Thomas M. McDermott, Jr.
Mayor

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
CITY OF HAMMOND
RONALD L. NOVAK
Director

February 8, 2005

Certified Mail: 9059 7271

Mark Volkmann
EHS Coordinator
Jupiter Aluminum Corporation
1745 – 165th Street
Hammond, Indiana 46320

Re: 089-17445-00201
Significant Permit Modification to:
Part 70 permit No.: T089-5838-00201

Dear Mr. Volkmann:

Jupiter Aluminum Corporation was issued Part 70 operating permit T089-5838-00201 on March 4, 1998 for Secondary Aluminum Processing. A letter requesting changes to this permit was received on February 20, 2003. Pursuant to the provisions of 326 IAC 2-7-12 a significant permit modification to this permit is hereby approved as described in the attached Technical Support Document.

The modification allows the use of waste oil as a fuel for Furnaces #3, #4, and Holding Furnace #1 and relaxes a previous sulfur dioxide (SO_2) limitation. Record keeping and reporting requirements were added or modified for Furnaces #2, #3, #4, #6, and Holding Furnace #1. The reporting form for waste oil use and sulfur content has been modified.

All other conditions of the permit shall remain unchanged and in effect.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter call at (219) 853-6306 and ask for Ronald Holder.

Sincerely,

Ronald L. Novak, Director
Hammond Department of Environmental Management
Air Pollution Control Division

Enclosure

cc: IDEM-OAQ – Mindy Hahn - Permits Administration

5925 Calumet Avenue
Hammond. IN 46320
219. 853.6306
fax: 219 853 6343

Thomas M. McDermott, Jr.
Mayor

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
CITY OF HAMMOND
RONALD L. NOVAK
Director

PART 70 OPERATING PERMIT

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
and
HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Jupiter Aluminum Corporation
1745 - 165th Street
Hammond, Indiana 46320

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

This permit is issued 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 and 326 IAC 2-1-3.2 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.

Operation Permit No.: T089-5838-00201	
Original Issued by: Felicia R. George, Assistant Commissioner Office of Air Quality	Issuance Date: March 4, 1998

Administrative Amendment: 089-11158-00201	Issuance Date: August 26, 1999
Administrative Amendment: 089-12405-00201	Issuance Date: September 29, 2000
Minor Permit Modification: 089-15027-00201	Issuance Date: January 2, 2002

Significant Permit Modification: 089-17445-00201	Pages Affected: 1, 4-8, 33-40, and 53
Issued by: _____ Ronald L. Novak, Director Hammond Department of Environmental Management	Issuance Date: February 8, 2005

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This section has been removed and intentionally left blank because it was an Enhanced New Source Review and Construction Approval for the reconstruction and modification of Aluminum Reverberatory Furnace No. 6. That construction was completed. The unit description, applicable limitations, and conditions for Aluminum Reverberatory Furnace No. 6, as modified, were previously included in Section D.3.

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Emergency/Deviation Occurrence Report 46 & 47
Compliance Report Form 48
Baghouse Static Pressure Drop Record Keeping Form 49
Thermal Afterburner Temperature Record Keeping Form 50
Visible Emissions Notations Record Keeping Form 51 & 52
Waste Oil Use Reporting Form 53

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) and Hammond Department of Environmental Management, and 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 a Secondary Aluminum Production Plant.

Responsible Official:	Executive Vice President
Source Address:	1745 - 165th Street, Hammond, Indiana 46320
Mailing Address:	(same)
SIC Code:	3353 - Aluminum Sheet, Plates, & Foil (Secondary Aluminum Processing)
County Location:	Lake County
County Status:	Attainment for PM10, NOx, CO, and Lead Nonattainment for SO_2 Nonattainment for ozone under the 8-hour standard Nonattainment for ozone under the 1-hour standard
Source Status:	Part 70 Permit Program Major Source under PSD and Emission Offset Rules;

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

Jupiter Aluminum Corporation is a secondary aluminum processing plant which only includes smelting/refining. Jupiter Aluminum does not pretreat scrap received at the plant. The scrap is received from various sources, in various forms and is warehoused until processing.

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

(1) Cleaver Brooks Boiler (BS-10) (Stack ID BS-10.1)

This boiler has a maximum design rate of 6 million Btu/hr heat input and is natural gas fired only. The unit is used to provide steam for the casters.

(2) Annealing Furnace No. 1 (AS-3) (Stack ID AS-3.1 and 3.2)

This unit has a maximum design rate of 9 million Btu/hr heat input and is natural gas fired only. The unit is used to stress-relieve rolled aluminum strip coils. There are no pollution control equipment associated with this facility.

(3) Annealing Furnace No. 2 (AS-4) (Stack ID AS-4.1, 4.2, 4.3 and 4.4)

This unit has a maximum design rate of 16 million Btu/hr heat input and is natural gas fired only. The unit is used to stress-relieve rolled aluminum strip coils. There are no pollution control equipment associated with this facility.

(4) Annealing Furnace No. 3 (AS-5) (Stack ID AS-5.1, 5.2, 5.3, and 5.4)

This unit has a maximum design rate of 16 million Btu/hr heat input and is natural gas fired only. The unit is used to stress-relieve rolled aluminum strip coils. There are no pollution control equipment associated with this facility.

(5) Annealing Furnace No. 4 (AS-6) (Stack ID AS-6.1 and 6.2)

This unit has a maximum design rate of 13.5 million Btu/hr heat input and is natural gas fired only. The unit is used to stress-relieve rolled aluminum strip coils. There are no pollution control equipment associated with this facility.

(6) Annealing Furnace No. 5 (AS-7) (Stack ID AS-7.1 and 7.2)

This unit has a maximum design rate of 13.5 million Btu/hr heat input and is natural gas fired only. The unit is used to stress-relieve rolled aluminum strip coils. There are no pollution control equipment associated with this facility.

(7) Aluminum Reverberatory Furnace No. 2 (MS-1A)

This unit has a maximum design rate of 40 million Btu/hr heat input using natural gas. The maximum rate of scrap aluminum feed to this furnace is 15 tons per hour with a 95% melt recovery rate (14.25 tons per hour). Particulate emissions generated during the melting process are primarily controlled by an American Air Filter Baghouse (BHS-7) which is rated at 99% control efficiency. This unit can also burn waste oil at a rate of 20 million Btu/hr.

(8) Aluminum Reverberatory Furnace No. 6 (MS-1E)

This unit has a maximum design rate of 40 million Btu/hr heat input using natural gas. The maximum rate of scrap aluminum feed to this furnace is 15 Tons per hour with a 95% melt recovery rate (14.25 tons per hour). Particulate emissions generated during the melting process are primarily controlled by a Wheelabrator Baghouse (BHS-6) which is rated at 99% control efficiency. This unit can also burn waste oil at a rate of 20 million Btu/hr.

(9) Aluminum Reverberatory Furnace No. 7 (MS-1F)

This unit has a maximum design rate of 6 million Btu/hr heat input and is natural gas fired only. The maximum rate of scrap aluminum feed to this furnace is 1.8 Tons per hour with a 90% melt recovery rate (1.62 Tons per hour). Particulate emissions generated during the melting process are primarily controlled by a Carborundum Baghouse (BHS-5) which is rated at 99% control efficiency.

Normally, furnace 2 is controlled by Baghouse BHS-7, furnace 6 is controlled by Baghouse BHS-6, and furnace 7 is controlled by Baghouse BHS-5. However, during maintenance or other circumstances as necessary, all three furnaces can be vented to either baghouse BHS-6 or BHS-7.

(10) Aluminum Reverberatory Furnace No. 3 (MS-1B) (Stack ID MS-1B)

This unit has a maximum design rate of 20 million Btu/hr heat input using natural gas. The maximum rate of scrap aluminum feed to this furnace is 3.9 Tons per hour with a 90% melt recovery rate (3.5 tons per hour). Emissions generated during the melting process are controlled by a Thermal Afterburner which is rated at 99% control efficiency. This unit can also burn waste oil at a rate of 15 million Btu/hr.

(11) Aluminum Reverberatory Furnace No. 4 (MS-1C) (Stack ID MS-1C)

This unit has a maximum design rate of 20 million Btu/hr heat input using natural gas. The maximum rate of scrap aluminum feed to this furnace is 3.9 Tons per hour with a 90% melt recovery rate (3.5 tons per hour). Emissions generated during the melting process are controlled by a Thermal Afterburner which is rated at 99% control efficiency. This unit can also burn waste oil at a rate of 15 million Btu/hr.

(12) Aluminum Reverberatory Furnace No. 5 (MS-1D) (Stack ID MS-1D)

This unit has a maximum design rate of 14 million Btu/hr heat input and is natural gas fired only. The maximum rate of scrap aluminum feed to this furnace is 3.3 Tons per hour with a 90% melt recovery rate (3.0 Tons per hour). Emissions generated during the melting process are controlled by a Thermal Afterburner which is rated at 99% control efficiency.

(13) Holding Furnace (HS-2) (stack ID HS-2)

This furnace has a maximum design rate of 10 million Btu/hr heat input using natural gas. The unit is used to stabilize molten metal temperature. This unit can also burn waste oil at a rate of 10 million Btu/hr.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source does not include any insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21).

A.4 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 it is a major source, as defined in 326 IAC 2-7-1(22).

A.5 Prior Permit Conditions Superseded [326 IAC 2]

The terms and conditions of this permit incorporate all the current applicable requirements for all emission units located at this source, and supersede all terms and conditions in all registrations and permits, including construction permits, issued prior to the date of issuance of this permit. All terms and conditions in such registrations and permits are no longer in effect.

SECTION B GENERAL CONDITIONS

B.1 Permit No Defense [326 IAC 2-1-10] [IC 13]

(a) Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7.

(b) This prohibition shall not apply to alleged violations of applicable requirements for which the Commissioner has granted a permit shield in accordance with 326 IAC 2-1-3.2 or 326 IAC 2-7-15.

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

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

B.3 Permit Term [326 IAC 2-7-5(2)]

This permit is issued for a fixed term of five (5) years from the effective date, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3.

B.4 Enforceability [326 IAC 2-7-7(a)]

(a) All terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM and HDEM.

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

(c) All terms and conditions in this permit that are local requirements, including any provisions designed to limit the source's potential to emit, are enforceable by the Hammond Department of Environmental Management.

B.5 Termination of Right to Operate [326 IAC 2-7-10] [326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.6 Severability [326 IAC 2-7-5(5)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.7 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

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

B.8 Duty to Supplement and Provide Information [326 IAC 2-7-4(b)] [326 IAC 2-7-5(6)(E)]

(a) The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to:

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

and

Hammond Department of Environmental Management
5925 Calumet Avenue
Hammond, Indiana 46320

(b) The Permittee shall furnish to IDEM - OAM and HDEM, within a reasonable time, any information that IDEM - OAM and HDEM, may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit.

(c) Upon request, the Permittee shall also furnish to IDEM - OAM and HDEM copies of records required to be kept by this permit. For information claimed to be confidential, the Permittee shall furnish such records IDEM - OAM and HDEM along with a claim of confidentiality under 326 IAC 17. If requested by IDEM - OAM, or the U.S. EPA, the Permittee shall furnish such confidential records directly to the U.S. EPA along with a claim of confidentiality under 40 CFR 2, Subpart B.

B.9 Compliance with Permit Conditions [326 IAC 2-7-5(6)(A)] [326 IAC 2-7-5(6)(B)]

(a) The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit constitutes a violation of the Clean Air Act and is grounds for:

(1) Enforcement action;

(2) Permit termination, revocation and reissuance, or modification; or for

(3) Denial of a permit renewal application.

(b) It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

B.10 Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)]

(a) Any application form, report, or compliance certification submitted under this permit shall contain certification by a responsible official of truth, accuracy, and completeness. This certification, and any other certification required under this permit, 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 in 326 IAC 2-7-1(34).

B.11 Annual Compliance Certification [326 IAC 2-7-6(5)]

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The certification shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in letter form no later than April 15 of each year to:

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

and

Hammond Department of Environmental Management
5925 Calumet Avenue
Hammond, Indiana 46320

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

(b) The annual compliance certification report 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 and HDEM on or before the date it is due.

(c) The annual compliance certification report shall include the following:

(1) The identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining compliance of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and

(5) Such other facts, as specified in Sections D of this permit, as IDEM - OAM and HDEM may require to determine the compliance status of the source.

B.12 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) within ninety (90) days after issuance of this permit, including the following information on each:

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

(b) The Permittee shall implement the Preventive Maintenance Plans 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) PMP's shall be submitted to IDEM - OAM and HDEM upon request and shall be subject to review and approval by IDEM - OAM and HDEM.

B.13 Emergency Provisions [326 IAC 2-7-16]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for non-compliance with a federal or state health-based emission limitation, except as provided in 326 IAC 2-7-16.

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

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

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

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

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

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

HDEM
Telephone Number: 219-853-6306
Facsimile Number: 219-853-6343

(5) For each emergency lasting one (1) hour or more, the Permittee submitted notice, either in writing or facsimile, of the emergency to:

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

and

Hammond Department of Environmental Management
5925 Calumet Avenue
Hammond, Indiana 46320

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

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

(A) A description of the emergency;

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

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(33).

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

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

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions) for sources subject to this rule after the effective date of this rule. This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) IDEM - OAM and HDEM may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4-(c)(9) be revised in response to an emergency.

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

(g) Operations may continue during an emergency only if the following conditions are met:

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

(2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:

(A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and

(B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value.

Any operation shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

B.14 Permit Shield [326 IAC 2-7-15]

(a) Compliance with the conditions of this permit shall be deemed in compliance with any applicable requirements as of the date of permit issuance, provided either of the following:

(1) The applicable requirements are included and specifically identified in this permit;

(2) IDEM - OAM and HDEM, in acting on the Part 70 permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the Part 70 permit includes the determination or a concise summary thereof.

(b) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application.

(c) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement, IDEM - OAM and HDEM shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

(2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

(3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

(4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

(f) This permit shield is not applicable to modifications eligible for group processing until after IDEM - OAM and HDEM has issued the modifications. [326 IAC 2-7-12(c)(7)]

(g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM - OAM or HDEM has issued the modification. [326 IAC 2-7- 12(b)(8)]

B.15 Multiple Exceedances [326 IAC 2-7-5(1)(E)]

Any exceedance of a permit limitation or condition contained in this permit, which occurs contemporaneously with an exceedance of an associated surrogate or operating parameter established to detect or assure compliance with that limit or condition, both arising out of the same act or occurrence, shall constitute a single potential violation of this permit.

B.16 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]

(a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provisions), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

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

and

Hammond Department of Environmental Management
5925 Calumet Avenue
Hammond, Indiana 46320

within ten (10) calendar days from the date of the discovery of the deviation.

(b) Written notification shall be submitted on the attached Emergency/Deviation Occurrence Reporting Form or its substantial equivalent.

(c) Proper notice submittal under 326 IAC 2-7-16 satisfies the requirement of this subsection.

B.17 Permit Modification, Reopening, Revocation and Reissuance, or Termination
[326 IAC 2-7-5(6)(C)] [326 IAC 2-7-8(a)] [326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)]

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM - OAM or HDEM determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]

(c) Proceedings by IDEM - OAM, or HDEM to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM - OAM, or HDEM at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM - OAM and HDEM may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.18 Permit Renewal [326 IAC 2-7-4]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM - OAM and HDEM, and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21).

Request for renewal shall be submitted to:

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

and

Hammond Department of Environmental Management
5925 Calumet Avenue
Hammond, Indiana 46320

(b) Timely Submittal of Permit Renewal [326 IAC 2-7-4(a)(1)(D)]

(1) A timely renewal application is one that is:

(A) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(B) 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 and HDEM on or before the date it is due. [326 IAC 2-5-3]

(2) If IDEM - OAM or HDEM, upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

(c) Right to Operate After Application for Renewal [326 IAC 2-7-3]

If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM - OAM and HDEM, takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM - OAM and HDEM, any additional information identified as being needed to process the application.

(d) United States Environmental Protection Agency Authority [326 IAC 2-7-8(e)]

If IDEM - OAM and HDEM fail to act in a timely way on a Part 70 permit renewal, the U.S. EPA may invoke its authority under Section 505(e) of the Clean Air Act to terminate or revoke and reissue a Part 70 permit.

B.19 Administrative Permit Amendment [326 IAC 2-7-11]

(a) An administrative permit amendment is a Part 70 permit revision that makes changes of the type specified under 326 IAC 2-7-11(a).

(b) An administrative permit amendment may be made by IDEM - OAM or HDEM, consistent with the procedures specified under 326 IAC 2-7-11(c).

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

B.20 Minor Permit Modification [326 IAC 2-7-12]

(a) A permit modification is any revision to this permit that cannot be accomplished as an administrative permit amendment under 326 IAC 2-7-11.

(b) Minor modification to this permit shall follow the procedures specified under 326 IAC 2-7-12(b), except as provided by 326 IAC 2-7-12(c).

(c) An application requesting the use of minor modification procedures shall meet the requirements of 326 IAC 2-7-12(b) and shall include the information required in 326 IAC 2-7-12(b)(3)(A) through (E).

(d) The Permittee may make the change proposed in its minor permit modification application immediately after it files such application provided that the change has received any approval required by 326 IAC 2-1. After the Permittee makes the change allowed under minor permit modification procedures, and until IDEM - OAM and HDEM takes any of the actions specified in 326 IAC 2-7-12(b)(6)(A) through (C), the Permittee must comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this period, the Permittee need not comply with the existing permit terms and conditions it seeks to modify. If the Permittee fails to comply with its proposed permit terms and conditions during this time period, the existing permit terms and conditions it seeks to modify may be enforced against it. [326 IAC 2-7-12(b)(7)]

B.21 Significant Permit Modification [326 IAC 2-7-12(d)]

(a) Significant modification procedures shall be used for applications requesting permit modifications that do not qualify as minor permit modifications or as administrative amendments.

