in an impact of exactly zero for the annual period and less than significance levels for the 24-hour period which gives assurance that the project will not contribute to an exceedence of the standard.

Table 3
PM10 Modeling Results

Time Period	Peak Impact (ug/m3)	Peak North	UTM's East	Level II Significance (ug/m3)
Annual	0.0	- - -	- - -	5
24-Hour	2.1	462.562	4612.204	10

SO2 Modeling - A Level II analysis was performed for SO2 using the 1995 meteorology. This involves simulating the project increases with positive emission rates and the project shut down and credits with negative emission rates. A 100 meter receptor grid was used around the LTV property. Results of the modeling are shown in Table 4 below. A decrease in emissions results in an impact of less than zero for the annual period and less than significance levels for the 3-hour and 24-hour periods gives assurance that the project will not contribute to an exceedence of the standard.

Table 4
SO2 Modeling Results

Time Period	Peak Impact (ug/m3)	Peak North	UTM's East	Level II Significance (ug/m3)
Annual	-0.1	Many	Many	3
24-Hour	0.1	462.600	4612.200	13
3-Hour	0.2	462.562	4612.204	46

Part C - Modeling for Hazardous Air Pollutants (HAPs)

IDEM performed modeling for all HAPs using ISCST version 3 with the latest available year of meteorological data. Indiana allows for an 8-hour exposure of one-half of one percent of the Occupational Safety and Health Administration's (OSHA) Physical Exposure Limit (PEL). The safety factor of 200 is to account for the increased health risk to the population with impaired health. Table 5 below displays the peak concentration which occurred.

Table 5
HAPS Modeling Results

Pollutant	PEL (ug/m3)	Emission Rate (Lbs/hour)	Impact (ug/m3)	% of PEL
Benzene	3200	0.0014	0.0018	0.000056
Formaldehyde	930	0.048	0.063	0.0068
Hexane	1800000	1.16	1.51	0.00008
Naphthalene	50000	0.0004	0.0052	0.00001
Toluene	750000	0.0022	0.0029	0.0000003
Arsenic	10	0.0002	0.00013	0.0013

Beryllium	2	0.00001	0.000013	0.00065
Cadmium	5	0.0007	0.00091	0.018
Chromium	500	0.0009	0.0012	0.00024
Cobalt	100	0.0001	0.00013	0.00013
Lead	50	0.0003	0.00039	0.00078
Manganese	5000	0.0002	0.00026	0.000005
Mercury	100	0.0002	0.00026	0.00026
Nickel	1000	0.0014	0.0018	0.00018
Selenium	200	0.00001	0.000013	0.0000065

The peak impact for all HAP pollutants are much less than 0.5% of the PEL.

Conclusion

This modeling shows that the project will not contribute to any exceedence in the CO, PM10 or SO2 non-attainment areas, and that no adverse health impacts would be expected from the project.

Appendix A: Emission Calculations
Natural Gas Combustion Only
MMBTU/HR >100
Utility Boiler

Company Name: Ironside Energy Corporation
Source Address: 3001 DickeyRoad; East Chicago, Indiana 46312
CP: 089-10842
Plt ID: 089-00448
Reviewer: Michele M. Williams
Date: 11/10/99

A. Potential To Emit of Boiler No. 9

The following calculations reflect the PTE before controls from the proposed boiler.

Heat Input Capacity, MMBtu/hr:	657	Potential Throughput, MMCF/yr:	5755		
	Criteria Pollutants				
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor, lb/MMCF	7.6	7.6	0.6	54.1	5.5	57.1
Potential Emissions, tons/yr	21.9	21.9	1.73	156	15.8	164

*PM emission factor is filterable PM only. Because a speciation of the PM has not been conducted, Ironside agrees to assume that all PM consists of PM10.

