

**August 20, 2001**

Mr. Richard D. Dishaw  
KUS Zollner Division  
2425 Coliseum Boulevard South  
Fort Wayne, Indiana 46803

Re: **003-13612**  
Second Significant Revision to  
**FESOP 003-5869-00064**

Dear Mr. Dishaw:

KUS Zollner was issued a Federally Enforceable State Operating Permit (FESOP) on December 9, 1996 for an aluminum foundry. A letter requesting changes to this permit was received on December 11, 2000. Pursuant to the provisions of 326 IAC 2-8-11.1 a significant permit revision to this permit is hereby approved as described in the attached Technical Support Document.

The modification consists of adding the following to a new building at their existing plant:

- (a) Eight (8) engine test cells, each consisting of one (1) electric dyno and one (1) gasoline or diesel fuel fired reciprocating internal combustion engine, each engine with a maximum heat input rating of 1.1 million British thermal units (MMBtu) per hour and a maximum power output rating of 450 horsepower (HP), each exhausting through one (1) stack (Stacks 1 through 8).

The following construction conditions are applicable to the proposed project:

1. General Construction Conditions  
The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).
2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
3. Effective Date of the Permit  
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.
4. Pursuant to 326 IAC 2-1.1-9 (Revocation), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.
6. The attached affidavit of construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section, verifying that the facilities were constructed as proposed in the application. The facilities covered in this Significant Permit Revision may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.
7. Pursuant to 326 IAC 2-7-4, the Permittee shall apply for a Title V operating permit within twelve (12) months after the source becomes subject to Title V. This 12-month period starts at the postmarked submission date of the Affidavit of Construction. If the construction is completed in phases, the 12-month period starts at the postmarked submission date of the Affidavit of Construction that triggers the Title V applicability.

Pursuant to 326 IAC 2-8-11.1, this permit shall be revised by incorporating the significant permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this modification and the following revised permit pages to the front of the original permit.

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, please contact Trish Earls, c/o OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call at (973) 575-2555, ext. 3219, or dial (800) 451-6027, press 0 and ask for extension 3-6878.

Sincerely,  
Original signed by Paul Dubenetzky

Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Quality

Attachments  
TE/EVP

cc: File - Allen County  
U.S. EPA, Region V  
Allen County Health Department  
Air Compliance Section Inspector - Jennifer Dorn  
Compliance Data Section - Jerri Curless  
Administrative and Development - Janet Mobley  
Technical Support and Modeling - Michelle Boner

# FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) OFFICE OF AIR QUALITY

**KUS Zollner Division  
2425 South Coliseum Blvd.  
Fort Wayne, Indiana 46803-2998**

(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 2-8 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.: F003-5869-00064	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: December 9, 1996
First Significant Permit Revision 003-11697-00064	Pages Affected: 4, 5, 5a, 17, 22-24, 24a, 25, 26, 26a
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: Pending
Second Significant Permit Revision 003-13612-00064	Pages Affected: 4, 5, 5a, 6, 12, 13, 15, 17, 17a, 20, 20a, 28a, 28b, 35a, 35b
Original signed by Paul Dubenetzky Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: <b>August 20, 2001</b>

## SECTION A SOURCE SUMMARY

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

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

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The Permittee owns and operates a stationary aluminum foundry.

Authorized individual:	Mark Lennart, Plant Manager/Vice President of Operations
Source Address:	2425 South Coliseum Blvd., Fort Wayne, Indiana 46803
Mailing Address:	2425 South Coliseum Blvd., Fort Wayne, Indiana 46803
SIC Code:	3361
County Location:	Allen
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 source operating under a Federally Enforceable State Operating Permit (FESOP) Major Source, under PSD Rules Minor Source, Section 112 of the Clean Air Act 1 of 28 Source Categories

### A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

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

- (a) twenty (20) natural gas-fired reverberatory furnaces, each with a maximum melt capacity of 800 pounds per hour, referred to as F3 - F6, F8 - F12, and F14 - F24.
- (b) One (1) dry hearth furnace, fueled by natural gas only, with a heat input capacity of 5.0 million British thermal units per hour, and a charging capacity of 2000 pounds per hour;
- (c) Three (3) melt furnaces, each with a maximum melt capacity of 800 pounds per hour;
- (d) forty-five (45) natural gas-fired crucibles, each with a maximum melt capacity of 200 pounds per hour, referred to as C1 - C45;
- (e) two (2) shot blast systems, with emissions controlled by two baghouses;
- (f) one (1) evaporator, referred to as EV1;
- (g) four (4) 200 hp, natural gas-fired boilers, with maximum heat input capacities of 8.4, 5.6, 2.5, and 6.7 million British thermal units per hour, referred to as B1, B2, B4, and B5 respectively;
- (h) one (1) 100 hp, natural gas-oil fired boiler, with a maximum heat input capacity of 3.35 million British thermal units per hour, referred to as B3;
- (i) one (1) natural gas-fired boiler, with a maximum heat input capacity of 1.25 million British thermal units per hour, referred to as B6; and

- (j) eight (8) engine test cells, each consisting of one (1) electric dyno and one (1) gasoline or diesel fuel fired reciprocating internal combustion engine, each engine with a maximum heat input rating of 1.1 million British thermal units (MMBtu) per hour and a maximum power output rating of 450 horsepower (HP), each exhausting through one (1) stack (Stacks 1 through 8).

A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-8-3(c)(3)(l)]

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) natural gas-fired combustion sources with heat input equal to or less than ten million British thermal units per hour;
- (b) a gasoline fuel transfer and dispensing operation;
- (c) storage tanks;
- (d) vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids;
- (e) activities associated with the treatment of wastewater streams;
- (f) quenching operations used with heat treating processes;
- (g) replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment;
- (h) trimmers that do not produce fugitive emissions and that are equipped with a dust collection or trim material recovery device such as a bag filter or cyclone;
- (i) grinding and machining operations;
- (j) a coating operation and curing oven for surface coating pistons which includes a pre-washer, dryer, print coating, and a curing oven (pre-heating and curing oven);
- (k) a phosphate pretreat line, consisting of six dip tanks connected to a mist eliminator;
- (l) an electric bake oven (14kW) to bake and cure a maximum of 80 pounds per hour graphite coated aluminum pistons;
- (m) a tin plating line, consisting of six dip tanks connected to a wet collector;
- (n) five parts washers (PW1 - 5) for washing cutting fluid off pistons;
- (o) two board washers (BW1 - 2) for washing cutting fluid off pistons;
- (p) two tin plating systems which include a detergent washer section, surface pretreatment, and plating and rinse sections;
- (q) lathe room exhaust system to remove gaseous emissions;
- (r) maintenance welding operations.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to apply for a Part 70 permit by 326 IAC 2-7-2 (Applicability)

because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22); and
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

Pursuant to 326 IAC 2-7-4, the source shall submit a Part 70 permit application to the OAQ within twelve (12) months after the source becomes subject to the Part 70 permit program. The source will be subject to the Part 70 permit program when operation of the equipment listed in Section D.6 begins.