(b) Every significant change in existing monitoring permit terms or conditions and every relaxation of reporting or record keeping permit terms or conditions of this permit shall be considered significant.

(c) Nothing in 326 IAC 2-7-12(d) shall be construed to preclude the Permittee from making changes consistent with 326 IAC 2-7 that would render existing permit compliance terms and conditions irrelevant.

(d) Significant modifications of this permit shall meet all requirements of 326 IAC 2-7, including those for application, public participation, review by affected states, review by the U.S. EPA, and availability of the permit shield, as they apply to permit issuance and renewal.

B.22 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)]
[326 IAC 2-7-12 (b)(2)]

(a) No Part 70 permit revision shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) Notwithstanding 326 IAC 2-7-12(b)(1)(D)(i) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.23 Changes Under Section 502(b)(10) of the Clean Air Act [326 IAC 2-7-20(b)]

The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a) and the following additional conditions:

(a) For each such change, the required written notification shall include a brief description of the change within the source, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change.

(b) The permit shield, described in 326 IAC 2-7-15, shall not apply to any change made under 326 IAC 2-7-20(b).

B.24 Operational Flexibility [326 IAC 2-7-20]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b), (c), or (e), without a prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any approval required by 326 IAC 2-1 has been obtained;

(3) The changes do not result in emissions which exceed the emissions allowable under this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

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

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

and

Hammond Department of Environmental Management
5925 Calumet Avenue
Hammond, Indiana 46320

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

(5) The Permittee maintains records on-site which document, on a rolling five (5) year basis, all such changes and emissions trading that are subject to 326 IAC 2-7-20(b), (c), or (e) and makes such records available, upon reasonable request, to public review.

Such records shall consist of all information required to be submitted to IDEM - OAM and HDEM in the notices specified in 326 IAC 2-7-20(b), (c)(1), and (e)(2).

(b) For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

(1) A brief description of the change within the source;

(2) The date on which the change will occur;

(3) Any change in emissions; and

(4) Any permit term or condition that is no longer applicable as a result of the change.

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

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade increases and decreases in emissions in the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).

(d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM - OAM, HDEM or U.S. EPA is required.

(e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.25 Construction Permit Requirement [326 IAC 2]

Except as allowed by Indiana P.L. 130-1996 Section 12, as amended by P.L. 244-1997, modification, construction, or reconstruction shall be approved as required by and in accordance with 326 IAC 2.

B.26 Inspection and Entry [326 IAC 2-7-6(2)]

Upon presentation of IDEM or HDEM identification cards, credentials, and other documents as may be required by law, the Permittee shall allow IDEM - OAM, HDEM, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements. [326 IAC 2-7-6(6)]

B.27 Transfer of Ownership or Operation [326 IAC 2-1-6] [326 IAC 2-7-11]

Pursuant to 326 IAC 2-1-6 and 326 IAC 2-7-11:

(a) In the event that ownership of this source is changed, the Permittee shall notify IDEM - OAM, Permits Branch and HDEM, within thirty (30) days of the change. Notification shall include a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the Permittee and the new owner.

(b) The written notification shall be sufficient to transfer the permit to the new owner by an administrative amendment pursuant to 326 IAC 2-7-11.

(c) IDEM - OAM and HDEM shall reserve the right to issue a new permit.

B.28 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)]

(a) The Permittee shall pay annual fees to IDEM - OAM and HDEM within thirty (30) calendar days of receipt of a billing, or in a time period consistent with the fee schedule established in 326 IAC 2-7-19.

(b) Failure to pay may result in administrative enforcement action, or revocation of this permit.

(c) If the Permittee does not receive a bill from IDEM - OAM, thirty (30) calendar days before the due date, the Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-0425 (ask for OAM, Technical Support and Modeling Section), to determine the appropriate permit fee. The applicable fee is due April 1 of each year.

B.29 Enhanced New Source Review [326 IAC 2]

The requirements of the construction permit rules in 326 IAC 2 are satisfied by this permit for the modification to Aluminum Reverberatory Furnace No. 6 as listed in section A.2.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

C.1 Major Source

Pursuant to 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-3 (Emission Offset), this source is a major source.

C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Visible Emissions Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), visible emissions shall meet the following, unless otherwise stated in this permit:

(a) Visible emissions shall not exceed an average of twenty percent (20%) opacity in twenty- four (24) consecutive readings, as determined in 326 IAC 5-1-4.

(b) Visible emissions shall not exceed sixty percent (60%) opacity for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) in a six (6) hour period.

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

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1. 326 IAC 4-1-3 (a)(2)(A) and (B) are not federally enforceable.

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

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

C.5 Fugitive Dust Emissions [326 IAC 6-1-11.1]

The Permittee shall be in violation of 326 IAC 6-1-11.1 (Lake County Fugitive Particulate Matter Control Requirements), if the opacity of fugitive particulate emissions exceeds ten percent (10%). Compliance with this limitation shall be determined by 40 CFR 60, Appendix A, Method 9.

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

All air pollution control equipment listed in this permit shall be operated at all times that the emission unit vented to the control equipment is in operation, as described in Section D of this permit.

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

(a) The Permittee shall comply with the 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.

(b) Any change in an applicable stack shall require prior approval from IDEM - OAM.

C.8 Asbestos Abatement Projects - Accreditation [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

Prior to the commencement of any demolition or renovation activities, the Permittee shall use an Indiana accredited asbestos inspector to inspect thoroughly the affected facility or part of the facility where the demolition or renovation operation will occur for the presence of asbestos, including Category I and Category II nonfriable asbestos containing material. The requirement that the inspector be accredited is federally enforceable.

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

C.9 Performance Testing [326 IAC 3-2.1]

(a) All testing shall be performed according to the provisions of 326 IAC 3-2.1 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing methods approved by IDEM - OAM.

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

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

and

Hammond Department of Environmental Management
5925 Calumet Avenue
Hammond, Indiana 46320

no later than thirty-five (35) days before the intended test date.

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

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

C.10 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

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, no more than ninety (90) days after receipt of this permit. If due to circumstances beyond its control, this schedule cannot be met, the Permittee shall notify:

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

and

Hammond Department of Environmental Management
5925 Calumet Avenue
Hammond, Indiana 46320

in writing, no more than ninety (90) days after receipt of this permit, with full justification of the reasons for the inability to meet this date and a schedule which it expects to meet. If a denial of the request is not received before the monitoring is fully implemented, the schedule shall be deemed approved.

The notification which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

C.11 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 permit 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.

C.12 Monitoring Methods [326 IAC 3]

Any monitoring or testing performed to meet the requirements of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

C.13 Pressure Gauge Specifications

Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent (2%) of full scale reading.

C.14 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61.140]

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) asbestos removal or demolition start date;

(B) removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

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

and to:

Hammond Department of Environmental Management
5925 Calumet Avenue
Hammond, Indiana 46320

(e) Procedures for Asbestos Emission Control

The Permittee shall comply with the emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-4 emission control requirements are mandatory for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Indiana Accredited Asbestos Inspector

The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement that the inspector be accredited is federally enforceable.

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

C.15 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 prepared and submitted written emergency reduction plans (ERPs) consistent with safe operating procedures on February 21, 1991.

(b) If the ERP is disapproved by IDEM - OAM and HDEM, the Permittee shall have an additional thirty (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 and HDEM shall supply such a plan.

(c) 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.

(d) 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.

(e) Upon direct notification by IDEM - OAM and HDEM 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]

(f) Upon direct notification by IDEM - OAM or HDEM, 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]

C.16 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68.215]

If a regulated substance, subject to 40 CFR 68, is present in more than the threshold quantity, 40 CFR 68 is an applicable requirement and the Permittee shall:

(a) Submit:

(1) A compliance schedule for meeting the requirements of 40 CFR 68 by the date provided in 40 CFR 68.10(a); or

(2) As a part of the compliance certification submitted under 326 IAC 2-7-6(5), a certification statement that the source is in compliance with all the requirements of 40 CFR 68, including the registration and submission of a Risk Management Plan (RMP); and

(3) A verification to IDEM - OAM and HDEM that a RMP or a revised plan was prepared and submitted as required by 40 CFR 68.

(b) Provide annual certification to IDEM - OAM and HDEM that the Risk Management Plan is being properly implemented.

C.17 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5(3)]

(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 permit;

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

(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 permit; and

(5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM - OAM and HDEM upon request and shall be subject to review and approval by IDEM - OAM and HDEM. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is 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 permit; 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 permit, 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 permit 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) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.

(2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, 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.18 Actions Related to Noncompliance Demonstrated by a Stack Test

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM - OAM and HDEM 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 and HDEM within thirty (30) days of receipt of the notice of deficiency. IDEM - OAM and HDEM reserve 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 and HDEM that retesting in one-hundred and twenty (120) days is not practicable, IDEM - OAM and HDEM may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate permit conditions may be grounds for immediate revocation of the permit to operate the affected facility.

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

C.19 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 a certified, annual emission statement 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
Indianapolis, Indiana 46204

and

Hammond Department of Environmental Management
5925 Calumet Avenue
Hammond, Indiana 46320

(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 and HDEM on or before the date it is due.

C.20 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 permit 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 permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.

(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 and HDEM 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.21 General Record Keeping Requirements [326 IAC 2-7-5(3)(B)]

(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 and available within four (4) hours upon verbal request of an IDEM - OAM or HDEM representative, for a minimum of three (3) years. They may be stored elsewhere for the remaining two (2) years providing they are made available within thirty (30) days after written request.

(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 analytical 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 permit;

(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 improper maintenance 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 permit, and whether a deviation from a permit 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 within ninety (90) days of permit issuance.

C.22 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

(a) To affirm that the source has met all the requirements stated in this permit the source shall submit a Quarterly Compliance Report. Any deviation from the requirements and the date(s) of each deviation must be reported.

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

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

and to:

Hammond Department of Environmental Management
5925 Calumet Avenue
Hammond, Indiana 46320

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the

shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM - OAM and HDEM on or before the date it is due.

(d) Unless otherwise specified in this permit, any report required shall be submitted within thirty (30) days of the end of the reporting period.

(e) All instances of deviations must be clearly identified in such reports. A reportable deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:

(1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or

(2) An emergency as defined in 326 IAC 2-7-1(12); or

(3) Failure to implement elements of the Preventive Maintenance Plan unless lack of maintenance has caused or contributed to a deviation.

(4) Failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds 5% of the required data in any calendar quarter.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred or failure to monitor or record the required compliance monitoring is a deviation.

(f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.

(g) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

Stratospheric Ozone Protection

C.23 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with the standards for recycling and emissions reduction:

(a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.

(b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

(c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION D.1 FACILITY OPERATION CONDITIONS

(1)	Cleaver Brooks Boiler (BS-10) (Stack ID BS-10.1) This boiler has a maximum design rate of 6 million Btu/hr heat input and is natural gas fired only. The unit is used to provide steam for the casters.

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

D.1.1 Particulate Matter (PM*)* and Particulate Matter less than 10 microns in diameter (PM10)

Pursuant to Construction Permit No. 00528 and Operation Permit No. 00703, this unit is limited to PM and PM10 emissions of 0.003 lbs/MMBtu and 0.018 lbs/hr each.

Compliance Determination Requirements

D.1.2 Testing Requirements [326 IAC 2-7-6(1)]

Testing of this facility is not specifically required by this permit. However, this does not preclude testing requirements on this facility under 326 IAC 2-1-4(f) and 326 IAC 2-7-6(1).

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

D.1.3 There are no specific compliance monitoring requirements applicable to this facility.

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

D.1.4 Record Keeping Requirements

There are no record keeping requirements for this facility.

D.1.5 Reporting Requirements

There are no reporting requirements for this facility.

SECTION D.2 FACILITY OPERATION CONDITIONS

Five (5) Annealing Furnaces No. 1, 2, 3, 4, and 5:

(2) Annealing Furnace No. 1 (AS-3) (Stack ID AS-3.1 and 3.2)
This unit has a maximum design rate of 9 million Btu/hr heat input and is natural gas fired only. The unit is used to stress-relieve rolled aluminum strip coils. There are no pollution control equipment associated with this facility.

(3) Annealing Furnace No. 2 (AS-4) (Stack ID AS-4.1, 4.2, 4.3 and 4.4)
This unit has a maximum design rate of 16 million Btu/hr heat input and is natural gas fired only. The unit is used to stress-relieve rolled aluminum strip coils. There are no pollution control equipment associated with this facility.

(4) Annealing Furnace No. 3 (AS-5) (Stack ID AS-5.1, 5.2, 5.3, and 5.4)
This unit has a maximum design rate of 16 million Btu/hr heat input and is natural gas fired only. The unit is used to stress-relieve rolled aluminum strip coils. There are no pollution control equipment associated with this facility.

(5) Annealing Furnace No. 4 (AS-5) (Stack ID AS-6.1 and 6.2)
This unit has a maximum design rate of 13.5 million Btu/hr heat input and is natural gas fired only. The unit is used to stress-relieve rolled aluminum strip coils. There are no pollution control equipment associated with this facility.

(6) Annealing Furnace No. 5 (AS-7) (Stack ID AS-7.1 and 7.2)
This unit has a maximum design rate of 13.5 million Btu/hr heat input and is natural gas fired only. The unit is used to stress-relieve rolled aluminum strip coils. There are no pollution control equipment associated with this facility.

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

D.2.1 Particulate Matter less than 10 microns in diameter (PM10*)*

Pursuant to 326 IAC 6-1-10.1(Lake County PM10 Emission Requirements), subsection (h), these combustion sources shall fire natural gas only and emissions of particulate matter less than ten microns in diameter (PM10) from these facilities shall be limited as follows:

Unit ID:	PM10 Emissions Limit	
	(lbs/MMBtu)	(lbs/hr)
Annealing Furnace No. 1	0.003	0.040
Annealing Furnace No. 2	0.003	0.048
Annealing Furnace No. 3	0.003	0.048
Annealing Furnace No. 4	0.003	0.041
Annealing Furnace No. 5	0.003	0.041

D.2.2 Particulate Matter (PM)

Pursuant to the Hammond Air Quality Control Ordinance No. 3522 (as amended), the PM emissions limits for these facilities shall be set equal to the PM10 emissions limits.

Compliance Determination Requirements

D.2.3 Testing Requirements [326 IAC 2-7-6(1)]

Testing of this facility is not specifically required by this permit. However, this does not preclude testing requirements on this facility under 326 IAC 2-1-4(f) and 326 IAC 2-7-6(1).

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

D.2.4 Visible Emissions Notations

(a) Daily visible emission notations of each Annealing Furnace stack exhaust shall be performed during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

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

D.2.5 Record Keeping Requirements

(a) To document compliance with Condition D.2.4, the Permittee shall maintain records of daily visible emission notations of each Annealing Furnace stack exhaust.

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

D.2.6 Reporting Requirements

There are no reporting requirements for this facility.

SECTION D.3 FACILITY OPERATION CONDITIONS

Three (3) Aluminum Reverberatory Furnaces No. 2, 6, and 7:

(7) Aluminum Reverberatory Furnace No. 2 (MS-1A)
This unit has a maximum design rate of 40 million Btu/hr heat input using natural gas. The maximum rate of scrap aluminum feed to this furnace is 15 Tons per hour with a 95% melt recovery rate (14.25 Tons per hour). Particulate emissions generated during the melting process are primarily controlled by an American Air Filter Baghouse (BHS-7) which is rated at 99% control efficiency. This unit can also burn waste oil at a rate of 20 million Btu/hr.

(8) Aluminum Reverberatory Furnace No. 6 (MS-1E)
This unit has a maximum design rate of 40 million Btu/hr heat input using natural gas. The maximum rate of scrap aluminum feed to this furnace is 15 Tons per hour with a 95% melt recovery rate (14.25 Tons per hour). Particulate emissions generated during the melting process are primarily controlled by a Wheelabrator Baghouse (BHS-6) which is rated at 99% control efficiency. This unit can also burn waste oil at a rate of 20 million Btu/hr.

(9) Aluminum Reverberatory Furnace No. 7 (MS-1F)
This unit has a maximum design rate of 6 million Btu/hr heat input and is natural gas fired only. The maximum rate of scrap aluminum feed to this furnace is 1.8 Tons per hour with a 90% melt recovery rate (1.62 Tons per hour). Particulate emissions generated during the melting process are primarily controlled by a Carborundum Baghouse (BHS-5) which is rated at 99% control efficiency.

Normally, furnace 2 is controlled by Baghouse BHS-7, furnace 6 is controlled by Baghouse BHS-6, and furnace 7 is controlled by Baghouse BHS-5. However, during maintenance or other circumstances as necessary, all three furnaces can be vented to either baghouse BHS-6 or BHS-7.

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

D.3.1 Particulate Matter less than 10 microns in diameter (PM10*)*

Pursuant to 326 IAC 6-1-10.1(Lake County PM10 Emission Requirements), subsection (d), emissions of particulate matter less than ten microns in diameter (PM10) from Aluminum Reverberatory Furnaces No. 2 and 6 shall be limited as follows:

Unit ID:	PM10 Emissions Limit (lbs/ton)	(lbs/hr)
Aluminum Reverberatory Furnace No. 2	0.130	1.137
Aluminum Reverberatory Furnace No. 6	0.060	0.970

D.3.2 Particulate Matter (PM)

Pursuant to the Hammond Air Quality Control Ordinance No. 3522 (as amended), the PM emissions limits from Aluminum Reverberatory Furnaces No. 2 and 6 shall be set equal to the PM10 emissions limits.

D.3.3 Particulate Matter less than 10 microns in diameter (PM10*)*

Pursuant to the Hammond Air Quality Control Ordinance No. 3522 (as amended) and Construction Permit No. 00568, the PM10 emissions limits from the Aluminum Reverberatory Furnace No. 7 shall be limited to 0.060 lbs/ton and 0.970 lbs/hr.

D.3.4 Particulate Matter (PM)

Pursuant to the Hammond Air Quality Control Ordinance No. 3522 (as amended) and Construction Permit No. 00568, the PM emissions limits from the Aluminum Reverberatory Furnace No. 7 shall be limited to 0.03 gr/dscf and 4.770 lbs/hr.