Methodology: All emission factors are based on normal firing
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors for PM, PM10, VOC and SO2 are from AP-42, Chapter 1.4, Table 1.4-2 (AP-42 2/98)
Emission Factors for NOx and CO are guaranteed from vendor specifications
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

	Hazardous Air Pollutants				
	Benzene	Formaldehyde	**Hexane**	Napthalene	Toluene
Emission Factor in lb/MMcf	2.1E-03	7.5E-02	1.8E+00	6.1E-04	3.4E-03
Potential Emissions, tons/yr	6.04E-03	2.16E-01	**5.18E+00**	1.76E-03	9.78E-03
	Arsenic	Beryllium	Cadmium	Chromium	Cobalt
Emission Factor, lb/MMcf	2.0E-04	1.2E-05	1.1E-03	1.4E-03	8.4E-05
Potential Emissions, tons/yr	5.76E-04	3.45E-05	3.17E-03	4.03E-03	2.42E-04
	Lead	Manganese	Mercury	Nickel	Selenium
Emission Factor, lb/MMcf	5.0E-04	3.8E-04	2.6E-04	2.1E-03	2.4E-05
Potential Emissions, tons/yr	1.44E-03	1.09E-03	7.48E-04	6.04E-03	6.91E-05
Total Combined HAP Emissions, tons/yr	**5.43**				

Methodology: All emission factors are based on normal firing
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors for HAP emissions are from AP-42, Chapter 1.4, Tables 1.4-3 and 1.4-4 (AP-42 2/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

B. Limited Potential To Emit of Boiler No. 9

The following calculations reflect the limited PTE from the proposed boiler such that emission offset and PSD regulations do not apply. The netting

analysis that demonstrates that emission offset and PSD do not apply is shown in the PTE of Modification After Issuance section of the TSD (p. 4 or 10).

Heat Input Capacity, MMBtu/hr:	657	Limited Throughput, MMCF/yr:	2080			
	Criteria Pollutants					
Emission Factor, lb/MMCF	PM* 7.6	PM10* 7.6	SO2 0.6	NOx 54.1	VOC 5.5	CO 57.1
Limited Emissions, tons/yr	7.9	7.9	0.6	56.3	5.7	59.4

	Hazardous Air Pollutants				
Emission Factor in lb/MMcf	Benzene 2.1E-03	Formaldehyde 7.5E-02	**Hexane** 1.8E+00	Napthalene 6.1E-04	Toluene 3.4E-03
Limited Emissions, tons/yr	2.18E-03	7.80E-02	**1.87E+00**	6.34E-04	3.54E-03
Emission Factor, lb/MMcf	Arsenic 2.0E-04	Beryllium 1.2E-05	Cadmium 1.1E-03	Chromium 1.4E-03	Cobalt 8.4E-05
Limited Emissions, tons/yr	2.08E-04	1.25E-05	1.14E-03	1.46E-03	8.74E-05
Emission Factor, lb/MMcf	Lead 5.0E-04	Manganese 3.8E-04	Mercury 2.6E-04	Nickel 2.1E-03	Selenium 2.4E-05
Limited Emissions, tons/yr	5.20E-04	3.95E-04	2.70E-04	2.18E-03	2.50E-05
Limited Combined HAP Emissions, tons/yr		**1.96**			

C. Potential To Emit of Cooling Tower

Assumptions:
- Cooling tower make up water is from Lake Michigan with 276 mg/L of total dissolved solids (TDS).
- Cooling tower will operate with 5.0 cycles of concentration (CC) and a circulating water flowrate (CW) of 53,600 gal/min
- Cooling tower drift rate (DR) is 0.002% of the circulating water flowrate
- Cooling tower operation is continuous, 24 hours per day, 365 days per year
- Circulating water chemical additives (CA) add 15 mg/L dissolved solids to circulating water TDS

Calculation:

Circulating Water TDS = (CC)[(TDS) + (CA)]
= (5.0) [(276 mg/L) + (15 mg/L)]
= 1455 mg/L * 1 g/1000 mg * 3.785 L/gal * 1 lb/453.6 g
= 0.012 lb/gal

Drift Generation = (DR) (CW)
= 0.00002 * 53,600 gal/min * 60 min/hr * 8760 hr/yr
= 563,443 gal/yr

Particulate Emissions = (Drift Generation) (Circulating Water TDS)
= 0.012 lb/gal * 563,443 gal/yr * 1 ton/2000 lbs
= 3.38 tons/yr