#### A.5 Prior Permit Conditions

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- (a) This permit shall be used as the primary document for determining compliance with applicable requirements established by previously issued permits.
- (b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, including any term or condition from a previously issued construction or operation permit, IDEM, OAQ, 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.

## **SECTION B            GENERAL CONDITIONS**

**B.1    General Requirements [IC 13-15] [IC 13-17] (Prior to July 1, 1996: IC 13-7 and IC 13-1-1)**

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The Permittee shall comply with the provisions of IC 13-15 (Permits Generally), IC 13-17 (Air Pollution Control) and the rules promulgated thereunder.

**B.2    Definitions [326 IAC 2-8-1]**

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Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11 (prior to July 1, 1996, IC 13-7-2, IC 13-1-1-2), 326 IAC 1-2, and 326 IAC 2-7 shall prevail.

**B.3    Enforceability [326 IAC 2-8-6]**

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

(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.

**B.4    Termination of Right to Operate [326 IAC 2-7-3][326 IAC 2-7-4(a)(1)(A)]**

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The Permittee's right to operate this source terminates twelve (12) months after beginning operation of equipment listed in Section D.6 unless a timely and complete Part 70 application is submitted to IDEM, OAQ within twelve (12) months from the date the source begins operating as a Part 70 source consistent with 326 IAC 2-7-4.

**B.5    Severability [326 IAC 2-8-4(4)]**

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(a)    The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

(b)    Indiana 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.

**B.7    Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]**

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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 2-8-3(f)] [326 IAC 2-8-4(5)(E)]**

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(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:

**B.16 Permit Renewal [326 IAC 2-8-3(h)]**

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- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include, at minimum, the information specified in 326 IAC 2-8-3. 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 Quality  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, IN 46206-6015

- (b) **Timely Submittal of Permit Renewal [326 IAC 2-8-3]**
- (1) The Permittee has a duty to submit a timely and complete permit renewal application. 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) Delivered by U.S. mail and postmarked on or before the date it is due; or
  - (C) Delivered by any other method if it is received and stamped by IDEM, OAQ, on or before the date it is due.
- (2) If IDEM, OAQ 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 until the renewal permit has been issued or denied.
- (c) **Right to Operate After Application for Renewal [326 IAC 2-8-9]**  
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 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ, any additional information identified as needed to process the application.

**B.17 Permit Amendment or Modification [326 IAC 2-8-10] [326 IAC 2-8-11.1][326 IAC 2-7-10.5]**

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- (a) The Permittee must comply with the requirements of 326 IAC 2-7-10.5 whenever the Permittee seeks to amend or modify this source. If the proposed change is not applicable to 326 IAC 2-7-10.5, then the Permittee must comply with the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1.
- (b) Any application requesting an amendment or modification of this permit or source according to 326 IAC 2-7-10.5, 326 IAC 2-8-10, or 326 IAC 2-8-11.1 shall be submitted to:

Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality



100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1(1) only if a certification is required by the terms of the applicable rule. If the application is submitted pursuant to 326 IAC 2-7-10.5 it must be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (c) The Permittee may implement the administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)] Changes requested pursuant to 326 IAC 2-8-10(14) must now be submitted as a Part 70 source modification.

- (c) **Emission Trades [326 IAC 2-8-15(c)]**  
The Permittee may trade increases and decreases in emissions in the source, where the applicable State Implementation Plan (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 2-8-15(c).
- (d) **Alternative Operating Scenarios [326 IAC 2-8-15(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 2-8-4(7) and subject to the constraints in Section (a) of this condition and those in 326 IAC 2-8-15(d).

**B.19 Construction Permit Requirement [326 IAC 2-1]**

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Prior to any change in the operation which may result in an increase in allowable emissions exceeding those specified in 326 IAC 2-1-1 (Construction and Operating Permit Requirements), the change must be approved by the Office of Air Quality (OAQ).

**B.25 Inspection and Entry [326 IAC 2-8-5(a)(2)]**

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

- (a) Enter upon the Permittee's premises where a FESOP source is located or emissions related activity is conducted, or where records are 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 demonstrating compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of demonstrating compliance with this permit or applicable requirements.  
[326 IAC 2-8-5(a)(4)]

**B.21 Annual Fee Payment [326 IAC 2-7-19][326IAC 2-7-5(7)]**

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- (a) The Permittee shall pay annual fees to IDEM, OAQ, within thirty (30) calendar days of receipt of a billing. If the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) Failure to pay may result in administrative enforcement action, or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-0425 (ask for OAQ, Technical Support and Modeling Section), to determine the appropriate permit fee.

C.1 Overall Source Limit [326 IAC 2-8]

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- (a) The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.
- (1) Pursuant to 326 IAC 2-8:
- (i) The potential to emit any regulated pollutant from the units in Section D.1 - D.5 of FESOP #003-5869-00064, issued on December 9, 1996, shall be limited to less than one-hundred (100) tons per twelve (12) consecutive month period. This limitation shall also make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable;
- (ii) The potential to emit any individual hazardous air pollutant (HAP) from the units in Section D.1 - D.5 of FESOP #003-5869-00064, issued on December 9, 1996, shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (iii) The potential to emit any combination of HAPs from the units in Section D.1 - D.5 of FESOP #003-5869-00064, issued on December 9, 1996, shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.
- (2) This condition shall include units in Section D.1 - D.5 of FESOP #003-5869-00064, issued on December 9, 1996, including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.
- (3) Section D of this permit contains independently enforceable provisions to satisfy this requirement.
- (b) Pursuant to 326 IAC 2-8-11.1(f)(1)(B) Section D.6 is not required to comply with this condition. The source will be subject to the Part 70 permit program when operation of the equipment listed in D.6 begins.

C.2 Opacity

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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:

- (a) Visible emissions shall not exceed an average of 40 percent opacity in 24 consecutive readings,
- (b) Visible emissions shall not exceed 60 percent opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.

C.3 Open Burning

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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.

C.4 Fugitive Dust Emissions

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The Permittee shall be in violation of 326 IAC 6-4 if any of the criteria specified in 326 IAC 6-4-2 (1) through (4) are violated.

C.5 Operation of Equipment [326 IAC 2-8-5(a)(4)]

- (a) All equipment that potentially might emit pollutants into the ambient air shall be properly operated and maintained.
- (b) Unless otherwise stated in this permit, all air pollution control equipment listed in this permit shall be operated at all times that the emission unit(s) vented to the control equipment is in operation.
- (c) The Permittee shall perform all necessary maintenance and make all necessary attempts to keep all air pollution control equipment in proper operating condition at all times.