D.3.5 Emission Offset Minor Limit and Sulfur Dioxide Emissions Limitation [326 IAC 2-3] [326 IAC 7-4-1.1]

(a) Emission Offset Minor Limit [326 IAC 2-3]
All melting and holding furnaces shall have a combined limit not to exceed forty (40) tons of SO_2 emissions from the combustion of waste oil per twelve (12) consecutive month period. This limitation also limits the potential to emit of the other criteria pollutants from the combustion of waste oil such that the significant levels for Emission Offset applicability are not exceeded. Therefore, 326 IAC 2-3 (Emission Offset) requirements do not apply.

(b) Sulfur Dioxide Emission Limitations [326 IAC 7-4-1.1]
Pursuant to 326 IAC 7-4-1.1, sulfur dioxide emissions from each melting and holding furnace using waste oil as a fuel shall be limited to three-tenths (0.3) pounds per million Btu. This limitation is equivalent to a sulfur content of no greater than four-tenths of a percent (0.4%).

D.3.6 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and their control equipment.

Compliance Determination Requirements

D.3.7 Testing Requirements [326 IAC 2-7-6(1)]

A compliance stack test shall be performed to demonstrate compliance with the PM_{10} limit for Furnaces #2 and #6 at the exhaust of the baghouse normally controlling that furnace. The initial test shall be performed using baghouse (BHS-6). Thereafter, the baghouses shall be alternated for each compliance test. Testing shall be completed within twenty-four (24) months of issuance of this permit and repeated no less than once every 5 years thereafter. Any furnace approved to burn an alternate fuel other than natural gas shall perform the compliance stack test using the approved alternate fuel. Testing shall be performed in accordance with methods acceptable to the Commissioner.

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

D.3.8 Particulate Matter (PM) and Particulate Matter less than 10 microns in diameter (PM10)

Pursuant to Hammond Air Quality Control Ordinance No. 3522 (as amended), either Baghouse (BHS-6) or (BHS-7) shall be in operation at all times when any one of the three furnaces are in operation.

D.3.9 Visible Emissions Notations

(a) Daily visible emission notations of each Baghouse stack exhaust shall be performed during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.3.10 Parametric Monitoring

The Permittee shall record the total static pressure drop across each baghouse (BHS-5), (BHS-6), and (BHS-7) used in conjunction with these facilities when any one of the three furnaces are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across each baghouse shall be maintained within the range of **1.0 and 5.0** inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above-mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM – OAM and HDEM and shall be calibrated at least once every six (6) months.

D.3.11 Baghouse Inspections

An inspection shall be performed each month of all bags in each baghouse that vents to the atmosphere. A baghouse inspection shall be performed within one month of redirecting vents to the atmosphere and every month thereafter. Inspections are optional when venting indoors. All defective bags shall be replaced.

D.3.12 Broken Bag or Failure Detection

In the event that bag failure has been observed:

(a) The affected compartments shall be shut down immediately until the failed units have been repaired or replaced.

(b) Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion.

D.3.13 Waste Oil Restrictions

The waste oil burned in Furnaces #2 and #6 shall comply with the used oil requirements specified in 329 IAC 13 (Used Oil Management). Pursuant to 329 IAC 13-3-2 (Used Oil Specifications), used oil burned for energy recovery that is classified as off-specification used oil fuel shall comply with the provisions of 329 IAC 13-8 (Used Oil Burners Who Burn Off-specification Used Oil For Energy Recovery), including:

(a) Receipt of an EPA identification number as outlined in 329 IAC 13-8-3 (Notification),

(b) Compliance with the used oil storage requirements specified in 329 IAC 13-8-5 (Used Oil Storage), and

(c) Maintaining records pursuant to 329 IAC 13-8-6 (Tracking).

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

D.3.14 Record Keeping Requirements

(a) To document compliance with Conditions D.3.5(a) and (b), the Permitee shall maintain records of the quantity in gallons of waste oil burned each month and the calendar month percent sulfur content. These records shall be made available or submitted to the IDEM-OAQ or HDEM upon request.

(b) To document compliance with Condition D.3.9**,** the Permittee shall maintain records of daily visible emission notations of each baghouse stack exhaust.

(c) To document compliance with Condition D.3.10 through D.3.12, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle: frequency and differential pressure

(2) Documentation of all response steps implemented, per event.

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(8) Documentation of the dates vents are redirected.

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

D.3.15 Reporting Requirements

(a) To document compliance with Conditions D.3.5(a) and (b), a quarterly summary of the quantity of waste oil burned each month, the SO_2 emissions for each month, the twelve (12) month rolling total of SO_2 emissions, and the calendar month percent sulfur content shall be submitted to the addresses listed in Section C – General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) Documentation of compliance with Condition D.3.13 (Waste Oil Restrictions) shall be submitted to the addresses listed in Section C – General Reporting Requirements, of this permit, prior to the use of off-specification used oil for energy recovery.

SECTION D.4 FACILITY OPERATION CONDITIONS

Three (3) Aluminum Reverberatory Furnaces No. 3, 4, and 5, each equipped with a thermal afterburner:

(10) Aluminum Reverberatory Furnace No. 3 (MS-1B) (Stack ID MS-1B)
This unit has a maximum design rate of 20 million Btu/hr heat input using natural gas. The maximum rate of scrap aluminum feed to this furnace is 3.9 Tons per hour with a 90% melt recovery rate (3.5 tons per hour). Emissions generated during the melting process are controlled by a Thermal Afterburner which is rated at 99% control efficiency. This unit can also burn waste oil at a rate of 15 mmBtu/hr.

(11) Aluminum Reverberatory Furnace No. 4 (MS-1C) (Stack ID MS-1C)
This unit has a maximum design rate of 20 million Btu/hr heat input using natural gas. The maximum rate of scrap aluminum feed to this furnace is 3.9 Tons per hour with a 90% melt recovery rate (3.5 tons per hour). Emissions generated during the melting process are controlled by a Thermal Afterburner which is rated at 99% control efficiency. This unit can also burn waste oil at a rate of 15 mmBtu/hr.

(12) Aluminum Reverberatory Furnace No. 5 (MS-1D) (Stack ID MS-1D)
This unit has a maximum design rate of 14 million Btu/hr heat input and is natural gas fired only. The maximum rate of scrap aluminum feed to this furnace is 3.3 Tons per hour with a 90% melt recovery rate (3.0 Tons per hour). Emissions generated during the melting process are controlled by a Thermal Afterburner which is rated at 99% control efficiency.

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

D.4.1 Particulate Matter less than 10 microns in diameter (PM10*)*

Pursuant to 326 IAC 6-1-10.1(Lake County PM10 Emission Requirements), subsection (d), emissions of particulate matter less than ten microns in diameter (PM10) from these facilities shall be limited as follows:

Unit ID:	PM10 Emissions Limit	
	(lbs/ton)	(lbs/hr)
Aluminum Reverberatory Furnace No. 3	0.145	0.510
Aluminum Reverberatory Furnace No. 4	0.145	0.510
Aluminum Reverberatory Furnace No. 5	0.142	0.430

D.4.2 Particulate Matter (PM)

Pursuant to the Hammond Air Quality Control Ordinance No. 3522 (as amended), the PM emissions limits from these facilities shall be set equal to the PM10 emissions limits.

D.4.3 Emission Offset Minor Limit and Sulfur Dioxide Emissions Limitation [326 IAC 2-3] [326 IAC 7-4-1.1]

(a) Emission Offset Minor Limit [326 IAC 2-3]
All melting and holding furnaces shall have a combined limit not to exceed forty (40) tons of SO_2 emissions from the combustion of waste oil per twelve (12) consecutive month period. This limitation also limits the potential to emit of the other criteria pollutants from the combustion of waste oil such that the significant levels for Emission Offset applicability are not exceeded. Therefore, 326 IAC 2-3 (Emission Offset) requirements do not apply.

(b) Sulfur Dioxide Emission Limitations [326 IAC 7-4-1.1]
Pursuant to 326 IAC 7-4-1.1, sulfur dioxide emissions from each melting and holding furnace using waste oil as a fuel shall be limited to three-tenths (0.3) pounds per million Btu. This limitation is equivalent to a sulfur content of no greater than four-tenths of a percent (0.4%).

D.4.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and its control equipment.

Compliance Determination Requirements

D.4.5 Testing Requirements [326 IAC 2-7-6(1)]

A compliance stack test shall be performed on one of the three Aluminum Reverberatory Furnaces No. 3, 4, or 5 to demonstrate compliance with the PM_{10} limit. The furnace tested shall be alternated among the three furnaces. The test shall be completed within twenty-four (24) months of issuance of this permit and repeated no less than once every 5 years thereafter. Any furnace approved to combust an alternate fuel other than natural gas shall perform the compliance stack test using the approved alternate fuel. Testing shall be performed in accordance with methods acceptable to the Commissioner.

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

D.4.6 Particulate Matter (PM) and Particulate Matter less than 10 microns in diameter (PM10)

Pursuant to Hammond Air Quality Control Ordinance No. 3522 (as amended), each thermal afterburner shall be in operation at all times when its associated furnace is in operation.

D.4.7 Visible Emissions Notations

(a) Daily visible emission notations of each furnace exhaust shall be performed during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.4.8 Parametric Monitoring

The Permittee shall record the thermal afterburner operating temperature used in conjunction with each furnace when the furnace is in operation. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the temperature of the afterburner shall be maintained at or above 1600 °F or a minimum temperature established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the temperature is below the minimum value for any one reading.

The instrument used for determining the temperature shall be subject to approval by IDEM - OAM and HDEM and shall be calibrated at least once every six (6) months.

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

D.4.9 Record Keeping Requirements

(a) To document compliance with Conditions D.4.3(a) and (b), the Permitee shall maintain records of the quantity in gallons of waste oil burned each month and the calendar month percent sulfur content. These records shall be made available or submitted to the IDEM-OAQ or HDEM upon request.

(b) To document compliance with Condition D.4.7**,** the Permittee shall maintain records of daily visible emission notations of each furnace stack exhaust.

(c) To document compliance with Condition D.4.8, the Permittee shall maintain the following:

(1) Daily records of the thermal afterburner operating temperature during normal operation

(2) Documentation of all response steps implemented, per event .

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

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

D.4.10 Reporting Requirements

To document compliance with Conditions D.4.3(a) and (b), a quarterly summary of the quantity of waste oil burned each month, the SO_2 emissions for each month, the twelve (12) month rolling total of SO_2 emissions, and the calendar month percent sulfur content shall be submitted to the addresses listed in Section C – General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

SECTION D.5 FACILITY OPERATION CONDITIONS

(13)	Holding Furnace (HS-2) (stack ID HS-2) This furnace has a maximum design rate of 10 million Btu/hr heat input using natural gas. The unit is used to stabilize molten metal temperature. This unit can also burn waste oil at a rate of 10 mmBtu/hr.

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

D.5.1 Particulate Matter (PM*)* and Particulate Matter less than 10 microns in diameter (PM10)

Pursuant to Hammond Air Quality Control Ordinance No. 3522 (as amended) and Operation Permit No. 00694, this unit is limited to PM and PM10 emissions of 0.029 lbs/hr and 0.125 tons/yr each.

D.5.2 Emission Offset Minor Limit and Sulfur Dioxide Emission Limitations [326 IAC 2-3] [326 IAC 7-4-1.1]

(a) Emission Offset Minor Limit [326 IAC 2-3]
All melting and holding furnaces shall have a combined limit not to exceed forty (40) tons of SO_2 emissions from the combustion of waste oil per twelve (12) consecutive month period. This limitation also limits the potential to emit of the other criteria pollutants from the combustion of waste oil such that the significant levels for Emission Offset applicability are not exceeded. Therefore, 326 IAC 2-3 (Emission Offset) requirements do not apply.

(b) Sulfur Dioxide Emission Limitations [326 IAC 7-4-1.1]
Pursuant to 326 IAC 7-4-1.1, sulfur dioxide emissions from each melting and holding furnace using waste oil as a fuel shall be limited to three-tenths (0.3) pounds per million Btu. This limitation is equivalent to a sulfur content of no greater than four-tenths of a percent (0.4%).

Compliance Determination Requirements

D.5.3 Testing Requirements [326 IAC 2-7-6(1)]

Testing of this facility is not specifically required by this permit. However, this does not preclude testing requirements on this facility under 326 IAC 2-1-4(f) and 326 IAC 2-7-6(1).

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

D.5.4 There are no specific compliance monitoring requirements applicable to this facility.

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

D.5.5 Record Keeping Requirements

To document compliance with Conditions D.5.2(a) and (b), the Permitee shall maintain records of the quantity in gallons of waste oil burned each month and the calendar month percent sulfur content. These records shall be made available or submitted to the IDEM-OAQ or HDEM upon request.

D.5.6 Reporting Requirements

To document compliance with Conditions D.5.2(a) and (b), a quarterly summary of the quantity of waste oil burned each month, the SO_2 emissions for each month, the twelve (12) month rolling total of SO_2 emissions, and the calendar month percent sulfur content shall be submitted to the addresses listed in Section C – General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.6 FACILITY CONDITIONS

This section has been removed and intentionally left blank because it was an Enhanced New Source Review and Construction Approval for the reconstruction and modification of Aluminum Reverberatory Furnace No. 6. That construction was completed. The unit description, applicable limitations, and conditions for Aluminum Reverberatory Furnace No. 6, as modified, were previously included in Section D.3.

This section has been removed and intentionally left blank because it was an Enhanced New Source Review and Construction Approval for the reconstruction and modification of Aluminum Reverberatory Furnace No. 6. That construction was completed. The unit description, applicable limitations, and conditions for Aluminum Reverberatory Furnace No. 6, as modified, were previously included in Section D.3.

This section has been removed and intentionally left blank because it was an Enhanced New Source Review and Construction Approval for the reconstruction and modification of Aluminum Reverberatory Furnace No. 6. That construction was completed. The unit description, applicable limitations, and conditions for Aluminum Reverberatory Furnace No. 6, as modified, were previously included in Section D.3.

This section has been removed and intentionally left blank because it was an Enhanced New Source Review and Construction Approval for the reconstruction and modification of Aluminum Reverberatory Furnace No. 6. That construction was completed. The unit description, applicable limitations, and conditions for Aluminum Reverberatory Furnace No. 6, as modified, were previously included in Section D.3.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION
and
HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

PART 70 OPERATING PERMIT
CERTIFICATION

Source Name: Jupiter Aluminum Corporation
Source Address: 1745 - 165th Street, Hammond, Indiana 46320
Mailing Address: (same)
Part 70 Permit No.: T089-5838-00201

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

Please check what document is being certified:

_ Annual Compliance Certification Letter

_ Emergency/Deviation Occurrence Reporting Form

_ Test Result (specify)

_ Report (specify)

_ Notification (specify)

_ Other (specify)

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

Signature:

Printed Name:

Title/Position:

Date:

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

100 North Senate Avenue
Indianapolis, Indiana 46204
Phone: 317-233-5674
Fax: 317-233-5967

and

HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
5925 Calumet Avenue
Hammond, Indiana 46320
Phone: 219-853-6306
Fax: 219-853-6343

PART 70 OPERATING PERMIT
EMERGENCY/DEVIATION OCCURRENCE REPORT

Source Name: Jupiter Aluminum Corporation
Source Address: 1745 - 165th Street, Hammond, Indiana 46320
Mailing Address: (same)
Part 70 Permit No.: T089-5838-00201

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

Check either No. 1 or No. 2

__ 1. This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Management (OAM), within four (**4**) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and
- The Permittee must submit notice in writing or by facsimile within two (**2**) days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7- 16

__ 2. This is a deviation, reportable per 326 IAC 2-7-5(3)(c)
- The Permittee must submit notice in writing within ten (**10**) calendar days

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

Facility/Equipment/Operation:

Control Equipment:

Permit Condition or Operation Limitation in Permit:

Description of the Emergency/Deviation:

Describe the cause of the Emergency/Deviation:

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

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

Form Completed by:
Title/Position:
Date:
Phone:

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION
and
HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

PART 70 OPERATING PERMIT
QUARTERLY COMPLIANCE REPORT

Source Name: Jupiter Aluminum Corporation
Source Address: 1745 - 165th Street, Hammond, Indiana 46320
Mailing Address: (same)
Part 70 Permit No.: T089-5838-00201

Months: _____ to _____ Year: _____

This report is an affirmation that the source has met all the requirements stated in this permit. This report shall be submitted quarterly. Any deviation from the requirements and the date(s) of each deviation must be reported. Additional pages may be attached if necessary. This form can be supplemented by attaching the Emergency/Deviation Occurrence Report. If no deviations occurred, please specify zero in the column marked "No Deviations".