## **Record Keeping and Reporting [326 IAC 2-8-4(3)]**

### C.12 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

- (a) The Permittee shall submit an annual emission statement certified pursuant to the requirements of 326 IAC 2-6, that must be received by July 1 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 January 1 and ending December 31. The annual emission statement must be submitted to:
- Indiana Department of Environmental Management  
Technical Support and Modeling Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015
- (c) The annual emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

### C.13 Monitoring Data Availability

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. Records shall be kept of the times that the equipment is not operating. 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. 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. At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed 5 percent of the operating time in any quarter. 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 in (a) above.

### C.14 General Record Keeping Requirements

- (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 one (1) hour upon verbal request of an IDEM, OAQ 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:
- (1) The date, place, and time of sampling or measurements;

- (2) The dates analyses were performed;
  - (3) The company or entity performing the analyses;
  - (4) The analytic techniques or methods used;
  - (5) The results of such analyses; and
  - (6) The operating conditions existing at the time of sampling or measurement.
- (c) Support information shall include:
- (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) All preventive maintenance and corrective actions that were implemented. Such records shall briefly describe what was done and indicate who did it;

## SECTION D.6 FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-8-4(10)]:

- (j) eight (8) engine test cells, each consisting of one (1) electric dyno and one (1) gasoline or diesel fuel fired reciprocating internal combustion engine, each engine with a maximum heat input rating of 1.1 million British thermal units (MMBtu) per hour and a maximum power output rating of 450 horsepower (HP), each exhausting through one (1) stack (Stacks 1 through 8).

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

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

#### D.6.1 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

- (a) The total usage of gasoline and gasoline equivalents in the eight (8) engine test cells shall not exceed 50,253 gallons of gasoline per twelve (12) consecutive month period, rolled on a monthly basis, so that VOC and CO emissions are limited below 100 tons per year.
- (b) The total usage of diesel and diesel equivalents in the eight (8) engine test cells shall not exceed 327,814 gallons of diesel fuel per twelve (12) consecutive month period, rolled on a monthly basis, so that NOx emissions are limited below 100 tons per year.
- (c) For purposes of determining compliance, the following shall apply:
- (1) every 1,000 gallons of diesel fuel oil burned shall be equivalent to 33 gallons of gasoline based on CO emissions such that the total gallons of gasoline and gasoline equivalent input does not exceed the limit specified;
  - (2) every 1,000 gallons of gasoline burned shall be equivalent to 168.9 gallons of diesel fuel oil based on NOx emissions such that the total gallons of diesel fuel oil and diesel fuel oil equivalent input does not exceed the limit specified.

Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable. However, the source wide potential to emit of NOx and CO, including this modification, will be greater than 100 tons per year, therefore, this source will be an existing major PSD source with respect to any future modifications.

### Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

#### D.6.2 Record Keeping Requirements

- (a) To document compliance with Condition D.6.1, the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken monthly and shall be complete and sufficient to establish compliance with the fuel usage limits established in Condition D.6.1.
- (1) The usage of gasoline and gasoline equivalents, in gallons, in the eight (8) engine test cells each month;
  - (2) The usage of diesel and diesel equivalents, in gallons, in the eight (8) engine test cells each month; and
  - (3) A log of the dates of use.

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

#### D.6.3 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.6.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).



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

**FESOP Quarterly Report**

Source Name: KUS Zollner Division  
Source Address: 2425 Coliseum Boulevard South, Fort Wayne, Indiana 46803  
Mailing Address: 2425 Coliseum Boulevard South, Fort Wayne, Indiana 46803  
FESOP No.: F003-5869-00064  
Facility: Eight (8) engine test cells  
Parameter: Gasoline usage  
Limit: The total usage of gasoline and gasoline equivalents in the eight (8) engine test cells shall not exceed 50,253 gallons of gasoline per twelve (12) consecutive month period, rolled on a monthly basis. For purposes of determining compliance, every 1,000 gallons of diesel fuel oil burned shall be equivalent to 33 gallons of gasoline based on CO emissions such that the total gallons of gasoline and gasoline equivalent input does not exceed the limit specified.

YEAR: \_\_\_\_\_

Month	Gasoline and Equivalent Usage This Month (gallons)	Gasoline and Equivalent Usage Previous 11 Months (gallons)	12 Month Total Gasoline and Equivalent Usage (gallons)

- 9 No deviation occurred in this quarter.
- 9 Deviation/s occurred in this quarter.  
Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_  
Title / Position: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_  
Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

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

**FESOP Quarterly Report**

Source Name: KUS Zollner Division  
 Source Address: 2425 Coliseum Boulevard South, Fort Wayne, Indiana 46803  
 Mailing Address: 2425 Coliseum Boulevard South, Fort Wayne, Indiana 46803  
 FESOP No.: F003-5869-00064  
 Facility: Eight (8) engine test cells  
 Parameter: Diesel usage  
 Limit: The total usage of diesel and diesel equivalents in the eight (8) engine test cells shall not exceed 327,814 gallons of diesel fuel per twelve (12) consecutive month period, rolled on a monthly basis. For purposes of determining compliance, every 1,000 gallons of gasoline burned shall be equivalent to 168.9 gallons of diesel fuel oil based on NOx emissions such that the total gallons of diesel fuel oil and diesel fuel oil equivalent input does not exceed the limit specified.

YEAR: \_\_\_\_\_

Month	Diesel and Equivalent Usage This Month (gallons)	Diesel and Equivalent Usage Previous 11 Months (gallons)	12 Month Total Diesel and Equivalent Usage (gallons)

- 9 No deviation occurred in this quarter.
- 9 Deviation/s occurred in this quarter.  
 Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_  
 Title / Position: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

Mail to: Permit Administration & Development Section  
Office Of Air Management  
100 North Senate Avenue  
P. O. Box 6015  
Indianapolis, Indiana 46206-6015

KUS Zollner Division  
2425 Coliseum Blvd. South  
Fort Wayne, Indiana 46803

**Affidavit of Construction**

I, \_\_\_\_\_, being duly sworn upon my oath, depose and say:  
(Name of the Authorized Representative)

1. I live in \_\_\_\_\_ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.
2. I hold the position of \_\_\_\_\_ for \_\_\_\_\_.  
(Title) (Company Name)
3. By virtue of my position with \_\_\_\_\_, I have personal  
(Company Name)  
knowledge of the representations contained in this affidavit and am authorized to make these representations on behalf of \_\_\_\_\_.  
(Company Name)
4. I hereby certify that KUS Zollner Division, 2425 Coliseum Blvd. South, Fort Wayne, Indiana, 46803, has constructed the eight (8) engine test cells in conformity with the requirements and intent of the construction permit application received by the Office of Air Management on December 11, 2000, and as permitted pursuant to **Significant Permit Revision No. 003-13612, Plant ID No. 003-00064** issued on \_\_\_\_\_.

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

STATE OF INDIANA)  
)SS

COUNTY OF \_\_\_\_\_ )

Subscribed and sworn to me, a notary public in and for \_\_\_\_\_ County and State of  
Indiana on this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_\_.

My Commission expires: \_\_\_\_\_

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name (typed or printed)

## Indiana Department of Environmental Management Office of Air Quality

### Technical Support Document (TSD) for a Permit Revision to a Federally Enforceable State Operating Permit

#### Source Background and Description

<b>Source Name:</b>	<b>KUS Zollner Division</b>
<b>Source Location:</b>	<b>2425 Coliseum Boulevard South Fort Wayne, Indiana 46803</b>
<b>County:</b>	<b>Knox</b>
<b>SIC Code:</b>	<b>3361</b>
<b>Operation Permit No.:</b>	<b>F 003-5869-00064</b>
<b>Operation Permit Issuance Date:</b>	<b>December 9, 1996</b>
<b>Permit Revision No.:</b>	<b>003-13612-00064</b>
<b>Permit Reviewer:</b>	<b>Trish Earls/EVP</b>

The Office of Air Quality (OAQ) has reviewed a revision application from KUS Zollner Division relating to a modification of this existing aluminum foundry.

#### History

On December 11, 2000, KUS Zollner Division submitted an application to the OAQ requesting to add the following to a new building at their existing plant:

- (a) Eight (8) engine test cells, each consisting of one (1) electric dyno and one (1) gasoline or diesel fuel fired reciprocating internal combustion engine, each engine with a maximum heat input rating of 1.1 million British thermal units (MMBtu) per hour and a maximum power output rating of 450 horsepower (HP), each exhausting through one (1) stack (Stacks 1 through 8).

Zollner Company Limited Partnership, now KUS Zollner Division, was issued a Federally Enforceable State Operating Permit (FESOP) (F003-5869-00064) on December 9, 1996. Since potential limited emissions from the addition of the above listed equipment will cause the source wide emissions to exceed 100 tons per year, the requirements of 326 IAC 2-7 (Part 70 Permit Program) will apply to this source. The source has stated that it will submit a Part 70 permit application within one (1) year of issuance of this permit.

#### Existing Approvals

The source was issued a FESOP (F003-5869-00064) on December 9, 1996. The source has since received the following:

- (a) First Significant Permit Revision No.: 003-11697, still pending with the OAQ.
- (b) Exemption No. 003-12315-00064, issued on July 6, 2000; and

(c) Exemption No. 003-12117-00064, issued on April 14, 2000.

### Enforcement Issue

There are no enforcement actions pending.

### Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
1	Test Engine Cell #1	26.67	1.0	2000	500
2	Test Engine Cell #2	26.67	1.0	2000	500
3	Test Engine Cell #3	26.67	1.0	2000	500
4	Test Engine Cell #4	26.67	1.0	2000	500
5	Test Engine Cell #5	26.67	1.0	2000	500
6	Test Engine Cell #6	26.67	1.0	2000	500
7	Test Engine Cell #7	26.67	1.0	2000	500
8	Test Engine Cell #8	26.67	1.0	2000	500

### Recommendation

The staff recommends to the Commissioner that the Significant Permit Revision 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 December 11, 2000.

### Emission Calculations

See Appendix A of this document for detailed emissions calculations (1 page).

### 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.”

Pollutant	Potential To Emit (tons/year)
PM	46.76
PM-10	46.76
SO <sub>2</sub>	43.68
VOC	188.25
CO	5,011.49
NO <sub>x</sub>	664.55

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

Total HAP emissions from this modification are less than 1 ton per year.



- \* Limited emissions from reverberatory and melt furnaces, crucible furnaces, and pouring/casting include new equipment being permitted under the Significant Permit Revision No. 003-11697-00064, which is still pending with the OAQ.
  - \*\* Emissions from natural gas combustion include combustion emissions from existing boilers at the source.
  - \*\*\* Emissions from other existing equipment is based on FESOP No. F003-5869-00064, issued 12/9/96.
  - \*\*\*\* Allowable PM emissions from shot blasting are based on the 326 IAC 6-3-2 allowable emission rate of 0.551 lb/hr pursuant to FESOP No. F003-5869-00064, issued 12/9/96.
  - \*\*\*\*\* Limited emissions from engine test cells represent emissions after fuel usage limitation of 50,253 gallons of gasoline and gasoline equivalents per year and 327,814 gallons of diesel and diesel equivalents per year.
- (a) Limited emissions of NO<sub>x</sub> and CO from this source, including this modification, are greater than 100 tons per year, therefore, this source is now subject to the Part 70 Operating Permit Program. Pursuant to 326 IAC 2-7-4, the Permittee shall apply for a Title V operating permit within twelve (12) months after the source becomes subject to Title V.

**Proposed Modification**

PTE from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit, where applicable):

Pollutant	PM (ton/yr)	PM10 (ton/yr)	SO <sub>2</sub> (ton/yr)	VOC (ton/yr)	CO (ton/yr)	NO <sub>x</sub> (ton/yr)
Proposed Modification	6.97	6.97	6.51	3.72	99.00	99.00
PSD Threshold Level	100	100	100	100	100	100

- (a) This modification to an existing minor stationary source is not major because the emission increase from the modification is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply. However, upon issuance of this permit, this source will be an existing major stationary source.

**County Attainment Status**

The source is located in Allen County.

Pollutant	Status
PM-10	attainment
SO <sub>2</sub>	attainment
NO <sub>2</sub>	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) are precursors for the formation of ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the ozone standards. Allen County has been designated as attainment or unclassifiable for ozone.

**Federal Rule Applicability**

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this modification.



- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR art 63) applicable to this modification.

### **State Rule Applicability - Entire Source**

#### **326 IAC 2-2 (PSD)**

This source is a secondary metal production plant because it produces aluminum parts which are alloys. Therefore, this source is one of the 28 listed source categories under 326 IAC 2-2-1(p)(1). Potential emissions of all criteria pollutants from the existing equipment at this source, including potential emissions from the new equipment being permitted under the Significant Permit Revision No. 003-11697-00064, which is still pending with the OAQ, are less than 100 tons per year, therefore, this source was considered an existing minor PSD source with respect to this modification. The source will limit the total usage of fuel in the eight (8) engine test cells to 50,253 gallons of gasoline and gasoline equivalents per twelve (12) consecutive month period, rolled on a monthly basis, and 327,814 gallons of diesel and diesel equivalents per twelve (12) consecutive month period, rolled on a monthly basis. This will limit emissions of NO<sub>x</sub>, VOC, and CO from this modification to less than 100 tons per year so that this is a minor PSD modification and the requirements of this rule do not apply. However, potential source wide emissions of CO and NO<sub>x</sub>, including this modification, will be greater than 100 tons per year, therefore, this source will be an existing major PSD source with respect to any future modifications.