LIST EACH COMPLIANCE REQUIREMENT EXISTING FOR THIS SOURCE:

Requirement (eg. Permit Condition D.1.3)	**Number of Deviations**	**Date of each Deviations**	**No Deviations**

Form Completed by:
Title/Position:
Date:
Phone:

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION
and
HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Baghouse Static Pressure Drop Record Keeping Form

Source Name: Jupiter Aluminum Corporation
Source Address: 1745 - 165th Street, Hammond, Indiana 46320
Mailing Address: (same)
Part 70 Permit No.: T089-5838-00201
Required Range: 1 to 4 inches of water

Month: _____ Year: _____

Day	Baghouse (BHS-6) ΔP (in H2O)	Baghouse (BHS-5) ΔP (in H2O)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION
and
HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Thermal Afterburner Temperature Record Keeping Form

Source Name: Jupiter Aluminum Corporation
Source Address: 1745 - 165th Street, Hammond, Indiana 46320
Mailing Address: (same)
Part 70 Permit No.: T089-5838-00201
Requirement: 1600 °F or higher

Month: _____ Year: _____

Day	Furnace No. 3 Afterburner Temp. (°F)	Furnace No. 4 Afterburner Temp. (°F)	Furnace No. 5 Afterburner Temp. (°F)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION
and
HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Visible Emissions Notations Record Keeping Form - page 1 of 2

Source Name: Jupiter Aluminum Corporation
Source Address: 1745 - 165th Street, Hammond, Indiana 46320
Mailing Address: (same)
Part 70 Permit No.: T089-5838-00201
Notation: Normal or Abnormal

Month: _____ Year: _____

Day	Annealing Furnace No. 1	Annealing Furnace No. 2	Annealing Furnace No. 3	Annealing Furnace No. 4	Annealing Furnace No. 5
	Stack AS-3	Stack AS-4	Stack AS-5	Stack AS-6	Stack AS-7
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION
and
HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Visible Emissions Notations Record Keeping Form - page 2 of 2

Source Name: Jupiter Aluminum Corporation
Source Address: 1745 - 165th Street, Hammond, Indiana 46320
Mailing Address: (same)
Part 70 Permit No.: T089-5838-00201
Notation: Normal or Abnormal

Month: _____ Year: _____

Day	Wheelabrator Baghouse	Carborundum Baghouse	Reverberatory Furnace No. 3	Reverberatory Furnace No. 4	Reverberatory Furnace No. 5
Stack ID	BHS-6	BHS-5	MS-1B	MS-1C	MS-1D
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION
and
HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Part 70 Quarterly Report

Source Name: Jupiter Aluminum Corporation
Source Address: 1745 – 165th Street, Hammond, Indiana 46320
Mailing Address: 1745 – 165th Street, Hammond, Indiana 46320
Part 70 Permit No.: T089-5838-00201
Facility: Melting Furnaces #2, #3, #4, #6, and Holding Furnace #1
Parameter: Sulfur Dioxide (SO_2) Emissions
Emission Offset Minor Limit and Sulfur Content Limit
Total SO_2 emissions shall not exceed forty (40) tons per twelve (12) consecutive month period, rolled on a monthly basis. Sulfur content shall not exceed four-tenths of a percent (0.4%) by weight.

QUARTER: YEAR:

Month		Column 1	Column 2	Column 1 + Column 2
		Month (tons SO_2) kgal x 23.2 ÷ 2000	Previous 11 Months (tons SO_2)	12 Month Total (tons SO_2)
Month				
Gallons				
% Sulfur				
Month				
Gallons				
% Sulfur				
Month				
Gallons				
% Sulfur				

This form is optional. An equivalent form subject to approval by IDEM-OAQ or HDEM may be used.

. ____ No deviation occurred in this quarter.

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

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

Attach a signed certification to complete this report.

Indiana Department of Environmental Management
Office of Air Quality

and

Hammond Department of Environmental Management
Air Pollution Control Division

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

Source Background and Description

Source Name:	Jupiter Aluminum Corporation
Source Location:	1745 - 165th Street, Hammond, IN 46320
County:	Lake
SIC Code:	3353 - Secondary Aluminum Processing
Operation Permit No.:	T089-5838-00201
Operation Permit Issuance Date:	March 4, 1998
Significant Source Modification No.:	089-17411-00201
Significant Permit Modification No.:	089-17445-00201
Permit Reviewer:	Ronald Holder

The Office of Air Quality (OAQ) has reviewed an application from Jupiter Aluminum Corporation requesting to modify the existing #4 Furnace Combustion System in order to alternate between Natural Gas and Waste Oil. The unit description would be modified as follows. **Bold** indicates the words that were added and ~~strike-outs~~ indicate the words that were removed:

(11) Aluminum Reverberatory Furnace No. 4 (MS-1C) (Stack ID MS-1C)

This unit has a maximum design rate of 20 million Btu/hr heat input and is **normally** natural gas fired ~~only~~. The maximum rate of scrap aluminum feed to this furnace is 3.9 Tons per hour with a 90% melt recovery rate (3.5 Tons per hour). Emissions generated during the melting process are controlled by a Thermal Afterburner which is rated at 99% control efficiency. **This unit can also burn waste oil as an alternate fuel at a rate of 15 million Btu/hr.**

Addition of the waste oil burning capability to the above unit does not change the scrap aluminum feed rate or melt recovery rate of the furnace. The combustion system is being modified to defray the high cost of natural gas during times of high demand such as colder weather. This modification also establishes an overall waste oil usage limit for Furnaces #2, #4, and #6.

History

On February 20, 2003, Jupiter Aluminum submitted an application to the HDEM requesting to modify the combustion system of existing Aluminum Reverberatory Furnaces #4 in order to use waste oil as an alternate fuel. Jupiter Aluminum was issued a Part 70 permit on March 4, 1998.

Enforcement Issues

The source has the following enforcement actions pending:

Notice of Violation and Agreed Order; Case # 2002 – 12472 - A.

Because of discrepancies found during routine inspections on 10/01/02 and 07/11/02 and failure to meet some Part 70 record keeping and reporting requirements; the following permit violations are currently being pursued by the IDEM:

Condition B.11	failure to report deviations on ACC,
Condition C.21	failure to keep records,
Condition C.17	failure to take response steps,
Condition C.22	failure to report deviations on quarterly,
Conditions D.3.14, D.2.5, and D.4.8	failure to take VENs,
Condition D.3.10	failure to take pressure drop readings, and
Condition D.4.7	failure to record afterburner temp on Furnace #4.

Notices of Violations and Agreed Orders are being prepared by IDEM, OE at this time.

Stack Summary **The stack information for this existing unit does not change.**

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
MS-1C	Furnace #4	42'	4.3	13,915	1600

Recommendation

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

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

An application for the purposes of this review was received on February 20, 2003. Additional information was received on April 17, 2003.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (two (2) pages).

Potential To Emit of Modification

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

*This table reflects the PTE before controls except for PM and PM10 (PTE after controls). Control equipment (baghouse) is considered federally enforceable because it has been required in a federally enforceable permit (Existing Part 70 permit T089-5838-00201).

Pollutant	Potential To Emit (tons/year)
PM	*0.593
PM-10	*0.529
SO_2	19.70
VOC	0.46
CO	0.97
NO_x	7.36
HAP (Pb)	0.09

Potential before control for Furnace #4 burning waste oil at 8760 hrs/yr.

Justification for Modification

The Part 70 Operating permit is being modified through a Part 70 Significant Source Modification and Significant Permit Modification. The significant source modification is being performed pursuant to 326 IAC 2-7-10.5(f)(4)(B): any modification that would have a potential to emit greater than or equal to twenty-five (25) tons per year of Sulfur Dioxide (SO_2). This modification relaxes a previous limitation of twenty-five (25) tons per year of Sulfur Dioxide (SO_2) and sets a new Emission Offset limitation of forty (40) tons per year of SO_2. The significant permit modification is being performed pursuant to 326 IAC 2-7-12(b)(1)(B) because it does involve significant changes to existing monitoring, reporting, or record keeping in the Part 70 permit and because it relaxes a previous limitation.

County Attainment Status

This source is located in Lake County. 40 CFR 81.315 – (Indiana) – eCFR

Pollutant	Status
PM-10	Moderate Nonattainment
SO_2	Primary Nonattainment
NO_2	Unclassifiable/Attainment
Ozone	Severe Nonattainment
CO	Unclassifiable/Attainment
Lead	Attainment

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC are considered when evaluating the rule applicability relating to the ozone standards. Lake County has been designated as severe non-attainment for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

(b) Lake County has been classified as primary non-attainment for sulfur dioxide (SO_2) and moderate nonattainment for particulates less than ten (10) microns in diameter (PM_{10}). Therefore, these emissions were also reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

(c) Lake County has been classified as attainment for oxides of nitrogen (NOx), carbon monoxide (CO), and Lead (Pb). Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Source Status

Existing Source PSD or Emissions Offset Definition (potential emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	20.42
PM-10	13.05
SO_2	195.52
VOC	34.01
CO	23.13
NO_x	228.97
HAP (Lead)	0.02

Based on 2001 Emissions Statement submitted by Jupiter

(a) This existing source is a major stationary source **(for the purposes of PSD)** because an attainment regulated pollutant **(oxides of nitrogen, NOx)** is emitted at a rate of 100 tons per year or more, and it is one of the 28 listed source categories **(326 IAC 2-2-1(y)(1)(T)).**

(b) This existing source is a major stationary source **(for the purposes of Emission Offset)** because it has a potential to emit twenty-five (25) tons per year or more of volatile organic compounds (VOC) in a severe ozone nonattainment area (Lake County) **(326 IAC 2-3-1 (t)(2)).**

Potential to Emit of Modification After Issuance

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

This Emission Offset limit for SO_2 is based on limiting the overall increase of SO_2 to less than forty (40) tons per year (this includes a previous modification that was within a five-year contemporaneous period). This limitation is based on 1,860,000 gallons of waste oil use for any consecutive twelve (12) month period at a maximum sulfur content of 0.4%. See Appendix A of this document for detailed emissions calculations (two (2) pages).

	Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO_2	VOC	CO	NO_X	HAP(Pb)
Modification 089-15025-00201							
9/3/01 to add waste oil use							
To Furnaces #2 and #6	0.64	0.57	21.40	0.50	1.05	8.00	0.006
Current modification to add	**0.59**	**0.53**	**19.70**	**0.46**	**0.97**	**7.36**	**0.005**
waste oil use Furnace #4							
Contemporaneous Total	1.23	1.10	41.10	0.96	2.02	15.36	0.011
Total Emission Offset Limit							
PTE based on 1,860,000							
Gallons of waste oil per year	**1.20**	**1.07**	**39.80**	**0.93**	**1.95**	**14.88**	**0.010**
PSD and Emission Offset Significant Levels	**25**	**15**	**40**	**40**	**100**	**40**	**0.6**

PM and PM_{10} are the potentials after control. Existing federally enforceable limits for PM_{10} in the existing Part 70 permit require a baghouse that also limits the PM.

This modification to an existing major stationary source is not a major modification for PSD because the net emission increases of pollutants for which Lake County is Attainment (PM10, NOx, CO, and Lead) are each less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not a major modification for Emission Offset because the limited potential to emit of sulfur dioxide (SO_2), for which Lake County is Primary Nonattainment, is less than the Emission Offset significant level. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

This limitation also ensures that the potential to emit of the other regulated pollutants are below their respective PSD and Emission Offset significant levels.

Compliance with the Emission Offset limit will require record keeping and reporting.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to this source. This is not a Primary Aluminum Reduction Plant; Subpart S does not apply.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14 and 40 CFR Part 63) applicable to this source. This is not a Primary Aluminum Reduction Plant; Subpart LL does not apply.

State Rule Applicability - Individual Facilities

326 IAC 2-2 Prevention of Significant Deterioration (PSD) Requirements

This modification to an existing major stationary source did not result in an increase of emissions above the PSD significant levels for any pollutant for which Lake County is in Attainment. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

326 IAC 2-3 Emission Offset (Minor Limit)

This modification to an existing major stationary source will not result in an increase of emissions above the Emission Offset significant level for sulfur dioxide (SO_2) for which Lake County is Primary Nonattainment because the waste oil use (for Furnaces #2, #4, and #6 combined) will be limited to 1,860,000 gallons per 12 consecutive month period at a maximum sulfur content of 0.4% which is equivalent to 39.8 tons per year of SO_2 emissions. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

This limitation will also ensure that the potential to emit of the other regulated pollutants will remain below their respective PSD and Emission Offset significant levels.

326 IAC 6-1-10.1(d) (Lake County PM-10 Emissions Requirements)

Pursuant to 326 IAC 6-1-10.1(d), (Lake County PM_{10} Emissions Requirements), Aluminum Reverb Furnace #4, has a specific PM_{10} emission limit of 0.51 lbs/hr.

Compliance Determination Requirements in the existing Part 70 permit require that the Furnaces with afterburners (#3, #4, and #5) be alternately tested for compliance with their respective PM_{10} limitations (one test per five (5) year permit term). Presuming that waste oil would be the worst case fuel (burn less clean than natural gas) for particulate emissions, Furnace #4 will be required to burn waste oil during its compliance test.

Furnace #3 was successfully tested burning natural gas on October 5, 2000.
Furnace #6 was successfully tested burning waste oil on March 5, 2002.

Compliance Monitoring Requirements in the existing Part 70 permit require the respective afterburners to be in operation at all times when Furnaces #3, #4, or #5 are in operation.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

A previous modification (in September 2001) to allow waste oil use in Furnaces #2 and #6 was limited to less than twenty-five (25) tons per year of SO_2 emissions. 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations) did not apply at that time. The relaxation of this limitation due to the modification to allow waste oil use for Furnace #4 now makes this rule effective. Therefore, 326 IAC 7-1.1 will now apply to Furnaces #2, #6, and #4, including the following compliance methods (sampling, analysis, record keeping, and reporting) of 326 IAC 7-2 and the Sulfur Dioxide limitations for Lake County 326 IAC 7-4-1.1:

326 IAC 7-2-1 (Reporting requirements; methods to determine compliance)

Owners or operators of sources or facilities subject to 326 IAC 7-1.1 or 7-4 and less than 100 MMBtu/hr shall submit to the commissioner reports of calendar month average sulfur content, heat content, fuel consumption, and sulfur dioxide emission rate in lbs/MMBtu upon request.

Fuel sampling and analysis data shall be collected pursuant to the procedures specified in 326 IAC 3-7-4 and these data may be used to determine compliance or noncompliance with the emissions limitations contained in 326 IAC 7-4.

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

A facility subject to 326 IAC 7-1.1, but not located at a source specifically listed in 326 IAC 7-4-1.1 may burn distillate oil with sulfur dioxide emissions limited to 0.3 lbs/MMBtu if the unit has a maximum capacity less than twenty (20) MMBtu/hr actual heat input. The sulfur content of the waste oil used for Furnaces #2, #4, and #6 shall be limited to 0.4 percent to meet this limitation and shall be demonstrated on a monthly basis according to the reporting required in 326 IAC 7-2.

329 IAC 13 (Used Oil Management)

Pursuant to 329 IAC 13-3-2 (Used Oil Specifications), the used oil to be burned for energy recovery in Furnaces #2, #4, and #6 has been shown not to exceed the specifications in Table 1 of 329 IAC 13-3-2, and is therefore not subject to this article. This has been shown according to 329 IAC 13-9-3, 13-9-4, and 13-9-5(b), a submittal of a certificate of analysis documenting that the used oil meets the specifications.

Compliance Requirements

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

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

The compliance determination and compliance monitoring requirements applicable to existing Furnaces #4 are added or modified as follows:

Compliance Determination Requirements

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

A compliance stack test shall be performed on one of the three Aluminum Reverberatory Furnaces No. 3, 4, or 5 to demonstrate compliance with the PM_{10} limit. The furnace tested shall be alternated among the three furnaces. The test shall be completed within twenty-four (24) months of issuance of this permit and repeated no less than once every 5 years thereafter. Any furnace approved to combust an alternate fuel other than natural gas shall perform the compliance stack test using the approved alternate fuel. Testing shall be performed in accordance with 326 IAC 3-2.1 using methods acceptable to the Commissioner.

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

Particulate Matter (PM) and Particulate Matter less than 10 microns in diameter (PM10)

In order to comply with the 326 6-1-10.1 (Lake County PM-10 Emissions Requirements), Compliance Monitoring Requirements in the existing Part 70 permit require the respective afterburners to be in operation at all times when Furnaces #3, #4, or #5 are in operation.

Visible Emissions Notations

(a) Daily visible emission notations of each furnace exhaust shall be performed during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

Parametric Monitoring

The Permittee shall record the thermal afterburner operating temperature used in conjunction with each furnace when the furnace is in operation. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the temperature of the afterburner shall be maintained at or above 1600 ºF or a minimum temperature established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the temperature is below the minimum value for any one reading.

The instrument used for determining the temperature shall be subject to approval by IDEM, OAQ or HDEM and shall be calibrated at least once every six (6) months.

Waste Oil Restrictions

The waste oil burned in Furnaces #2, #4, and #6 shall comply with the used oil requirements specified in 329 IAC 13 (Used Oil Management). Pursuant to 329 IAC 13-3-2 (Used Oil Specifications) used oil burned for energy recovery that is classified as off-specification used oil fuel shall comply with the provisions of 329 IAC 13-8 (Used Oil Burners Who Burn Off-specification Used Oil For Energy Recovery), including:

(a) Receipt of an EPA identification number as outlined in 329 IAC 13-8-3 (Notification),

(b) Compliance with the used oil storage requirements specified in 329 IAC 13-8-5 (Used Oil Storage), and

(c) Maintaining records pursuant to 329 IAC 13-8-6 (Tracking).

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

Record Keeping Requirements

(a) To demonstrate compliance with the visible emissions notations requirement**,** the Permittee shall maintain records of daily visible emission notations for each furnace stack exhaust.

(b) To document compliance with the Parametric Monitoring condition, the Permittee shall maintain the following:

(1) Daily records of the thermal afterburner operating temperature during normal operation.

(2) Documentation of all response steps implemented, per event.

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

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

Reporting Requirements

To demonstrate compliance with reporting requirements of 326 IAC 7-2-1 and the sulfur dioxide emissions limitations of 326 IAC 7-4-1.1, the Permittee shall submit reports of calendar month average sulfur content, heat content, fuel consumption, and sulfur dioxide emission rate in pounds per million Btus upon request.

Fuel sampling and analysis data shall be collected pursuant to the procedures specified in 326 IAC 3-7-4 for oil combustion, and these data may be used to determine compliance or noncompliance with the emission limitations contained in 326 IAC 7-1.1 or 326 IAC 7-4-1.1. The permittee may rely upon equivalent sampling and analysis procedures performed by the vendor prior to delivery of the fuel oil (vendor certificate of analysis).

To demonstrate compliance with the Emission Offset Minor limit of 1,860,000 gallons per 12 consecutive month period, the Permittee shall submit a quarterly summary of the quantity of waste oil burned each month and the total waste oil burned for the previous 12 consecutive months.