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

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than one hundred (100) tons per year of CO and NO<sub>x</sub>. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

#### **326 IAC 2-7 (Part 70 Permit Program)**

Upon issuance of this Significant Permit Revision, source wide limited potential CO and NO<sub>x</sub> emissions will be greater than 100 tons per year, therefore, this source will be subject to the requirements of this rule. Pursuant to 326 IAC 2-7-4, the source shall submit a Part 70 permit application to the OAQ within twelve (12) months after the source becomes subject to the Part 70 permit program. Pursuant to 326 IAC 2-8-19 (Transition from a FESOP to a Part 70 Permit), the source shall operate under the terms of its FESOP (F003-5869-00064) until the final Part 70 permit is issued by IDEM, OAQ.

#### **326 IAC 5-1 (Visible Emissions Limitations)**

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

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

All other entire source State Rules cited in FESOP (F003-5869-00064), issued on December 9, 1996, continue to apply to the existing emission units of this source.

### **State Rule Applicability - Individual Facilities**

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

The eight (8) engine test cells are not subject to the requirements of this rule because potential SO<sub>2</sub> emissions from each engine test cell are less than 25 tons per year or 10 pounds per hour. Each test cell is operated independently of the others, therefore, each engine test cell is a separate facility.

#### **326 IAC 8-1-6 (New Facilities, General Reduction Requirements)**

The eight (8) engine test cells are not subject to the requirements of this rule because potential VOC emissions from each engine test cell are less than 25 tons per year. Each test cell is operated independently of the others, therefore, each engine test cell is a separate facility.

All other individual facilities State Rules cited in FESOP (F003-5869-00064), issued on December 9, 1996, continue to apply to the existing emission units of this source.

### **Compliance Requirements**

Permits issued under 326 IAC 2-8 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 2-8-4. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

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

There are no compliance monitoring requirements applicable to this modification.

### **Changes Proposed**

The changes listed below have been made to the Federally Enforceable State Operating Permit (F003-5869-00064) (Note: these changes do not include the changes made to the FESOP in Significant Permit Revision No. 003-11697-00064, still pending with the OAQ. It should also be noted that as of January 1, 2001, the Office of Air Management is now being referred to as the Office of Air Quality. Therefore, all references to the Office of Air Management have been revised to refer to the Office of Air Quality.

1. In the application submitted for Significant Permit Revision No. 003-11697-00064, still pending with the OAQ, the source requested that the company name be changed from Zollner Company Limited Partnership to KUS Zollner Division and the responsible official be changed from Bud Sawyer to Mark Lennart. These changes will be included in this Significant Permit Revision also. Also, the source status in section A.1 has been revised so that it will be obvious that this is now a major source operating as a FESOP. Section A.1 is revised to read as follows:

## SECTION A SOURCE SUMMARY

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

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

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The Permittee owns and operates an aluminum foundry.

~~Responsible Official: Bud Sawyer, Senior Vice President of Operations~~  
**Authorized Individual: Mark Lennart, Plant Manager/Vice President of Operations**  
Source Address: 2425 South Coliseum Blvd., Fort Wayne, Indiana 46803  
Mailing Address: 2425 South Coliseum Blvd., Fort Wayne, Indiana 46803  
SIC Code: 3361  
County Location: Allen  
~~County Status:~~  
**Source Location Status:** Attainment for all criteria pollutants  
Source Status: ~~Synthetic Minor Source, FESOP Program~~  
**Part 70 source operating under a Federally Enforceable State Operating Permit (FESOP)**  
**Major Source, under PSD Rules**  
**Minor Source, Section 112 of the Clean Air Act**  
**1 of 28 Source Categories**

2. Section A.2 has been revised to include the new emission units. Section A.2 is revised as follows (additions in bold, deletions in strikeout):

### A.2 Emission Units and Pollution Control **Equipment** Summary **[326 IAC 2-8-3(c)(3)]**

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

- (a) twenty (20) natural gas-fired reverberatory furnaces, each with a maximum melt capacity of 800 pounds per hour, referred to as F3 - F6, F8 - F12, and F14 - F24.
- (b) One (1) dry hearth furnace, fueled by natural gas only, with a heat input capacity of 5.0 million British thermal units per hour, and a charging capacity of 2000 pounds per hour;
- (c) Three (3) melt furnaces, each with a maximum melt capacity of 800 pounds per hour;
- (d) forty-five (45) natural gas-fired crucibles, each with a maximum melt capacity of 200 pounds per hour, referred to as C1 - C45;
- (e) two (2) shot blast systems, with emissions controlled by two baghouses;
- (f) one (1) evaporator, referred to as EV1;
- (g) four (4) 200 hp, natural gas-fired boilers, with maximum heat input capacities of 8.4, 5.6, 2.5, and 6.7 million British thermal units per hour, referred to as B1, B2, B4, and B5 respectively;
- (h) one (1) 100 hp, natural gas-oil fired boiler, with a maximum heat input capacity of 3.35 million British thermal units per hour, referred to as B3;

- (i) one (1) natural gas-fired boiler, with a maximum heat input capacity of 1.25 million British thermal units per hour, referred to as B6; **and**
  - (j) **eight (8) engine test cells, each consisting of one (1) electric dyno and one (1) gasoline or diesel fuel fired reciprocating internal combustion engine, each engine with a maximum heat input rating of 1.1 million British thermal units (MMBtu) per hour and a maximum power output rating of 450 horsepower (HP), each exhausting through one (1) stack (Stacks 1 through 8).**
3. Condition A.4 has been deleted since the permit will no longer comply with this condition. It has been replaced with the following Title V condition.

~~A.4 FESOP Applicability [326 IAC 2-8-2]~~

~~This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) for a Federally Enforceable State Operating Permit (FESOP).~~

**A.4 Part 70 Permit Applicability [326 IAC 2-7-2]**

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

- (a) **It is a major source, as defined in 326 IAC 2-7-1(22); and**
- (b) **It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).**

**Pursuant to 326 IAC 2-7-4, the source shall submit a Part 70 permit application to the OAQ within twelve (12) months after the source becomes subject to the Part 70 permit program. The source will be subject to the Part 70 permit program when operation of the equipment listed in Section D.6 begins.**

4. The following condition has been added to section A of the FESOP.

**A.5 Prior Permit Conditions**

- (a) **This permit shall be used as the primary document for determining compliance with applicable requirements established by previously issued permits.**
- (b) **If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, including any term or condition from a previously issued construction or operation permit, IDEM, OAQ, 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.**

5. Condition B.3 has been deleted since the permit is no longer valid for 5 years. Conditions B.4 through B.25 have been re-numbered as B.3 through B.24.

~~B.3 Permit Term [326 IAC 2-8-4(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 (prior to July 1, 1996, IC 13-7-10-2.5), of the permit.~~

6. Condition B.5, now B.4, has been revised to clarify when the source's right to operate will end.

**B.54 Termination of Right to Operate** ~~[326 IAC 2-8-9]~~ **[326 IAC 2-7-3][326 IAC 2-7-4(a)(1)(A)]**

~~The expiration of this permit terminates the Permittee's right to operate this source~~ **terminates twelve (12) months after beginning operation of equipment listed in Section D.6 unless a timely and complete renewal Part 70 application has been is submitted to IDEM, OAQ within twelve (12) months from the date the source begins operating as a Part 70 source consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-7. 326 IAC 2-7-4.**

7. Conditions B.18, B.19 and B.20 have been combined into one condition, now B.17. The new condition has been further revised to explain that future construction will now need to be approved through a Part 70 source modification, but all other changes will still be approved through FESOP permit revisions.