The report shall be submitted to the addresses listed in Section C – General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Source Modification 089-17411-00201
Permit Modification 089-17445-00201 (Pages affected: 1, 4, 5, 7, 34-39, and 53)

The following changes were made to the Jupiter Aluminum Part 70 Permit T089-5838-00201. **Bold** indicates the items that were added and ~~strikeouts~~ indicate the items that were removed:

1. The cover page (page 1) was modified to add the issuance dates and IDEM tracking numbers for this source modification, permit modification, and to show the affected pages.

2. On page 4 of 53, in the Table of Contents, Condition D.3.5, Sulfur Dioxide (SO_2) was changed as follows to combine the Emission Offset Minor Limit and the Sulfur Dioxide emission limitations into one related condition for Furnaces #2 and #6.

~~D.3.5 Sulfur Dioxide (SO_2)~~
D.3.5 Emission Offset and Sulfur Dioxide Limitations [326 IAC 2-3] [326 IAC 7-4-1.1]

3. On page 4 of 53, in the Table of Contents, Condition D.4.3 was added as follows to duplicate the above condition for Furnace #4. The other conditions in Section D.4, including the previous D.4.3 "Preventive Maintenance Plan" were renumbered accordingly.

~~D.4.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]~~
D.4.3 Emission Offset and Sulfur Dioxide Limitations [326 IAC 2-3] [326 IAC 7-4-1.1]

4. On page 5 of 53, information was shifted due to the addition of conditions on page 4.

5. On page 7 of 53, in Section A, Source Summary, A.2, Emission Units and Pollution Control Equipment Summary, Unit (11), Furnace #4 was modified as follows:

(11) Aluminum Reverberatory Furnace No. 4 (MS-1C) (Stack ID MS-1C)

This unit has a maximum design rate of 20 million Btu/hr heat input and is **normally** natural gas fired ~~only~~. The maximum rate of scrap aluminum feed to this furnace is 3.9 Tons per hour with a 90% melt recovery rate (3.5 Tons per hour). Emissions generated during the melting process are controlled by a Thermal Afterburner which is rated at 99% control efficiency. **This unit can also burn waste oil as an alternate fuel at a rate of 15 million Btu/hr.**

6. On page 34 of 53, Condition D.3.5 Sulfur Dioxide (SO_2) was modified as follows to combine the Emission Offset Minor Limit and the Sulfur Dioxide emission limitations into one related condition for Furnaces #2 and #6.

~~**Emission Offset and Sulfur Dioxide (SO_2) Minor Limit [326 IAC 2-3] [326 IAC 7-1.1]**~~
D.3.5 Emission Offset Minor Limit and Lake County Sulfur Dioxide Emission Limitations [326 IAC 2-3] [326 IAC 7-4-1.1]

~~D.3.5 Sulfur Dioxide (SO_2)~~

~~Furnaces #2 and #6 shall have a combined limit of one million (1,000,000) gallons of waste oil use per 12 consecutive month period. This usage limit is required to limit the potential to emit of SO_2 to less than twenty-five (25) tons per twelve (12) consecutive month period. Compliance with this limit makes 326 IAC 7-4-1.1 (Lake County sulfur dioxide emission limitations) not applicable. This limitation also limits the potential to emit of the other criteria pollutants such that the significant levels for Emission Offset are not exceeded. Therefore, 326 IAC 2-3 (Emission Offset) does not apply.~~

(a) Emission Offset Minor Limit [326 IAC 2-3]
Furnaces #2 and #6 (with Furnace #4 in Section D.4) shall have a combined limit of 1,860,000 gallons of waste oil use per 12 consecutive month period. This usage limit is necessary to limit the potential to emit of SO_2 to less than forty (40) tons per twelve (12) consecutive month period. This limitation also limits the potential to emit of the other criteria pollutants such that the significant levels for Emission Offset applicability are not exceeded. Therefore, 326 IAC 2-3 (Emission Offset) requirements do not apply.

(b) Lake County Sulfur Dioxide Emission Limitations [326 IAC 7-4-1.1]
Pursuant to 326 IAC 7-4-1.1, sulfur dioxide emissions for Furnaces #2 and #6 shall be limited to three-tenths (0.3) pounds per million Btu (6.0 lbs/hr) each. This limitation is equivalent to a sulfur content of four-tenths of a percent (0.4%).

7. On page 34 of 53, Condition 3.7, Testing Requirements, is modified as follows to ensure that waste oil (the most probable worst case) is used as a fuel during compliance testing and to remove Furnace #7 from the testing requirements because the compliance efforts here should concentrate on the two larger units that burn waste oil as a fuel and have PM_{10} SIP limits. Furnace #7 burns natural gas and is nearly one-tenth the size of Furnace #2 or #6.

D.3.7 Testing Requirements [326 IAC 2-7-6(1)]

A compliance stack test shall be performed to demonstrate compliance with the PM_{10} limit for ~~each of the furnaces (2, 6, and 7)~~ **Furnaces #2 and #6** at the exhaust of the baghouse normally controlling that furnace. The initial test shall be performed using baghouse (BHS-6). Thereafter, the baghouses shall be alternated for each compliance test. Testing shall be completed within twenty-four (24) months of issuance of this permit and repeated no less than once every 5 years thereafter. ~~Testing shall also be performed to demonstrate compliance with the PM_{10} limit while burning waste oil prior to the initial use of waste oil as an alternate fuel in either Furnace #2 or #6.~~ **Any furnace approved to combust an alternate fuel other than natural gas shall perform the compliance stack test using the approved alternate fuel.** Testing shall be performed in accordance with 326 IAC 3-2.1 using methods acceptable to the Commissioner.

8. On page 35 of 53, information was shifted due to the addition of conditions on page 34.

9. On page 36 of 53, Record Keeping Requirements, D.3.14(a), was modified as follows to document compliance with Conditions D.3.5 (a) and (b) and 326 IAC 7-2-1 and 326 IAC 7-4-1.1:

D.3.14 Record Keeping Requirements

(a) To document compliance with Condition**s** D.3.5**(a) and (b)**, the Permitee shall maintain records of the ~~quantity in gallons of waste oil burned each month.~~ **calendar month average sulfur content, heat content, fuel consumption, and sulfur dioxide emission rate in pounds per million Btus. These records shall be submitted to the IDEM-OAQ or HDEM upon request.**

10. On page 36 of 53, Reporting Requirement D.3.15(a) was modified as follows to document compliance with the Emission Offset Minor Limit in Condition D.3.5(a) and the sulfur content limitation in Condition D.3.5(b):

D.3.15 Reporting Requirements

To document compliance with Condition D.3.5(a) and (b), ~~A~~ a quarterly summary of the quantity of waste oil burned **and the calendar month average sulfur content** ~~to document compliance with Condition D.3.5~~ shall be submitted to the addresses listed in Section C – General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

11. On page 37 of 53, in Section D.4, the facility description box was modified as follows to reflect the description change for Emission Unit (11), Aluminum Reverberatory Furnace #4:

(11) Aluminum Reverberatory Furnace No. 4 (MS-1C) (Stack ID MS-1C)

This unit has a maximum design rate of 20 million Btu/hr heat input and is **normally** natural gas fired ~~only~~. The maximum rate of scrap aluminum feed to this furnace is 3.9 Tons per hour with a 90% melt recovery rate (3.5 Tons per hour). Emissions generated during the melting process are controlled by a Thermal Afterburner which is rated at 99% control efficiency. **This unit can also burn waste oil as an alternate fuel at a rate of 15 million Btu/hr.**

12. On page 37 of 53, Condition D.4.3 was added as follows to include and combine the related Emission Offset and Sulfur Dioxide Limitations for Furnace #4. The other conditions in Section D.4, including the previous D.4.3 "Preventive Maintenance Plan" were renumbered accordingly.

D.4.3 Emission Offset Minor Limit and Lake County Sulfur Dioxide Emission Limitations [326 IAC 2-3] [326 IAC 7-4-1.1]

(a) Emission Offset Minor Limit [326 IAC 2-3

Furnace #4 (with Furnaces #2 and #6 in Section D.3) shall have a combined limit of 1,860,000 gallons of waste oil use per 12 consecutive month period. This usage limit is necessary to limit the potential to emit of SO_2 to less than forty (40) tons per twelve (12) consecutive month period. This limitation also limits the potential to emit of the other criteria pollutants such that the significant levels for Emission Offset applicability are not exceeded. Therefore, 326 IAC 2-3 (Emission Offset) requirements do not apply.

(b) Lake County Sulfur Dioxide Emission Limitations [326 IAC 7-4-1.1]
Pursuant to 326 IAC 7-4-1.1, sulfur dioxide emissions for Furnace #4 shall be limited to three-tenths (0.3) pounds per million Btu (4.5 lbs/hr). This limitation is equivalent to a sulfur content of four-tenths of a percent (0.4%).

13. On page 37 of 53, Condition 4.4, Testing Requirements was modified as follows to ensure that waste oil (the most probable worst case) is used as a fuel during compliance testing.

~~D.4.4~~ **D.4.5** Testing Requirements [326 IAC 2-7-6(1)]

A compliance stack test shall be performed on one of the three Aluminum Reverberatory Furnaces No. 3, 4, or 5 to demonstrate compliance with the PM_{10} limit. The furnace tested shall be alternated among the three furnaces. The test shall be completed within twenty-four (24) months of issuance of this permit and repeated no less than once every 5 years thereafter. **Any furnace approved to combust an alternate fuel other than natural gas shall perform the compliance stack test using the approved alternate fuel.** Testing shall be performed in accordance with 326 IAC 3-2.1 using methods acceptable to the Commissioner.

14. On page 39 of 53, Record Keeping Requirements, D.4.9(a) was added as follows to document compliance with Conditions D.4.3(a) and (b) and 326 IAC 7-2-1 and 326 IAC 7-4-1.1. The other record keeping requirements were renumbered accordingly.

~~D.4.8~~ **D.4.9** Record Keeping Requirements

(a) **To document compliance with Conditions D.4.3(a) and (b), the Permitee shall maintain records of the calendar month average sulfur content, heat content, fuel consumption, and sulfur dioxide emission rate in pounds per million Btus. These records shall be submitted to the IDEM-OAQ or HDEM upon request.**

15. On page 39 of 53, Reporting Requirements, D.4.9 was modified as follows to document compliance with the Emission Offset Minor Limit in Condition D.4.3(a) and the sulfur content limitation in Condition D.4.3(b):

~~D.4.9~~ **D.4.10** Reporting Requirements

~~There are no reporting requirements for this facility.~~

To document compliance with Condition D.4.3(a) and (b), a quarterly summary of the quantity of waste oil burned and the calendar month average sulfur content shall be submitted to the addresses listed in Section C – General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

16. Page 53 of 53 is the Waste Oil Reporting Form. This form is modified as follows to allow the Permittee to comply with reporting requirements in Conditions D.3.15 and D.4.10 for the Emission Offset Minor Limit and Sulfur Dioxide Emission Limits for Furnaces #2, #4, and #6.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION
and
HAMMOND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Part 70 Quarterly Report

Source Name: Jupiter Aluminum Corporation
Source Address: 1745 – 165th Street, Hammond, Indiana 46320
Mailing Address: 1745 – 165th Street, Hammond, Indiana 46320
Part 70 Permit No.: T089-5838-00201
Facility: Aluminum Reverberatory Furnaces #2, **#4,** and #6
Parameter: Waste Oil Usage **and Sulfur Content**
Limit: ~~Synthetic~~ **Emission Offset** Minor Limit~~ation of Waste Oil Use Usage for SO_2 emissions~~ **and Sulfur Content Limit.**
Total waste oil usage shall not exceed ~~one million (1,000,000)~~ **1,860,000** gallons per twelve (12) consecutive month period, rolled on a monthly basis. This limit is equivalent to a potential to emit ~~twenty-five (25)~~ **less than forty (40)** tons of SO_2 per year. **Sulfur content shall not exceed four-tenths of a percent (0.4%). This limit is equivalent to three-tenths (0.3) pounds per million Btu for each furnace.**

QUARTER: YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1 **Waste Oil Use Sulfur %**			
Month 2 **Waste Oil Use Sulfur %**			
Month 3 **Waste Oil Use Sulfur %**			

Documentation for calendar month average sulfur content shall be available upon request 326 IAC 7-2-1.

☐☐☐☐ No deviation occurred in this quarter.

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

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

Attach a signed certification to complete this report.

Conclusion

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification **089-17411-00201** or Significant Permit Modification **089-17445-00201**.

Indiana Department of Environmental Management
Office of Air Quality

and

Hammond Department of Environmental Management

Addendum to the
Technical Support Documents for a Part 70
Significant Source Modification & Significant Permit Modification

Source Name:	Jupiter Aluminum Corporation
Source Location:	1745 - 165th Street, Hammond, IN 46320
County:	Lake
SIC Code:	3353 - Secondary Aluminum Processing
Operation Permit No.:	T089-5838-00201
Operation Permit Issuance Date:	March 4, 1998
Significant Source Modification No.:	089-17411-00201
Significant Permit Modification No.:	089-17445-00201
Permit Reviewer:	Ronald Holder

On May 28, 2003, the Hammond Department of Environmental Management (HDEM) had a notice published in the Hammond Times, Hammond, Indiana, stating that Jupiter Aluminum Corporation had applied for a Significant Source Modification and Significant Permit Modification to their Part 70 Permit issued on March 4, 1998. The modification allowed for the use of waste oil as an alternate fuel on Aluminum Furnace #4 and increased a previous limitation of sulfur dioxide (SO_2) emissions. The notice also stated that HDEM proposed to issue the modification approval and permit modification for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Comments were received from Stephen Loeschner on June 27, 2003. In the following comments and responses "17411" refers to the modification approval and "17445" refers to the permit modification. In the responses, additions to the permit are bolded for emphasis; the language with a line through it has been deleted.

Comment 1: Improbable oil or numeric pandering

At 17445 Condition D.3.5(b) and elsewhere, DEM states:

> "Pursuant to 326 IAC 7-4-1.1, sulfur dioxide emissions…shall be limited to 0.3 pounds per million Btu. This limitation is equivalent to a [fuel] sulfur content of 0.4% [by weight]."

As those are written as single digit significance, perhaps DEM meant that 0.34999 (which rounds to 0.3) pounds per million Btu is equivalent to a fuel sulfur content of 0.35000% (which rounds to 0.4) by weight for fuel with 20,001 Btu per pound rather than the 26,667 Btu per pound that results from applying the calculation to a "0.30000 pounds SO_2 per million Btu is equivalent to a fuel sulfur content of 0.4000% by weight" factor pair. To implement that numeric skullduggery, as DEM proposes, would mock the 326 IAC 7-4-1.1(a) "0.3 pounds SO_2 per million Btu" limit by giving Jupiter at least a 48% emission bonus. Yet, on the p. 53 "Part 70 Quarterly Report" form, DEM states:

> "[Fuel total] sulfur content shall not exceed 0.4% [by weight]. This limit is equivalent to 0.3 pounds [of SO2 emission] per million Btu[.]"

And there can be no doubt that Jupiter will interpret that as a license to use fuel oil having an average total sulfur of 0.4% by weight or, indeed an average of as much as 0.44999%.

That rather unusual (and likely expensive!) 26,667 Btus per pound fuel is in contrast to the 17445 Technical Support Document ("TSD") Appendix A p. 1 fuel that DEM states has 142,762 Btu per gallon and the (same) fuel DEM states weighs 7.88 pounds per gallon, for those characteristics combine to 18,117 Btu per pound. On that same page, DEM states:

> "Source [fuel] will be limited to 0.4% sulfur content to meet 0.3 lbs/MmBtu[.]" [*sic*]

I guess declaring that 26,667 equals 18,117 on the same Appendix A page is just one of the ways that DEM makes Indiana a cleaner, healthier place to live. This is clear error and a 40 CFR 70.7(f)(1)(iii), IC 13-15-7-2(3)(A), "material mistake".

Response to Comment 1:

The single digit significance is irrelevant as regards a number that is a limit. The definition of a limit is "a boundary, especially one that cannot or should not be exceeded". A limit is also defined as a maximum amount, or the largest quantity that is allowed. As stated in 326 IAC 7-4-1.1, sulfur dioxide emissions are "limited to three-tenths (0.3) pounds per million Btu if the fuel combustion unit has a maximum capacity of less than twenty (20) million Btu per hour actual heat input". Sulfur dioxide emissions of 0.30001 pounds per million Btu is an exceedance of that limit and is a violation of the rule.

Rules do not allow the DEM to issue a permit that does not assure compliance with all applicable air pollution control rules. Therefore, the reviewer of the permit is obliged to use the maximum rate of an emission unit when determining the potential emissions and emission limit of an emission unit. Therefore the maximum pounds of sulfur dioxide (SO_2) emitted per mmBtu are based on the maximum design rate (maximum heat input rate) of the unit. This unit has a maximum heat input rate (burning waste oil) of 15 mmBtu. This emission rate is also determined by the highest actual or limited sulfur content of the waste oil being burned. Therefore;

The maximum allowable emission rate based on the rule and the maximum heat input rate is:

> (0.3 lbs SO_2 per mmBtu) x (15 mmBtu/hr) = 4.5 lbs SO_2 per hour.

The accepted EPA and AP 42 emission factor for SO_2 is 107S pounds per 1000 gallons (mgal) of waste oil burned by air-atomized burner, where S is the percent sulfur (S), therefore, the emission factor for SO_2 at a maximum (limit) of 0.4% sulfur is:

> (107 lbs SO_2 per mgal) x (0.4) = 42.8 lbs SO_2 per mgal burned.

The Btu value of the waste oil is 142,726 Btu/gal. This information is required by the permit reviewer to be submitted to the Department on a certificate of analysis from the supplier of the waste oil or by an independent lab. Jupiter supplied this information in a certificate of analysis from their supplier. This Btu value is consistent with the EPA accepted AP 42 Btu values for fuel and waste oils. Therefore, the maximum rate of input in thousands of gallons of waste oil is:

> (15 mmBtu/hr) ÷ (142,726 Btu/gal) = 0.00010509 mmgal/hr or 0.105 mgal/hr.