~~B.18 Administrative Permit Amendment~~ [326 IAC 2-8-10]

- ~~(a) An administrative permit amendment is a FESOP revision that makes changes of the type specified under 326 IAC 2-8-10(a).~~
- ~~(b) An administrative permit amendment may be made by IDEM, OAM, consistent with the procedures specified under 326 IAC 2-8-10(b).~~
- ~~(c) The Permittee may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]~~

~~B.19 Minor Permit Modification~~ [326 IAC 2-8-11(a)] [326 IAC 2-8-11(b)(1) and (2)]

- ~~(a) A permit modification is any revision to this permit that cannot be accomplished as an administrative permit amendment under 326 IAC 2-8-10.~~
- ~~(b) Minor permit modification procedures shall follow the procedures specified under 326 IAC 2-8-11(b)(1)(A) through (F).~~
- ~~(c) An application requesting the use of minor modification procedures shall meet the requirements of 326 IAC 2-8-3(e) and shall include the information required in 326 IAC 2-8-11(b)(3)(A) through (D).~~
- ~~(d) The Permittee may make the change proposed in its minor permit modification application immediately after it files such application unless the change is subject to the construction permit requirements of 326 IAC 2-1, 326 IAC 2-2, or 326 IAC 2-3. After the Permittee makes the change allowed under minor permit modification procedures, and until IDEM, OAM takes any of the actions specified in 326 IAC 2-8-11(b)(5), 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 2-8-11(b)(6)]~~

~~B.20 Significant Permit Modification~~ [326 IAC 2-8-11(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) Any 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 2-8-11(d) shall be construed to preclude the Permittee from making changes consistent with 326 IAC 2-8 that would render existing permit compliance terms and conditions irrelevant.~~
- ~~(d) Significant modifications of this permit shall meet all requirements of 326 IAC 2-8, including those for application, public participation, and review by the U.S. EPA, as they apply to permit issuance and renewal.~~

**B.17 Permit Amendment or Modification [326 IAC 2-8-10] [326 IAC 2-8-11.1][326 IAC 2-7-10.5]**

**(a) The Permittee must comply with the requirements of 326 IAC 2-7-10.5 whenever the Permittee seeks to amend or modify this source. If the proposed change is not applicable to 326 IAC 2-7-10.5, then the Permittee must comply with the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1.**

**(b) Any application requesting an amendment or modification of this permit or source according to 326 IAC 2-7-10.5, 326 IAC 2-8-10, or 326 IAC 2-8-11.1 shall be submitted to:**

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

**Any such application should be certified by the “authorized individual” as defined by 326 IAC 2-1.1-1(1) only if a certification is required by the terms of the applicable rule. If the application is submitted pursuant to 326 IAC 2-7-10.5 it must be certified by the “responsible official” as defined by 326 IAC 2-7-1(34).**

**(c) The Permittee may implement the administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)] Changes requested pursuant to 326 IAC 2-8-10(14) must now be submitted as a Part 70 source modification.**

8. Condition B.21 (Permit Revision Under Economic Incentives and Other Programs) has been deleted because 326 IAC 2-8-11 has been repealed and the new rule 326 IAC 2-8-11.1 does not include this language.

~~**B.21 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-8-11(b)(2)]**~~

~~Notwithstanding 326 IAC 2-8-11(b)(1)(D)(i) and 326 IAC 2-8-11(c)(1), minor permit modification procedures may be used for modifications of this permit involving the use of economic incentives, marketable FESOPs, emissions trading, and other similar approaches to the extent that such minor permit modification procedures are explicitly provided for in the applicable implementation plan (SIP) or in applicable requirements promulgated by the U.S. EPA.~~

9. In condition B.25, now B.21, the rule cites have been changed to Title V rule cites since that will be the fees required now.

**B.251 Annual Fee Payment [326 IAC 2-8-4(6)][326 IAC 2-8-16] [326 IAC 2-7-19][326 IAC 2-7-5(7)]**

**(a) The Permittee shall pay annual fees to IDEM, OAMQ, consistent with the fee schedule established in 326 IAC 2-8-16: within thirty (30) calendar days of receipt of a billing. If the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.**

**(b) Failure to pay may result in administrative enforcement action, or revocation of this permit, referral to the Office of Attorney General for collection, or other appropriate measures.**

- (c) ~~The Permittee shall pay the annual fee within thirty (30) calendar days of receipt of a billing by IDEM, OAM or in a time period that is consistent with the payment schedule issued by IDEM, OAM.~~
- (d)(c) If the Permittee does not receive a bill from IDEM, OAM, thirty (30) calendar days before due date, ~~the Permittee shall~~ **may** call the following telephone numbers: 1-800-451-6027 or 317-233-0479-**0425** (ask for OAMQ, Data Support Section **Technical Support and Modeling Section**), to determine the appropriate permit fee. ~~The applicable fee is due April 1 of each year.~~

10. Condition C.1 of the FESOP has been revised to clarify that the overall source limit of all regulated pollutants, including PM, to less than 100 tons per year not only satisfies the requirements of 326 IAC 2-8, but also makes the requirements of 326 IAC 2-2 (PSD) not applicable. The condition is also revised to explain that new equipment is not required to comply with the FESOP limits. The revised condition reads as follows:

**C.1 Overall Source Limit [326 IAC 2-8]**

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~~Pursuant to 326 IAC 2-8, emissions of any regulated pollutant from the entire source shall not exceed 99 tons per 365 day period. Emissions of hazardous air pollutants (HAPs) from the entire source shall not exceed 9 tons of any individual HAP per 365 day period or 24 tons of any combination of HAPs per 365 day period. Emissions shall include those from all emission points at the source including those that are insignificant as defined in 326 IAC 2-7-1(20). The source shall be allowed to add insignificant activities not already listed in this permit, as long as the total emissions from the source do not exceed the above specified limits. In the event that any condition or combination of conditions in Section D of this permit differs from the above, the most restrictive limit will prevail.~~

- (a) **The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.**
- (1) **Pursuant to 326 IAC 2-8:**
- (i) **The potential to emit any regulated pollutant from the units in Section D.1 - D.5 of FESOP #003-5869-00064, issued on December 9, 1996, shall be limited to less than one-hundred (100) tons per twelve (12) consecutive month period. This limitation shall also make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable;**
- (ii) **The potential to emit any individual hazardous air pollutant (HAP) from the units in Section D.1 - D.5 of FESOP #003-5869-00064, issued on December 9, 1996, shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and**
- (iii) **The potential to emit any combination of HAPs from the units in Section D.1 - D.5 of FESOP #003-5869-00064, issued on December 9, 1996, shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.**
- (2) **This condition shall include units in Section D.1 - D.5 of FESOP #003-5869-00064, issued on December 9, 1996, including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.**

- (3) Section D of this permit contains independently enforceable provisions to satisfy this requirement.
- (b) Pursuant to 326 IAC 2-8-11.1(f)(1)(B) Section D.6 is not required to comply with this condition. The source will be subject to the Part 70 permit program when operation of the equipment listed in D.6 begins.
11. A new condition, condition C.12, requiring an emission statement has been added to the FESOP. The language of the new condition is consistent with that of a Part 70 permit. Conditions C.12 through C.14 of the FESOP are re-numbered as C.13 through C.15.
- C.12 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]**
- (a) The Permittee shall submit an annual emission statement certified pursuant to the requirements of 326 IAC 2-6, that must be received by July 1 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 January 1 and ending December 31. The annual emission statement must be submitted to:
- Indiana Department of Environmental Management  
Technical Support and Modeling Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015
- (c) The annual emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
12. A new section D has been added to the FESOP which is section D.6. This section includes the eight (8) new engine test cells and reads as follows:

**SECTION D.6 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-8-4(10)]:**

- (j) eight (8) engine test cells, each consisting of one (1) electric dyno and one (1) gasoline or diesel fuel fired reciprocating internal combustion engine, each engine with a maximum heat input rating of 1.1 million British thermal units (MMBtu) per hour and a maximum power output rating of 450 horsepower (HP), each exhausting through one (1) stack (Stacks 1 through 8).

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



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

### **D.6.1 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]**

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- (a) The total usage of gasoline and gasoline equivalents in the eight (8) engine test cells shall not exceed 50,253 gallons of gasoline per twelve (12) consecutive month period, rolled on a monthly basis, so that VOC and CO emissions are limited below 100 tons per year.
- (b) The total usage of diesel and diesel equivalents in the eight (8) engine test cells shall not exceed 327,814 gallons of diesel fuel per twelve (12) consecutive month period, rolled on a monthly basis, so that NOx emissions are limited below 100 tons per year.
- (c) For purposes of determining compliance, the following shall apply:
  - (1) every 1,000 gallons of diesel fuel oil burned shall be equivalent to 33 gallons of gasoline based on CO emissions such that the total gallons of gasoline and gasoline equivalent input does not exceed the limit specified;
  - (2) every 1,000 gallons of gasoline burned shall be equivalent to 168.9 gallons of diesel fuel oil based on NOx emissions such that the total gallons of diesel fuel oil and diesel fuel oil equivalent input does not exceed the limit specified.

Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable. However, the source wide potential to emit of NOx and CO, including this modification, will be greater than 100 tons per year, therefore, this source will be an existing major PSD source with respect to any future modifications.

## **Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]**

### **D.6.2 Record Keeping Requirements**

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- (a) To document compliance with Condition D.6.1, the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken monthly and shall be complete and sufficient to establish compliance with the fuel usage limits established in Condition D.6.1.
  - (1) The usage of gasoline and gasoline equivalents, in gallons, in the eight (8) engine test cells each month;
  - (2) The usage of diesel and diesel equivalents, in gallons, in the eight (8) engine test cells each month; and
  - (3) A log of the dates of use.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

### **D.6.3 Reporting Requirements**

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A quarterly summary of the information to document compliance with Condition D.6.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- 13. Quarterly report forms have been added to the FESOP for the fuel usage limitations in the eight (8) engine test cells. The report forms are shown on the last two pages.

## **Air Toxic Emissions**

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Quality (OAQ) Part 70 Application Form GSD-08.

- (a) This source will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Clean Air Act Amendments.

### **Conclusion**

The operation of this aluminum foundry shall be subject to the conditions of the attached proposed **Significant Permit Revision to a FESOP No. 003-13612-00064**.

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

**FESOP Quarterly Report**

Source Name: KUS Zollner Division  
 Source Address: 2425 Coliseum Boulevard South, Fort Wayne, Indiana 46803  
 Mailing Address: 2425 Coliseum Boulevard South, Fort Wayne, Indiana 46803  
 FESOP No.: F003-5869-00064  
 Facility: Eight (8) engine test cells  
 Parameter: Gasoline usage  
 Limit: The total usage of gasoline and gasoline equivalents in the eight (8) engine test cells shall not exceed 50,253 gallons of gasoline per twelve (12) consecutive month period, rolled on a monthly basis. For purposes of determining compliance, every 1,000 gallons of diesel fuel oil burned shall be equivalent to 33 gallons of gasoline based on CO emissions such that the total gallons of gasoline and gasoline equivalent input does not exceed the limit specified.

YEAR: \_\_\_\_\_

Month	Gasoline and Equivalent Usage This Month (gallons)	Gasoline and Equivalent Usage Previous 11 Months (gallons)	12 Month Total Gasoline and Equivalent Usage (gallons)

- 9 No deviation occurred in this quarter.
- 9 Deviation/s occurred in this quarter.  
 Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_  
 Title / Position: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

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

**FESOP Quarterly Report**

Source Name: KUS Zollner Division  
 Source Address: 2425 Coliseum Boulevard South, Fort Wayne, Indiana 46803  
 Mailing Address: 2425 Coliseum Boulevard South, Fort Wayne, Indiana 46803  
 FESOP No.: F003-5869-00064  
 Facility: Eight (8) engine test cells  
 Parameter: Diesel usage  
 Limit: The total usage of diesel and diesel equivalents in the eight (8) engine test cells shall not exceed 327,814 gallons of diesel fuel per twelve (12) consecutive month period, rolled on a monthly basis. For purposes of determining compliance, every 1,000 gallons of gasoline burned shall be equivalent to 168.9 gallons of diesel fuel oil based on NOx emissions such that the total gallons of diesel fuel oil and diesel fuel oil equivalent input does not exceed the limit specified.