The above emission factor based on a maximum sulfur content of 0.4% is 42.8 lbs SO2 per mgal burned. Therefore, the maximum rate of fuel combustion times the maximum emission factor is:

> (0.105 mgal/hr) x (42.8 lbs SO_2 per mgal burned) = 4.494 lbs SO_2 per hour.

This number meets the above maximum allowable emission rate of 4.5 lbs SO_2 per hour. Therefore, if the waste oil does not exceed 0.4% sulfur by weight, the sulfur dioxide (SO_2) emissions will not exceed the rule limit of three-tenths (0.3) pounds per million Btu (mmBtu).

For that reason, a limitation of 0.4% sulfur content by weight is equivalent to the limitation of 0.3 pounds per million Btu and easier to verify on a continual basis. Compliance with the limitation can be and is verified on a continual basis by the record keeping and reporting requirements in the permit. An exceedance of the limitation of 0.4% sulfur content by any amount is an exceedance of the limitation and a violation of the rule and the permitted limitation.

Comment 2: Unaccounted sulfur

Other than 5838 Condition C.7, a rather bland stack height statement, 5838 seems devoid of mention of SO_2 or sulfur, yet the 17411 and 17445 TSDs' source status tables show a (calendar year presumed) 2001 SO_2 emission of 195.52 tons. Detail why there is no accounting in the series of Jupiter permits and drafts for the sulfur content of the (waste, scrap, used, etc.) aluminum, both as far as content and in re the portion of content believed converted into an airborne SO_2 emission. Detail why there is no accounting in the permit for the sulfur in the Jupiter "natural gas." Is or is not the fuel gas supplied to Jupiter required by 49 CFR 192.625 to have the § 192.625 minimum odor? If it is not required, does or does not that gas have that minimum odor? Was Jupiter permitted to burn oil of any description prior to January 2002? Detail all of Jupiter's oil burning from 1 January 1998 through 31 March 2003. And detail each calendar year 2001 A.2 item Jupiter SO_2 measured and estimated contribution, such that they sum to 195.52.

Why, pray tell, was calendar year 2002 SO_2 emission data not supplied? Furnish it as comment response, and detail each calendar year 2002 A.2 item Jupiter SO_2 measured and estimated contribution, such that they sum to it.

Response to Comment 2:

Jupiter's annual emissions statements and emissions calculations for aluminum furnaces have three (3) emission factors for SO_2 based on tons of metal produced, combustion of natural gas, and combustion of waste oil. The source status tables in the TSDs show the potential emissions of SO_2 for the entire source in order to establish that they are or are not a major source of SO_2 for the purpose the Emissions Offset rule. This information is available in the emissions calculations for their Part 70 permit (T089-5838-00201) and their actual annual emissions are available in their required annual emission statement.

There are emission factors for SO_2 based on the combustion of natural gas. These emissions are accounted for every time there is a new source of (or increase of) the combustion of natural gas. The supplier of natural gas is required by law to add a chemical to natural gas such that it has an odor and is detectable. This is a safety concern (detection of leaks) and is added to the gas prior to use by anyone. Neither the IDEM nor Jupiter has control over the amount of that additive. SO_2 emissions depend on the sulfur content of the natural gas. SO_2 emissions due to this additive are negligible.

Jupiter was not permitted to burn oil of any description prior to January, 2002. Jupiter's combustion of waste oil is reported monthly to the IDEM and HDEM pursuant to conditions of their Part 70 permit and is reported annually in their annual emission statement. The annual (actual) emissions do not sum up to 195.92 TPY. These are the potential SO_2 emissions source-wide and are available to anyone in the calculations portion of Jupiter's Part 70 permit T089-5838-00201.

Calendar year 2002 annual emission statement was not available during the review of this modification. There would have been an increase of potential SO_2 emissions source wide and actual emissions due to the issuance of the modification allowing waste oil use in furnaces #2 and #6. Those potential increases were accounted for in this modification for the purposes of the Emission Offset rule – see TSD, page 4.

Comment 3: Federally enforceability of synthetic minor sulfur status

The form on p. 53 of 17411 and 17445 in no way serves to show that the SO_2 emissions from oil combustion would be less than 40 tons per year ("tpy"). It is a total mockery of "federally enforceable" to suggest that there is any paper report showing a confirmation of conditions imposed so as to create a synthetic minor status. Jupiter would be free to have oil sulfur analyses average to 0.44999% to round them to 0.4%, to place that on the form, and to have oil usage amounts totaling 1,860,000 gallons per any consecutive 12 months on the form. Such would allow a 65.9+ tpy SO_2 emission. This is clear error. As remedy, the permitted 12-month oil use must be reduced to 1,128,000 gallons.

Response to Comment 3:

The accepted EPA and AP 42 emission factor for SO_2 is 107S pounds per 1000 gallons (mgal) of waste oil burned by air-atomized burner, where S is the percent sulfur (S), therefore, the emission factor for SO_2 at a maximum (limit) of 0.4% sulfur is:

(107 lbs SO_2 per mgal) x (0.4) = 42.8 lbs SO_2 per mgal burned.

The reporting form on page 53 of the permit is intended to assure that the SO_2 emissions per twelve (12) consecutive month period, rolled on a monthly basis does not exceed forty (40) tons. This is the most practical and accurate way of making the source accountable because the maximum annual SO_2 emissions are dependent on the maximum (limited) sulfur content and the total maximum (limited) number of gallons.

(42.8 lbs SO_2 per mgal burned) x (1,860 mgal) ÷ (2000 lbs/ton) = 39.8 TPY

This is the maximum allowable increase of SO_2 emissions that would not trigger applicability to the Emission Offset rule 326 IAC 2-3.

Comment 4: Waste oil v. used oil

It would appear that 329 IAC 13 does not contain the phrase "waste oil". Describe in great detail why that phrase is in the many Jupiter documents. It should be removed from 17411 and 17445 prior to issuance, as it only creates confusion.

Response to Comment 4:

Used oil is defined in 329 IAC 13-2-19 as follows:

Sec. 19. "Used oil" means:
(1) any oil that has been refined from crude oil; or
(2) any synthetic oil; that has been used and as a result of such use is contaminated by physical or chemical impurities.

Both TSDs for 17411 and 17445 state:

Pursuant to 329 IAC 13-3-2 (Used Oil Specifications), the used oil to be burned for energy recovery in Furnaces #2, #4, and #6 has been shown not to exceed the specifications in Table 1 of 329 IAC 13-3-2, and is therefore not subject to this article. This has been shown according to 329 IAC 13-9-3, 13-9-4, and 13-9-5(b), a submittal of a certificate of analysis documenting that the used oil meets the specifications.

For the purposes of this review the "waste oil" to be combusted at Jupiter Aluminum meets the standards in 329 IAC 13-3-2 and meets the definition of "used oil" in Section 19 of that rule.

Comment 5: Distillate Oil

Per 326 IAC 7-4-1.1(a), Jupiter may only combust *distillate oil.* It appears that nowhere in the 17411 and 17445 53-page draft permit is there any text obligation that the liquid fuel be distillate oil, and that nowhere is there any compulsion for Jupiter to certify that liquid fuel be distillate oil. Omission of this restriction from the permit text and failure to require certification that the liquid fuel is distillate oil is clear error. While 326 IAC 1, 2, and 7 seem to have no distillate oil definition, its definition in 40 CFR 60.41b should reasonable apply. The permit texts must be amended to read: "distillate oil in accordance with 40 CFR 60.41b" and suitable certification must be added to the quarterly liquid fuel report.

While some non-distillate oils may be compliant with 329 IAC 13-3-2 and 329 IAC 13-8- those oils cannot be lawfully burned by Jupiter in Lake County. Until Jupiter certifies that it physically has (and has contracts to purchase) only distillate oil compliant with 40 CFR 60.41b, DEM should command Jupiter to cease all oil burning. I request that DEM inspect Jupiter's physical oil, oil handling, and oil records promptly and apply an enforcement action if there is evidence of use by Jupiter of oils that do not meet the 40 CFR 60.41b distillate oil definition.

Response to Comment 5:

Jupiter has made application to the IDEM to burn waste "used" oil as an alternate fuel. They did not apply for approval to burn distillate oil. They are not currently approved to burn distillate oil. Distillate oil has a higher sulfur content and higher emission factor and would have required more severe limitations. Approval to burn distillate oil would require a completely new and separate application and review. The waste oil does, however, meet the definition in 40 CFR 60.41b in that it complies with the specifications for fuel oil numbers 1 and 2, as defined by the American Society of Testing and Materials in ASTM D396-78, Standard Specifications for Fuel Oils and, thus allows the IDEM to use the Lake County sulfur dioxide emission limitations in 326 IAC 7-4-1.1.

Comment 6: Unaccounted mixed nitrogen oxides

¶ 1 5838 seems devoid of mention of mixed nitrogen oxides expressed as nitrogen dioxide equivalent ("NOx"), yet the 17411 and 17445 TSDs' source status tables show a 2001 (calendar year presumed) NOx emission of 228.97 tons. Detail why there is no accounting in the series of Jupiter permits and drafts for the NOx emissions – how they got to exceed a potential to emit of ("PTE") of 100 tons per year ("tpy") and what their present PTE is now. And detail each calendar year 2001 A.2 item Jupiter NOx measured and estimated contribution, such that they sum to 228.97.

¶ 2 Why, pray tell, was calendar year 2002 NOx emission data not supplied? Furnish it as comment response, and detail each calendar 2002 A.2 item Jupiter NOx measured and estimated contribution, such that they sum to it.

¶ 3 A summation of the Btu per hour capacities listed in 17411 and 17445 A.2 (1) through (13) is a mere 0.224 billion Btu per hour. With 228.97 tpy NOx, that is an astounding high rate of 233 pounds NOx per billion Btu *if all* of the equipment operated for 8768 hours – which is rather unlikely. Lesser operation would result in the rate rising *above* 233. Cite the total billions of Btu Jupiter used in calendar years 2001 and 2002. What is the fuel rate capacity of the A.2 (10) through (12) thermal oxidizers, and why are they not listed in the permit?

¶ 4 In IDEM document permit package 089-12401-00201, beginning with the cover letter first numeric list of points that start at 6 rather than 1, and in several subsequent parts, the use of 100% oxygen for the fuel combustion process is touted as a NOx elimination scheme for reverberatory furnace 2. Appendix A to the 17411 and 17455 TSD's mention it for reverberatory furnaces 2, 4, and 6 – assigning a 1 pound NOx per million (standard presumed) cubic foot of natural gas (roughly 0.98 pound NOx per billion Btu) factor – yet there seems no appearance in any of the permit areas any obligation that that technology be used. Why is there no such obligation? Those same TSD pages also cite a 112 pound NOx per billion

Btu rate with oil. How many tons of "100% oxygen" did Jupiter use for fuel combustion in calendar years 2001 and 2002, and what was the maximum percentage of things other than oxygen that were permitted in the "100% oxygen"?

¶ 5 Obviously with rates of 0.98 and 112 contributing to an average of 233+, some much larger rates are involved. As response to comment, produce a NOx speadsheet that gives every PTE and limited PTE for every emission unit, including the A.2 (10) through (12) thermal after burners, for every fuel. Absent clear definition, the LPTE's had best exceed 228.97.

¶ 6 112 pounds NOx per billion Btu seems an astounding low oil rate when considered in concert with the 14.7 pounds carbon monoxide ("CO") per billion Btu rate with oil. It is extremely improbable that oil is burned at such low temperatures as to produce that low NOx rate without having incomplete combustion leading to a higher CO rate. Is something with more oxygen in it being used rather than ambient air for partial oil combustion? Is it being required?

¶ 7 Detail all test results performed on Jupiter equipment from June 1998 to the present including all CO, NOx, and filterable and condensable particulate matter having an aerodynamic diameter of no more than 10 microns ("PM10") and the filterable PM.

¶ 8 Identify the date of construction authorization and the date of construction completion for each 17411 and 17445 A.2 item.

¶ 9 Using those 26 dates, explain how Jupiter is alleged to have never been a major NOx source and how it comes to enjoy dumping 228.97 tpy (a ground level ozone precursor) into the air of Lake County, which is in severe non-attainment of the national ambient air quality standard.

¶ 10 Using those 26 dates, explain how Jupiter is alleged to have never been a major SO_2 source and how it comes to enjoy dumping 195.52 tpy SO_2 into the air of Lake County, which is in severe non-attainment of the national ambient air quality standard.

¶ 11 Electronically publish *all* Jupiter permit document packages, for which IDEM has electronic documents, at: http://www.epa.gov/ARD-R5/permits/inonline.htm. As a minimum, 089-11098-00201 and 089-11158-00201 appear absent.

¶ 12 For 5838, and all subsequent document packages, furnish the names of those who made comments (if any) on the drafts.

¶ 13 There appears no mention of hydrogen chloride ("HCl") in the Jupiter documents. Is the HCl LPTE greater than 10 tpy? Why is it not mentioned? Does Jupiter use a chemical flux? What is its most dominant by mass element? What is the identity of and emission of the most dominant by mass Jupiter emission on the 42 USC 7412(b)(1) list other than lead compounds?

Response to Comment 6:

¶ 1 Jupiter's annual emissions statements and emissions calculations for aluminum furnaces have three (3) emission factors for NOx based on tons of metal produced, combustion of natural gas, and combustion of waste oil. The source status tables in the TSDs show the potential emissions of NOx for the entire source in order to establish that they are or are not a major source of NOx for the purpose the Emissions Offset rule. This information is available in the emissions calculations for their Part 70 permit (T089-5838-00201). They had a potential to emit greater than 100 tpy at the time of their Part 70 application review.

¶ 2 Calendar year 2002 annual emission statement was not available during the review of this modification. A detail of NOx emissions contributions per item is available in their Part 70 review calculations and in their 2001 and 2002 emission statements available at the IDEM and HDEM.

¶ 3 Besides combustion of natural gas, there is a sizeable emission factor for NOx associated with "tons of metal produced". This has contributed to a high potential to emit for NOx for these furnaces. Jupiter provides total "max tons of metal produced per hour" and "mmcft of gas consumption per hour" (maximum rates) per furnace. These numbers contribute to the high PTE and are far greater than the actual emissions submitted on an annual basis.

There is not a fuel rate capacity for the "California afterburners" used in Furnaces 3, 4, and 5. These "afterburners" are composed of a plenum chamber followed by a 30' refractory lined stack designed to control the minimum velocity and retention time of the gas stream. At temperatures of 1400 to 1600 degrees Fahrenheit, the fumes are self-ignited to cause an afterburn effect.

¶ 4 Jupiter uses 100% oxygen (from their on site oxygen plant) for combustion in their furnaces for the purposes of attaining 100% complete combustion, thus saving money on fuel use. Greater than 99% of NOx emissions are due to the existing nitrogen in normal combustion air. Natural gas contains a negligible amount of nitrogen. The use of 100% oxygen virtually eliminates NOx emissions from the combustion of natural gas. A factor of 1 pound NOx per mmcft of natural gas is used because zero "0" is unacceptable. There are no NOx limitations for these furnaces. The oxygen is not used to meet a standard or limitation. The oxygen supplementation is, therefore not required. Disclosure of the quantity of oxygen is not required.

¶ 5 Emissions calculations for aluminum furnaces have three (3) emission factors for NOx based on tons of metal produced, combustion of natural gas, and combustion of waste oil. The source status tables in the TSDs show the potential emissions of NOx for the entire source in order to establish that they are or are not a major source of NOx for the purpose the Emissions Offset rule. Item by item potential and actual NOx information is available in the emissions calculations for their Part 70 permit (T089-5838-00201) and in their annual emission statement.

¶ 6 Carbon from the components of oils (hydrocarbons) is available for the production of CO during the combustion. Nitrogen, on the other hand must be obtained from combustion air (ambient air).

¶ 7 Jupiter has stack tested the following items with the following results:

10/05/00	Furnace #3 using NG	PM10 (326 IAC 6-1-10.1(d)	in compliance
11/29/00	Furnace #2 using NG	PM10 (326 IAC 6-1-10.1(d)	in compliance
02/22/01	Furnace #6 using NG	PM10 (326 IAC 6-1-10.1(d)	in compliance
03/05/02	Furnace #6 using waste oil	PM10 (326 IAC 6-1-10.1(d)	in compliance

¶ 8 17411 is the approval to modify the burner for Furnace #4 to burn waste oil and 17445 is the approval to operate (permit modification). Neither authorization, to construct or operate, has been granted pending this response to public comment.

¶ 9 Jupiter has always been a major source of NOx since before their Part 70 application. They were addressed as a major source, hence the Part 70 permit requirement. The 228.97 tpy is the potential to emit regarding all maximum rates of all emission units at Jupiter Aluminum.

¶ 10 Jupiter has always been a major source of SO_2 since before their Part 70 application. They were addressed as a major source, hence the Part 70 permit requirement. The 195.52 tpy is the potential to emit regarding all maximum rates of all emission units at Jupiter Aluminum.

¶ 11 All Jupiter permit document packages, for which IDEM has electronic documents, have been electronically uploaded to the EPA site. 089-11098-00201 and 089-11158-00201, which were completed around the time that procedure began (electronic as opposed to hardcopy), have been located and electronically uploaded.

¶ 12 There were no comments received for any of the above mentioned previous document packages that required 30-day public notice.

¶ 13 Jupiter does not currently use Chlorine nor do they plan to use Chlorine. There is no HCl PTE or LPTE. Jupiter uses a chemical salt mixture for flux material. The two (2) most dominant elements by mass of this salt mixture are sodium chloride (salt) 47.5% and potassium chloride (salt) 47.5%.

* * *

IDEM is aware that this source is out of compliance with the National Emission Standards for Hazardous Air Pollutants (NESHAP), 326 IAC 20, (40 CFR 63, Subpart RRR) for Secondary Aluminum Production. The EPA is reviewing this matter for enforcement and will take the appropriate action as necessary. A Findings of Violation (FOV) has been prepared by the EPA. The FOV may include detailed requirements and require a schedule for achieving compliance with such requirements. These requirements will be incorporated into the Title V renewal which is currently being reviewed.

Notwithstanding the above, Jupiter has performed a stack test to demonstrate compliance with the SO_2 standards in order to move forward with the review process concerning their request to burn waste oil as fuel for their existing melting furnaces.

Jupiter Performs a Stack Test to Demonstrate Compliance with 326 IAC 7-4-1.1 (0.3 lbs/mmBtu).

Jupiter Aluminum offered to test SO_2 emissions from one of the two existing furnaces currently permitted to burn waste oil in order to demonstrate that the actual SO_2 emissions are within the limitation of 0.3 lbs per mmBtu as stated in 326 IAC 7-4-1.1. The previous limitation of 25 TPY made 326 IAC 7-4-1.1 not applicable. The HDEM went to Jupiter two (2) weeks prior to the test to take an un-announced random sample of the waste oil to compare with the analyses of the samples of waste oil taken during the test.

Jupiter tested Furnace #2 on March 30, 2004 for SO_2 emissions. Representatives from the IDEM and the HDEM were present. Three (3) test runs were performed according to the appropriate methods. Waste oil samples were taken by the HDEM and by Jupiter. The analyses of the waste oils from the test samples were consistent with the original analysis with an overall percent sulfur range of 0.19 to 0.25%. Waste oil analyses and reports of the stack test observation and review of the stack test results are available at the offices of the HDEM. The test results, as follows, were received April 14, 2004 and were quality assured and approved by IDEM on May 26, 2004.

	SO_2 Rate (lbs/hr)	Oil Usage (gal/hour)	Heat Value (Btu/gal)	Heat Input (mmBtu/hr)	Emission Limit (0.3 lbs SO_2/mmBtu) Test Emission Rate (lbs SO_2/mmBtu)	%S sample
Run #1	1.95	133	145,914	19.41	0.100	0.25
Run #2	3.14	123	132,432	16.29	0.193	0.19
Run #3	2.14	137	140,412	19.24	0.111	0.21
Average	2.41	131	139,586	18.31	0.135	0.217%

The test average SO_2 emission rate (2.41 lbs SO_2/hr) relative to the average amount of waste oil burned (131 gal/hr) yields an emission factor of 18.4 pounds of SO_2 per thousand gallons of waste oil burned (18.4 lbs SO_2/mgal). This test data demonstrates the validity the original EPA - AP 42 emission factor of 107S, where S is the percent sulfur (%S). The test average percent sulfur (%S) was 0.217%. Therefore, the emission factor for compliance purposes should be 107S = 107 x 0.217 = 23.2 lbs SO_2/mgal. The test results also demonstrate compliance with the 326 IAC 7-4-1.1 sulfur dioxide limit of 0.3 lbs/mmBtu.

During the process of this review, on September 23, 2003, Jupiter made application requesting to use waste oil on other units, specifically #3 Furnace (15 mmBtu/hr) and Holding Furnace #1 (10 mmBtu/hr). Since the new total potential emissions of SO_2 exceeds twenty-five (25) tons per year, the limitation of 0.3 lbs/mmBtu will apply to all units that burn waste oil. Compliance with that limit will be demonstrated by the sulfur content of the waste oil. The limited potential to emit (LPTE) of 40 TPY of SO_2 is based on the total gallons burned. That limit is not affected by the number of units or which units burn waste oil. Because of this and the compliance determination and monitoring requirement changes due to the results of the test, the permit revisions outlined in the original TSD have been changed to the following:

Permit Modification 089-17445-00201 (Pages affected: 1, 4-8, 33-40, and 53)

The following changes were made to the original proposed permit modification 089-17445-00201. **Bold** indicates language that was added and ~~strike-outs~~ indicate language that was removed:

1. The cover page (page 1) was modified as follows to show only the issuance dates and IDEM tracking numbers of amendments, modifications, and revisions to the permit, including those for this permit modification, and to show the pages affected by this modification.

~~First Minor Source Modification: 089-11098-00201 and~~	
~~First~~ Administrative Amendment: 089-11158-00201	Issuance Date: August 26, 1999
~~Second Minor Source Modification: 089-12401-00201~~	~~Issuance Date: August 15, 2000~~
~~Second~~ Administrative Amendment: 089-12405-00201	Issuance Date: September 29, 2000
~~Third Minor Source Modification: 089-15025-00201~~	~~Issuance Date: November 8, 2001~~
~~First~~ Minor Permit Modification: 089-15027-00201	Issuance Date: January 2, 2002

~~First Minor Permit Modification: 089-15027-00201~~ Significant Permit Modification: 089-17445-00201	~~Pages Affected: 4, 5, 7, 33-36, and 53~~ Pages Affected: 1, 4-8, 33-40, and 53
Issued by: _____ Ronald L. Novak, Director Hammond Department of Environmental Management	Issuance Date: ~~January 2, 2002~~

2. On page 4 of 53, in the Table of Contents, Condition D.3.5, Sulfur Dioxide (SO_2) was changed as follows to combine the Emission Offset Minor Limit and the Sulfur Dioxide emission limitations into one related condition for Furnaces #2 and #6.

   ~~D.3.5 Sulfur Dioxide (SO_2)~~
   D.3.5 Emission Offset and Sulfur Dioxide Limitations [326 IAC 2-3] [326 IAC 7-4-1.1]

3. On page 4 of 53, in the Table of Contents, Conditions D.4.3 and D.5.2 were added as follows to duplicate the above condition for Furnaces #3, #4, and Holding Furnace #1. The other conditions in Section D.4 and D.5 were renumbered accordingly.

   D.4.3 Emission Offset and Sulfur Dioxide Limitations [326 IAC 2-3] [326 IAC 7-4-1.1]
   D.5.2 Emission Offset and Sulfur Dioxide Limitations [326 IAC 2-3] [326 IAC 7-4-1.1]

4. On page 5 of 53, information was shifted due to the addition of conditions on page 4.

5. On page 6 of 53, in Section A, Source Summary, A.1, General Information, the "responsible official" was corrected as follows to reflect the title of the responsible official and the County Status has been corrected to reflect the current attainment/nonattainment status of Lake County.

   Responsible Official: ~~Steve Nied, Environmental / Process Engineer~~
   Executive Vice President

Source Address:	1745 - 165th Street, Hammond, Indiana 46320
Mailing Address:	(same)
SIC Code:	3353 - Aluminum Sheet, Plates, & Foil (Secondary Aluminum Processing)
County Location:	Lake County
County Status:	~~Nonattainment for TSP, PM10 (moderate), SO2, NO2, & Ozone (severe)~~ Attainment for PM10, NOx, CO, and Lead Nonattainment for SO2 Nonattainment for ozone under the 8-hour standard Nonattainment for ozone under the 1-hour standard
Source Status:	Part 70 Permit Program Major Source under PSD and Emission Offset Rules;

6. On page 7 of 53, in Section A, Source Summary, A.2, Emission Units and Pollution Control Equipment Summary, The unit descriptions for Furnaces #2, #6, #3, and #4 were modified as follows:

(7) Aluminum Reverberatory Furnace No. 2 (MS-1A)

This unit has a maximum design rate of 40 million Btu/hr heat input using ~~and is normally~~ natural gas ~~fired~~. The maximum rate of scrap aluminum feed to this furnace is 15 tons per hour with a 95% melt recovery rate (14.25 tons per hour). Particulate emissions generated during the melting process are primarily controlled by an American Air Filter Baghouse (BHS-7) which is rated at 99% control efficiency. This unit can also burn waste oil ~~as an alternate fuel~~ at a rate of 20 million Btu/hr.

(8) Aluminum Reverberatory Furnace No. 6 (MS-1E)

This unit has a maximum design rate of 40 million Btu/hr heat input using ~~and is normally~~ natural gas ~~fired~~. The maximum rate of scrap aluminum feed to this furnace is 15 Tons per hour with a 95% melt recovery rate (14.25 Tons per hour). Particulate emissions generated during the melting process are primarily controlled by a Wheelabrator Baghouse (BHS-6) which is rated at 99% control efficiency. This unit can also burn waste oil ~~as an alternate fuel~~ at a rate of 20 million Btu/hr.

(10) Aluminum Reverberatory Furnace No. 3 (MS-1B) (Stack ID MS-1B)

This unit has a maximum design rate of 20 million Btu/hr heat input using ~~and is~~ natural gas ~~fired only~~. The maximum rate of scrap aluminum feed to this furnace is 3.9 Tons per hour with a 90% melt recovery rate (3.5 Tons per hour). Emissions generated during the melting process are controlled by a Thermal Afterburner which is rated at 99% control efficiency. This unit can also burn waste oil at a rate of 15 million Btu/hr.

(11) Aluminum Reverberatory Furnace No. 4 (MS-1C) (Stack ID MS-1C)

This unit has a maximum design rate of 20 million Btu/hr heat input using ~~and is~~ natural gas ~~fired only~~. The maximum rate of scrap aluminum feed to this furnace is 3.9 Tons per hour with a 90% melt recovery rate (3.5 Tons per hour). Emissions generated during the melting process are controlled by a Thermal Afterburner which is rated at 99% control efficiency. This unit can also burn waste oil at a rate of 15 million Btu/hr.

7. On page 8 of 53, the unit description for Holding Furnace #1 has been changed as follows:

(13) Holding Furnace (HS-2) (stack ID HS-2)

This furnace has a maximum design rate of 10 million Btu/hr heat input using ~~and is~~ natural gas ~~fired only~~. The unit is used to stabilize molten metal temperature. This unit can also burn waste oil at a rate of 10 million Btu/hr.

8. On page 33 of 53, Section D.3, in the facility description box, the unit descriptions for Furnaces #2 and #6 have been modified as follows:

(7) Aluminum Reverberatory Furnace No. 2 (MS-1A)

This unit has a maximum design rate of 40 million Btu/hr heat input using ~~and is normally~~ natural gas ~~fired~~. The maximum rate of scrap aluminum feed to this furnace is 15 tons per hour with a 95% melt recovery rate (14.25 tons per hour). Particulate emissions generated during the melting process are primarily controlled by an American Air Filter Baghouse (BHS-7) which is rated at 99% control efficiency. This unit can also burn waste oil ~~as an alternate fuel~~ at a rate of 20 million Btu/hr.

(8) Aluminum Reverberatory Furnace No. 6 (MS-1E)

This unit has a maximum design rate of 40 million Btu/hr heat input using ~~and is normally~~ natural gas ~~fired~~. The maximum rate of scrap aluminum feed to this furnace is 15 Tons per hour with a 95% melt recovery rate (14.25 Tons per hour). Particulate emissions generated during the melting process are primarily controlled by a Wheelabrator Baghouse (BHS-6) which is rated at 99% control efficiency. This unit can also burn waste oil ~~as an alternate fuel~~ at a rate of 20 million Btu/hr.

9. On page 34 of 53, Condition D.3.5 Sulfur Dioxide (SO_2) was modified as follows to combine the Emission Offset Minor Limit and the Sulfur Dioxide emission limitations into one related condition for Furnaces #2 and #6.

~~**Emission Offset and Sulfur Dioxide (SO_2) Minor Limit [326 IAC 2-3] [326 IAC 7-1.1]**~~

D.3.5 Emission Offset Minor Limit and Sulfur Dioxide Emission Limitations [326 IAC 2-3] [326 IAC 7-4-1.1]

~~D.3.5 Sulfur Dioxide (SO_2)~~

~~Furnaces #2 and #6 shall have a combined limit of one million (1,000,000) gallons of waste oil use per 12 consecutive month period. This usage limit is required to limit the potential to emit of SO_2 to less than twenty-five (25) tons per twelve (12) consecutive month period. Compliance with this limit makes 326 IAC 7-4-1.1 (Lake County sulfur dioxide emission limitations) not applicable. This limitation also limits the potential to emit of the other criteria pollutants such that the significant levels for Emission Offset are not exceeded. Therefore, 326 IAC 2-3 (Emission Offset) does not apply.~~

(a) Emission Offset Minor Limit [326 IAC 2-3]
All melting and holding furnaces shall have a combined limit not to exceed forty (40) tons of SO_2 emissions from the combustion of waste oil per twelve (12) consecutive month period. This limitation also limits the potential to emit of the other criteria pollutants from the combustion of waste oil such that the significant levels for Emission Offset applicability are not exceeded. Therefore, 326 IAC 2-3 (Emission Offset) requirements do not apply.

(b) Sulfur Dioxide Emission Limitations [326 IAC 7-4-1.1]
Pursuant to 326 IAC 7-4-1.1, sulfur dioxide emissions from each melting and holding furnace using waste oil as a fuel shall be limited to three-tenths (0.3) pounds per million Btu. This limitation is equivalent to a sulfur content of no greater than four-tenths of a percent (0.4%).

10. On page 34 of 53, Condition 3.7, Testing Requirements, is modified as follows to ensure that waste oil (the most probable worst case) is used as a fuel during compliance testing and to remove Furnace #7 from the testing requirements because the compliance efforts here should concentrate on the two larger units that burn waste oil as a fuel and have PM_{10} SIP limits. Furnace #7 burns natural gas and is nearly one-tenth the size of Furnace #2 or #6. It has also been removed from service, but will remain in the permit because it is potentially useable.

D.3.7 Testing Requirements [326 IAC 2-7-6(1)]

A compliance stack test shall be performed to demonstrate compliance with the PM_{10} limit for ~~each of the furnaces (2, 6, and 7)~~ Furnaces #2 and #6 at the exhaust of the baghouse normally controlling that furnace. The initial test shall be performed using baghouse (BHS-6). Thereafter, the baghouses shall be alternated for each compliance test. Testing shall be completed within twenty-four (24) months of issuance of this permit and repeated no less than once every 5 years thereafter. ~~Testing shall also be performed to demonstrate compliance with the PM_{10} limit while burning waste oil prior to the initial use of waste oil as an alternate fuel in either Furnace #2 or #6.~~ Any furnace approved to combust an alternate fuel other than natural gas shall perform the compliance stack test using the approved alternate fuel. Testing shall be performed in accordance with ~~326 IAC 3-2.1 using~~ methods acceptable to the Commissioner.

11. On page 35 of 53, information may have been shifted due to the modifications on page 34.

12. On page 36 of 53, Record Keeping Requirements, D.3.14(a) was modified as follows to document compliance with Conditions D.3.5 (a) and (b) and 326 IAC 7-2-1 and 326 IAC 7-4-1.1:

D.3.14 Record Keeping Requirements

(a) To document compliance with Conditions D.3.5(a) and (b), the Permitee shall maintain records of the quantity in gallons of waste oil burned each month and the calendar month percent sulfur content. These records shall be made available or submitted to the IDEM-OAQ or HDEM upon request.

13. On page 36 of 53, Reporting Requirement D.3.15(a) was modified as follows to document compliance with the Emission Offset Minor Limit in Condition D.3.5(a) and the sulfur content limitation in Condition D.3.5(b):

D.3.15 Reporting Requirements

To document compliance with Condition D.3.5(a) and (b), ~~A~~ a quarterly summary of the quantity of waste oil burned each month, the SO_2 emissions for each month, the twelve (12) month rolling total of SO_2 emissions, and the calendar month percent sulfur content ~~to document compliance with Condition D.3.5~~ shall be submitted to the addresses listed in Section C – General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

14. On page 37 of 53, in Section D.4, in the facility description box, the unit descriptions for Furnaces #3 and #4 were modified as follows. Furnace #5 is out of service and scheduled for removal.

(10) Aluminum Reverberatory Furnace No. 3 (MS-1B) (Stack ID MS-1B)
This unit has a maximum design rate of 20 million Btu/hr heat input ~~and is~~ using natural gas ~~fired only~~. The maximum rate of scrap aluminum feed to this furnace is 3.9 Tons per hour with a 90% melt recovery rate (3.5 Tons per hour). Emissions generated during the melting process are controlled by a Thermal Afterburner which is rated at 99% control efficiency. This unit can also burn waste oil at a rate of 15 mmBtu/hr.

(11) Aluminum Reverberatory Furnace No. 4 (MS-1C) (Stack ID MS-1C)
This unit has a maximum design rate of 20 million Btu/hr heat input ~~and is~~ using natural gas ~~fired only~~. The maximum rate of scrap aluminum feed to this furnace is 3.9 Tons per hour with a 90% melt recovery rate (3.5 Tons per hour). Emissions generated during the melting process are controlled by a Thermal Afterburner which is rated at 99% control efficiency. This unit can also burn waste oil at a rate of 15 mmBtu/hr.

15. On page 37 of 53, Condition D.4.3 was added as follows to include and combine the related Emission Offset and Sulfur Dioxide Limitations for Furnace #3 and #4. The other conditions including the previous D.4.3 "Preventive Maintenance Plan" were renumbered accordingly.

D.4.3 Emission Offset Minor Limit and Sulfur Dioxide Emission Limitations [326 IAC 2-3] [326 IAC 7-4-1.1]

(a) Emission Offset Minor Limit [326 IAC 2-3]
All melting and holding furnaces shall have a combined limit not to exceed forty (40) tons of SO_2 emissions from the combustion of waste oil per twelve (12) consecutive month period. This limitation also limits the potential to emit of the other criteria pollutants from the combustion of waste oil such that the significant levels for Emission Offset applicability are not exceeded. Therefore, 326 IAC 2-3 (Emission Offset) requirements do not apply.

(b) Sulfur Dioxide Emission Limitations [326 IAC 7-4-1.1]
Pursuant to 326 IAC 7-4-1.1, sulfur dioxide emissions from each melting and holding furnace using waste oil as a fuel shall be limited to three-tenths (0.3) pounds per million Btu. This limitation is equivalent to a sulfur content of no greater than four-tenths of a percent (0.4%).

16. On page 38 of 53, Condition 4.4, Testing Requirements was modified as follows to ensure that waste oil (the most probable worst case) is used as a fuel during compliance testing.