YEAR: \_\_\_\_\_

Month	Diesel and Equivalent Usage This Month (gallons)	Diesel and Equivalent Usage Previous 11 Months (gallons)	12 Month Total Diesel and Equivalent Usage (gallons)

- 9 No deviation occurred in this quarter.
- 9 Deviation/s occurred in this quarter.  
 Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_  
 Title / Position: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

Appendix A: Emission Calculations

Internal Combustion Engine Testing

Reciprocating

Company Name: KUS Zollner Division  
 Address City IN Zip: 2425 Coliseum Boulevard South, Fort Wayne, IN 46803  
 Significant Permit Revision No.: 003-13612  
 Pit ID: 003-00064  
 Reviewer: Trish Earls/EVP  
 Date: December 11, 2000

Emissions calculated based on fuel usage

Maximum Diesel Fuel Usage Per Engine Test Cell (gal/yr) =	275064.0
Limited Diesel Fuel Usage For All Engine Test Cells (gal/yr) =	327814.6
Maximum Gasoline Fuel Usage Per Engine Test Cell (gal/yr) =	317988.0
Limited Gasoline Fuel Usage For All Engine Test Cells (gal/yr) =	50253.8

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Diesel Combustion Emission Factor in lb/1000 gal	42.5	42.5	39.7	604.0	49.3	130.0
Gasoline Combustion Emission Factor in lb/1000 gal	6.47	6.2	5.31	102.0	148.0	3940.0
<b>Diesel Combustion</b>						
Engine Test Cell #1 Potential Emissions in tons/yr	5.85	5.85	5.46	83.07	6.78	17.88
Engine Test Cell #2 Potential Emissions in tons/yr	5.85	5.85	5.46	83.07	6.78	17.88
Engine Test Cell #3 Potential Emissions in tons/yr	5.85	5.85	5.46	83.07	6.78	17.88
Engine Test Cell #4 Potential Emissions in tons/yr	5.85	5.85	5.46	83.07	6.78	17.88
Engine Test Cell #5 Potential Emissions in tons/yr	5.85	5.85	5.46	83.07	6.78	17.88
Engine Test Cell #6 Potential Emissions in tons/yr	5.85	5.85	5.46	83.07	6.78	17.88
Engine Test Cell #7 Potential Emissions in tons/yr	5.85	5.85	5.46	83.07	6.78	17.88
Engine Test Cell #8 Potential Emissions in tons/yr	5.85	5.85	5.46	83.07	6.78	17.88
<b>Total Potential Emissions in tons/yr</b>	<b>46.76</b>	<b>46.76</b>	<b>43.68</b>	<b>664.55</b>	<b>54.24</b>	<b>143.03</b>
<b>Gasoline Combustion</b>						
Engine Test Cell #1 Potential Emissions in tons/yr	1.03	0.99	0.84	16.22	23.53	626.44
Engine Test Cell #2 Potential Emissions in tons/yr	1.03	0.99	0.84	16.22	23.53	626.44
Engine Test Cell #3 Potential Emissions in tons/yr	1.03	0.99	0.84	16.22	23.53	626.44
Engine Test Cell #4 Potential Emissions in tons/yr	1.03	0.99	0.84	16.22	23.53	626.44
Engine Test Cell #5 Potential Emissions in tons/yr	1.03	0.99	0.84	16.22	23.53	626.44
Engine Test Cell #6 Potential Emissions in tons/yr	1.03	0.99	0.84	16.22	23.53	626.44
Engine Test Cell #7 Potential Emissions in tons/yr	1.03	0.99	0.84	16.22	23.53	626.44
Engine Test Cell #8 Potential Emissions in tons/yr	1.03	0.99	0.84	16.22	23.53	626.44
<b>Total Potential Emissions in tons/yr</b>	<b>8.23</b>	<b>7.89</b>	<b>6.75</b>	<b>129.74</b>	<b>188.25</b>	<b>5011.49</b>
<b>Total Worst Case Potential Emissions in tons/yr</b>	<b>46.76</b>	<b>46.76</b>	<b>43.68</b>	<b>664.55</b>	<b>188.25</b>	<b>5011.49</b>
<b>Total Limited Emissions in tons/yr</b>	<b>6.97</b>	<b>6.97</b>	<b>6.51</b>	<b>99.00</b>	<b>3.72</b>	<b>99.00</b>

Methodology

Potential Diesel Throughput (gal/yr) = 31.4 gal/hr \* 8760 hr/yr

Potential Gasoline Throughput (gal/yr) = 36.3 gal/hr \* 8760 hr/yr

Emission Factors are from FIRE version 6.23, SCC 2-04-004-01, 2-04-004-02, Engine Testing

Emission (tons/yr) = [Potential Throughput (gal/yr) / (1000 gal/kgal) x Emission Factor (lb/kgal)] / (2,000 lb/ton)

\*PM emission factors are assumed to be equivalent to PM10 emission factors. All PM is assumed to be less than or equal to 1 micron.

**Appendix A: Emission Calculations  
Internal Combustion Engine Testing  
Reciprocating**

**Company Name:** KUS Zollner Division  
**Address City IN Zip:** 2425 Coliseum Boulevard South, Fort Wayne, IN 46803  
**Significant Permit Revision No.:** 003-13612  
**Plt ID:** 003-00064  
**Reviewer:** Trish Earls/EVP  
**Date:** December 11, 2000

**Fuel Usage Limitations based on NOx Emissions**

Fuel Oil: Diesel

$$\frac{99.00 \text{ tons NOx/year limited}}{664.55 \text{ tons NOx/year potential}} * 2200.51 \frac{\text{Kgals}}{\text{year potential}} = 327.81 \frac{\text{Kgals}}{\text{year limited}}$$

Fuel Oil: Gasoline

$$\frac{99.00 \text{ tons NOx/year limited}}{129.74 \text{ tons NOx/year potential}} * 2543.90 \frac{\text{Kgals}}{\text{year potential}} = 1941.18 \frac{\text{Kgals}}{\text{year limited}}$$

**Fuel Usage Limitations based on VOC Emissions**

Fuel Oil: Gasoline

$$\frac{99.00 \text{ tons VOC/year limited}}{188.25 \text{ tons VOC/year potential}} * 2543.90 \frac{\text{Kgals}}{\text{year potential}} = 1337.84 \frac{\text{Kgals}}{\text{year limited}}$$

**Fuel Usage Limitations based on CO Emissions**

Fuel Oil: Diesel

$$\frac{99.00 \text{ tons CO/year limited}}{143.03 \text{ tons CO/year potential}} * 2200.51 \frac{\text{Kgals}}{\text{year potential}} = 1523.08 \frac{\text{Kgals}}{\text{year limited}}$$

Fuel Oil: Gasoline

$$\frac{99.00 \text{ tons CO/year limited}}{5011.49 \text{ tons CO/year potential}} * 2543.90 \frac{\text{Kgals}}{\text{year potential}} = 50.25 \frac{\text{Kgals}}{\text{year limited}}$$

**Fuel equivalence limit for diesel based on CO emissions from gasoline**

$$\frac{143.03 \text{ diesel potential emissions (ton/yr)}}{2200.51 \text{ diesel potential usage (kgal/yr)}} / \frac{5011.49 \text{ gasoline potential emissions (ton/yr)}}{2543.90 \text{ gasoline potential usage (kgal/yr)}} = 0.0330 \frac{\text{Kgal gasoline burned}}{\text{Kgal diesel burned}}$$

**Fuel equivalence limit for gasoline based on NOx emissions from diesel**

$$\frac{129.74 \text{ gasoline potential emissions (ton/yr)}}{2543.90 \text{ gasoline potential usage (kgal/yr)}} / \frac{664.55 \text{ diesel potential emissions (ton/yr)}}{2200.51 \text{ diesel potential usage (kgal/yr)}} = 0.1689 \frac{\text{Kgal diesel burned}}{\text{Kgal gasoline burned}}$$