~~D.4.4~~ D.4.5 Testing Requirements [326 IAC 2-7-6(1)]

A compliance stack test shall be performed on one of the three Aluminum Reverberatory Furnaces No. 3, 4, or 5 to demonstrate compliance with the PM_{10} limit. The furnace tested shall be alternated among the three furnaces. The test shall be completed within twenty-four (24) months of issuance of this permit and repeated no less than once every 5 years thereafter. Any furnace approved to combust an alternate fuel other than natural gas shall perform the compliance stack test using the approved alternate fuel. Testing shall be performed in accordance with ~~326 IAC 3-2.1 using~~ methods acceptable to the Commissioner.

17. On page 38 of 53, the conditions were moved forward and re-numbered.

18. On page 39 of 53, Record Keeping Requirements, D.4.9(a) was added as follows to document compliance with Conditions D.4.3(a) and (b) and 326 IAC 7-2-1 and 326 IAC 7-4-1.1. The other record keeping requirements were renumbered accordingly.

~~D.4.8~~ D.4.9 Record Keeping Requirements

(a) To document compliance with Conditions D.4.3(a) and (b), the Permitee shall maintain records of the quantity in gallons of waste oil burned each month and the calendar month percent sulfur content. These records shall be made available or submitted to the IDEM-OAQ or HDEM upon request.

19. On page 39 of 53, Reporting Requirements, D.4.9 was modified as follows to document compliance with the Emission Offset Minor Limit in Condition D.4.3(a) and the sulfur content limitation in Condition D.4.3(b):

~~D.4.9~~ D.4.10 Reporting Requirements

~~There are no reporting requirements for this facility.~~

To document compliance with Condition D.4.3(a) and (b), a quarterly summary of the quantity of waste oil burned each month, the SO_2 emissions for each month, the twelve (12) month rolling total of SO_2 emissions, and the calendar month percent sulfur content shall be submitted to the addresses listed in Section C – General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

20. On page 40 of 53, Section D.5, the description of the Holding Furnace was changed as follows:

(13) Holding Furnace (HS-2) (stack ID HS-2)
This furnace has a maximum design rate of 10 million Btu/hr heat input using ~~and is~~ natural gas ~~fired only~~. The unit is used to stabilize molten metal temperature. This unit can also burn waste oil at a rate of 10 million Btu/hr.

21. On page 40 of 53, Condition D.5.2 was added as follows to include and combine the related Emission Offset and Sulfur Dioxide Limitations for Holding Furnace #1. The other conditions were renumbered accordingly.

D.5.2 Emission Offset Minor Limit and Sulfur Dioxide Emission Limitations [326 IAC 2-3] [326 IAC 7-4-1.1]

(a) Emission Offset Minor Limit [326 IAC 2-3]
All melting and holding furnaces shall have a combined limit not to exceed forty (40) tons of SO_2 emissions from the combustion of waste oil per twelve (12) consecutive month period. This limitation also limits the potential to emit of the other criteria pollutants from the combustion of waste oil such that the significant levels for Emission Offset applicability are not exceeded. Therefore, 326 IAC 2-3 (Emission Offset) requirements do not apply.

(b) Sulfur Dioxide Emission Limitations [326 IAC 7-4-1.1]
Pursuant to 326 IAC 7-4-1.1, sulfur dioxide emissions from each melting and holding furnace using waste oil as a fuel shall be limited to three-tenths (0.3) pounds per million Btu. This limitation is equivalent to a sulfur content of no greater than four-tenths of a percent (0.4%).

22. On page 40 of 53, Record Keeping Requirements, D.5.4 was added as follows to document compliance with Conditions D.5.2(a) and (b) and 326 IAC 7-2-1 and 326 IAC 7-4-1.1.

~~D.5.4~~ D.5.5 Record Keeping Requirements

~~There are no record keeping requirements for this facility.~~

To document compliance with Conditions D.5.2(a) and (b), the Permitee shall maintain records of the quantity in gallons of waste oil burned each month and the calendar month percent sulfur content. These records shall be made available or submitted to the IDEM-OAQ or HDEM upon request.

23. On page 40 of 53, Reporting Requirements, D.5.5 was modified as follows to document compliance with the Emission Offset Minor Limit in Condition D.5.2(a) and the sulfur content limitation in Condition D.5.2(b):

~~D.5.5~~ D.5.6 Reporting Requirements

~~There are no reporting requirements for this facility.~~

To document compliance with Condition D.5.2(a) and (b), a quarterly summary of the quantity of waste oil burned each month, the SO_2 emissions for each month, the twelve (12) month rolling total of SO_2 emissions, and the calendar month percent sulfur content shall be submitted to the addresses listed in Section C – General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

24. Page 53 of 53 is the Waste Oil Reporting Form. The following parts of the existing optional reporting form were modified to show the Permittee the minimum reporting requirements necessary to comply with the Sulfur Dioxide (SO_2) Emissions limitations.

Facility: ~~Aluminum Reverberatory Furnaces #2 and #6~~ **Melting Furnaces #2, #3, #4, #6, and Holding Furnace #1**
Parameter: ~~Waste Oil Usage~~ **Sulfur Dioxide (SO_2) Emissions**
Limit: ~~Synthetic~~ **Emission Offset** Minor Limit~~ation of Waste Oil Use Usage for SO_2 emissions.~~ **and Sulfur Content Limit**
Total ~~waste oil usage~~ **SO_2 emissions** shall not exceed ~~one million (1,000,000) gallons~~ **forty (40) tons** per twelve (12) consecutive month period, rolled on a monthly basis. ~~This limit is equivalent to a potential to emit twenty-five (25) tons of SO_2 per year.~~ **Sulfur content shall not exceed four-tenths of a percent (0.4%) by weight**.

QUARTER: YEAR:

Month		Column 1	Column 2	Column 1 + Column 2
		Month **(tons SO_2) kgal x 23.2 ÷ 2000**	Previous 11 Months **(tons SO_2)**	12 Month Total **(tons SO_2)**
Month				
Gallons				
% Sulfur				
Month				
Gallons				
% Sulfur				
Month				
Gallons				
% Sulfur				

This form is optional. An equivalent form subject to approval by IDEM-OAQ or HDEM may be used.

Conclusion

This modification shall be subject to the conditions of the attached proposed Part 70 Significant Permit Modification **089-17445-00201**.

EMISSIONS CALCULATIONS

Appendix A - Calculations **Page 1**

Jupiter Aluminum Corporation
1745 - 165th Street
Hammond, Indiana 46320

PLANT ID NO: T089-5838-00201
INSP DATE: 7/11/2002
CALC DATE: 3/25/2003

Review for Furnace #4 - Waste Oil Use

Source Modification - 089-17411-00201
Permit Modification - 089-17445-00201

CALCULATIONS BY: Ronald Holder

YEAR OF DATA: **review**

NOTES
EF: EMISSION FACTOR
CE: CONTROL EFFICIENCY
MDR: MAXIMUM DESIGN RATE
MDC: MAXIMUM DESIGN CAPACITY
Ts: STACK DISCHARGE TEMPERATURE
UNITS FOR EMISSIONS ARE IN (TPY) EXCEPT WHERE GIVEN

Waste Oil Use

Reverb Furnace #4
(Natural Gas Combustion)
CNTRL DEV: afterburner

MDC (mmBtu/hr): 20 HEAT CONTENT (Btu/cft): 1000
MDR (mmcft/hr): 0.020 QTY BURNED (mmcft/yr): N/A

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-02-006-02

			POTENTIAL EMISSIONS					
			BEFORE CONTR			AFTER CONTR(		
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)
PM	3	0.95	0.060	1.440	**0.263**	0.003	**0.013**	N/A
PM10	3	0.95	0.060	1.440	**0.263**	0.003	**0.013**	N/A
SOx	0.6	0	0.012	0.288	**0.053**	0.012	**0.053**	N/A
NOx	1	0	0.020	0.480	**0.088**	0.020	**0.088**	N/A
VOC	5.8	0	0.116	2.784	**0.508**	0.116	**0.508**	N/A
CO	20	0	0.400	9.600	**1.752**	0.400	**1.752**	N/A
LEAD	0.0005	0.95	0.000	0.000	**0.000**	0.000	**0.000**	N/A

NOx emissions negligible because of 100% oxygen supplimentation.

Original limit for Furnaces #2 and #6 was 1,000,000 gallons to avoid applicability to 326 7-1.1-1, 25 TPY SO2. (see page 2)

This was a comfortable limit assuming the sour would not need to use that much. However, th energy savings has been considerable and the source would like to modify Furnace #4 to use waste oil. They understand that record keeping and analysis will be required per 326 7-2-1 and that %S will be limted to meet the emissions limitations of 326 IAC 7-4-1.1 (0.3 lbs/MMBtu).

The new limit of 40 TPY SO2 will avoid applicability to 326 IAC 2-3, Emission Offset

Reverb Furnace #4
(Waste Oil Combustion)
CNTRL DEV: afterburner

MDC (mmBtu/hr): 15 HEAT CONTENT (Btu/gal): 142,762
MDR (mgal/hr): 0.105 ASH CONTENT (%): 0.403
QTY BURNED (mgal/yr): **1860** SULFUR CONTENT (%): **0.400**

* * * * * *

waste oil
air-atomized burner

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-05-001-13

			POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTR(		
POLLUTANT	EF(lbs/mgal)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)
PM *	25.8	0.95	2.710	65.039	**11.870**	0.135	**0.593**	N/A
PM10 *	23.0	0.95	2.414	57.925	**10.571**	0.121	**0.529**	N/A
SOx *	42.8	0	4.497	107.928	**19.697**	**4.497**	**19.697**	N/A
NOx	16	0	1.681	40.347	**7.363**	1.681	**7.363**	N/A
VOC	1	0	0.105	2.522	**0.460**	0.105	**0.460**	N/A
CO	2.1	0	0.221	5.296	**0.966**	0.221	**0.966**	N/A
LEAD **	0.205	0.95	0.022	0.517	**0.094**	0.001	**0.005**	N/A

326 IAC 7-4-1.1(a) - 0.3 lbs/MMBtu = 4.5 lbs/hr
Source will be limited to 0.40 % sulfur content to meet 0.3 lbs/Mmtu - record keeping and analysis.

* Emission Factors (from FIRES 5.0) times percent ash or sulfur.
** EF for lead is 26 ppm (from certificate of analysis) times 7.88 lbs/gal times 1000 gallons.

total combined emission offset limit for Furnace #2, #4, & #6

Limited Potential to Emit eqivalent to 40 TPY SO2 1,860,000 gallons

	BEFORE CONTROLS	AFTER CONTROLS
PM	**23.99**	**1.20**
PM10	**21.36**	**1.07**
SOx	**39.80**	**39.80**
NOx	**14.88**	**14.88**
VOC	**0.93**	**0.93**
CO	**1.95**	**1.95**
LEAD	**0.19**	**0.01**

Potential Before Control Furnace #4 burning waste oil		**Potential Before Control Furnaces #2 and #6 burning waste oil**		**Combined Limited Potential to Emit: 1,860,000 gallons to keep the PTE below 40 TPY SO2 burning waste oil.**		**after control**
PM	**11.87** TPY	**31.65** TPY		**PM**	**1.20** TPY	**1.20**
PM10	**10.57** TPY	**28.19** TPY		**PM10**	**13.70** TPY*	**1.07**
SOx	**19.70** TPY	**52.52** TPY		**SOx**	**39.80** TPY	**39.80**
NOx	**7.36** TPY	**19.64** TPY		**NOx**	**14.88** TPY	**14.88**
VOC	**0.46** TPY	**1.23** TPY		**VOC**	**0.93** TPY	**0.93**
CO	**0.97** TPY	**2.58** TPY		**CO**	**1.95** TPY	**1.95**
Lead	**0.09** TPY	**0.25** TPY		**Lead**	**0.19** TPY	**0.010**

Original plantwide limit for waste oil combustion for Furnaces 2 & 6 1,000,000 gallons (page 2)

New plantwide limit for waste oil combustion for Furnaces 2, 4 & 6 1,860,000 gallons(this page)

*federally enforceable permit PM10 SIP limits for furnaces 2, 4, and 6

EMISSIONS CALCULATIONS

Appendix A - Calculations

previous review 2001

Jupiter Aluminum Corporation
1745 - 165th Street
Hammond, Indiana 46320

PLANT ID NO: T089-5838-00201
INSP DATE: 2/22/2001
CALC DATE: 9/10/2001

original review for Furnaces #2 and #6 completed in 2001.

Minor Source Modification 089-15025-00201

CALCULATIONS BY: Ronald Holder

YEAR OF DATA: review

Minor Permit Modification 089-15027-00201

NOTES
EF: EMISSION FACTOR
CE: CONTROL EFFICIENCY
MDR: MAXIMUM DESIGN RATE
MDC: MAXIMUM DESIGN CAPACITY
Ts: STACK DISCHARGE TEMPERATURE
UNITS FOR EMISSIONS ARE IN (TPY) EXCEPT WHERE GIVEN

Waste Oil Use

****

Reverb Furnace #2 or #6
(Natural Gas Combustion)
CNTRL DEV: baghouse

MDC (mmBtu/hr): 40
MDR (mmcft/hr): 0.040
HEAT CONTENT (Btu/cft): 1000
QTY BURNED (mmcft/yr): N/A

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-02-006-02			POTENTIAL EMISSIONS					
			BEFORE CONTR			AFTER CONTR(		
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)
PM	3	0.95	0.120	2.880	**0.526**	0.006	**0.026**	N/A
PM10	3	0.95	0.120	2.880	**0.526**	0.006	**0.026**	N/A
SOx	0.6	0	0.024	0.576	**0.105**	0.024	**0.105**	N/A
NOx	1	0	0.040	0.960	**0.175**	0.040	**0.175**	N/A
VOC	5.8	0	0.232	5.568	**1.016**	0.232	**1.016**	N/A
CO	20	0	0.800	19.200	**3.504**	0.800	**3.504**	N/A
LEAD	0.0005	0.95	0.000	0.000	**0.000**	0.000	**0.000**	N/A

NOx emissions negligible because of 100% oxygen supplimentation.

Original limit for Furnaces #2 and #6 was 1,000,000 gallons to avoid applicability to 326 7-1.1-1, 25 TPY SO2. (this page)

This was a comfortable limit assuming the sourc would not need to use that much. However, the energy savings has been considerable and the source would like to modify Furnace #4 to use waste oil. They understand that record keeping and analysis will be required per 326 7-2-1 and that %S will be limted to meet the emissions limitations of 326 IAC 7-4-1.1 (0.3 lbs/MMBtu).

The new limit of 40 TPY SO2 will avoid applicability to 326 IAC 2-3, Emission Offset

****

Reverb Furnace #2 or #6
(Waste Oil Combustion)
CNTRL DEV: baghouse

MDC (mmBtu/hr): 20
MDR (mgal/hr): 0.140
QTY BURNED (mgal/yr): **1000**
HEAT CONTENT (Btu/gal): 142,762
ASH CONTENT (%): 0.403
SULFUR CONTENT (%): **0.400**

* * * * * *

waste oil
air-atomized burner
PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-05-001-13			POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTR(		
POLLUTANT	EF(lbs/mgal)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)
PM *	25.8	0.95	3.613	86.719	**15.826**	0.181	**0.791**	N/A
PM10 *	23.0	0.95	3.218	77.234	**14.095**	0.161	**0.705**	N/A
SOx *	42.8	0	5.996	143.904	**26.262**	**5.996**	**26.262**	N/A
NOx	16	0	2.241	53.796	**9.818**	2.241	**9.818**	N/A
VOC	1	0	0.140	3.362	**0.614**	0.140	**0.614**	N/A
CO	2.1	0	0.294	7.061	**1.289**	0.294	**1.289**	N/A
LEAD **	0.205	0.95	0.029	0.689	**0.126**	0.001	**0.006**	N/A

Limited Potential to Emit
< 25 TPY SO2
1,000,000 gallons

	BEFORE CONTROLS	AFTER CONTROLS
PM	**12.90**	**0.64**
PM10	**11.49**	**0.57**
SOx	**21.40**	**21.40**
NOx	**8.00**	**8.00**
VOC	**0.50**	**0.50**
CO	**1.05**	**1.05**
LEAD	**0.10**	**0.01**

326 IAC 7-4-1.1(a) - 0.3 lbs/MMBtu = 6 lbs/hr
New % sulfur content limitation (0.40 %) to meet 0.3 lbs/Mmtu - record keeping and analysis (see page 1

* Emission Factors (from FIRES 5.0) times percent ash or sulfur.
** EF for lead is 26 ppm (from certificate of analysis) times 7.88 lbs/gal times 1000 gallons.

Potential Before Control either Furnace burning waste oil		**Potential Before Control both Furnaces burning waste oil**		**Combined Limited Potential to Emit: 1,000,000 gallons to keep the PTE of the modification below 25 TPY SOx.**		**after control**
PM	**15.83** TPY	**31.65** TPY		**PM**	**12.90** TPY	**0.64**
PM10	**14.10** TPY	**28.19** TPY		**PM10**	**11.49** TPY*	**0.57**
SOx	**26.26** TPY	**52.52** TPY		**SOx**	**21.40** TPY	**21.40**
NOx	**9.82** TPY	**19.64** TPY		**NOx**	**8.00** TPY	**8.00**
VOC	**0.61** TPY	**1.23** TPY		**VOC**	**0.50** TPY	**0.50**
CO	**1.29** TPY	**2.58** TPY		**CO**	**1.05** TPY	**1.05**
Lead	**0.13** TPY	**0.25** TPY		**Lead**	**0.10** TPY	**0.005**

Original plantwide limit for waste oil combustion for Furnaces 2 & 6 1,000,000 gallons(this page)

New plantwide limit for waste oil combustion for Furnaces 2, 4 & 6 1,860,000 gallons (page 1)

*federally enforceable permit PM10 SIP limit for 2 and 6.