



Joseph E. Kernan
Governor

Lori F. Kaplan
Commissioner

May 3, 2004

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

TO: Interested Parties / Applicant

RE: Essex Group, Inc. / T083-7422-00008

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval – Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-6-1(b) or IC 13-15-6-1(a) require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204.

For an **initial Title V Operating Permit**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **thirty (30)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(b).

For a **Title V Operating Permit renewal**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **fifteen (15)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(a).

The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and

- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of an initial Title V operating permit, permit renewal, or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impracticable to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency
401 M Street
Washington, D.C. 20406

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.



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PART 70 OPERATING PERMIT OFFICE OF AIR QUALITY

**Essex Group, Inc.
1299 East Essex Rd.
Vincennes, Indiana 47591**

(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.

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

This 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 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. This permit also addresses certain New Source Review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-2 and 326 IAC 2-7-10.5, applicable to those conditions.

Operation Permit No.: T083-7422-00008	
Issued by: Original Signed by Janet McCabe Janet G. McCabe, Assistant Commissioner Office of Air Quality	Issuance Date: May 3, 2004 Expiration Date: May 3, 2009



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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 2-7-4(c)] [326 IAC 2-7-5(15)] [326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary copper rod production and magnet wire manufacturing plant.

Responsible Official(s):	Plant Manager(s) for Concast and Magnet Wire plants
Source Address:	1299 East Essex Road, Vincennes, IN, 47591
Mailing Address:	1299 East Essex Road, Vincennes, IN, 47591
SIC Code:	3351 and 3357
County Location:	Knox
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Major under PSD rules Major Source, Section 112 of the Clean Air Act

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

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

Magnet Wire Production - Departments 200 and 300

- (a) Four (4) Department 200 Emission Units, identified as units 215E, 215W, 216E, 216W, each constructed in 1997. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 527 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (b) Twelve (12) Department 200 Emission Units, identified as units 209E, 209W, 210E, 210W, 211E, 211W, 212E, 212W, 213E, 213W, 214E, 214W, each constructed in 1998. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 527 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (c) Twelve (12) Department 300 Emission Units, identified as units 305E, 305W, 306E, 306W, 309E, 309W, 310E, 310W, 311E, 311W, 312E, and 312W, each constructed in 1996. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 284 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (d) Eight (8) Department 300 Emission Units, identified as units 313E, 313W, 314E, 314W, 315E, 315W, 316E, and 316W constructed in 1997. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum

copper wire producing capacity of 284 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.

- (e) Two (2) Department 200 Emission Units, identified as units 201E and 201W, each constructed in 1989 and modified in 1998. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (f) Four (4) Department 200 Emission Units, identified as units 202E, 202W, 203E, and 203W, each constructed in 1993 and modified in 1998. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (g) Four (4) Department 200 Emission Units, identified as units 207E, 207W, 208E, 208W, constructed in 1994 and modified in 1997. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (h) Six (6) Department 200 Emission Units, identified as units 204E, 204W, 205E, 205W, 206E, and 206W, each constructed in 1995 and modified in 1997 or 1998. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator. 204E, 204W, 205W, and 205W each use an separate annealer, whereas 206E and 206W share an annealer. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (i) Eight (8) Department 300 Emission Units, identified as units 301E, 301W, 302E, 302W, 303E, 303W, 304E, and 304W constructed in 1994. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 284 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (j) Four (4) Department 300 Emission Units, identified as units 307E, 307W, 308E, and 308W constructed in 1995. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 284 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.

Copper Rod and Bar Production

- (k) One (1) Copper Rod and Bar Manufacturing Process, identified as P-1, constructed in 1976, a maximum capacity of 20 tons of copper per hour, with emissions uncontrolled, exhausting to stack S-1, and consisting of:

- (1) One (1) natural gas-fired vertical melt furnace, with a heat input capacity of 24 MMBtu/hr,
- (2) One (1) holding furnace, with a heat input capacity of 2.0 MMBtu/hr,
- (3) One (1) tundish, with a heat input capacity of 1.5 MMBtu/hr, and
- (4) Various ancillary launders, with an aggregate heat input capacity of 2.5 MMBtu/hr.

Alcohol Quench Process

- (l) One (1) mill emulsion system identified as P-2 Mill Emulsion System, constructed in 1976, which pumps a mill emulsion solution containing 0.2% - 2.5% by volume Isopropyl Alcohol (2-propanol) through sprays in an enclosed rolling mill stand area, with emissions uncontrolled, and exhausting to stack/vent V-1;
- (m) One (1) quench system identified as P-2 Quench System, constructed in 1976, which pumps a quench solution containing 0.8% - 3.0% by volume Isopropyl Alcohol (2-propanol) ejectors into tubes, with emissions uncontrolled, and exhausting to stack/vent V-2;

The maximum capacity of the P-2 Alcohol Quench Process (Mill Emulsion System and Alcohol Quench System) is 300 pounds of 2-propanol (IPA) per hour.

Storage Tanks

- (n) One (1) 15,000 gallon mill emulsion storage tank, constructed in 1995;
- (o) One (1) 7,500 gallon quench solution storage tank, constructed in 1978.

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 also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

- (a) Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]
- (b) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]
- (c) Activities with emissions equal to or less than the following thresholds: 5 tons per year PM or PM₁₀, 10 tons per year SO₂, NO_x, or VOC, 0.2 tons per year Pb, 1.0 tons per year of a single HAP, or 2.5 tons per year of any combination of HAPs:

Six (6) degreaser units, identified as 'P, T1, T2, T3, T4, and T5' using solvent identified as 'Thinner-907' and mechanical agitation. [326 IAC 8-3-2] [326 IAC 8-3-5]

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:

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

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

SECTION B GENERAL CONDITIONS

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

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

B.2 Permit Term [326 IAC 2-7-5(2)] [326 IAC 2-1.1-9.5]

This permit is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date.

B.3 Enforceability [326 IAC 2-7-7]

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

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

- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ, 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. The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34). Upon request, the Permittee shall also furnish to IDEM, OAQ, copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]

- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification.
- (c) A responsible official is defined at 326 IAC 2-7-1(34).

B.9 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 initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent certifications 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 July 1 of each year to:

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

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, OAQ, on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
- (1) The appropriate 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 the compliance status 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, OAQ, may require to determine the compliance status of the source.

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

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)]
[326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, including the following information on each facility:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

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

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

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

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

- (b) The Permittee shall implement the PMPs, including any required record keeping, as necessary to ensure that failure to implement a PMP does not cause or contribute to an exceedance of any limitation on emissions or potential to emit.
- (c) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMP does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation, Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for the unit.

B.11 Emergency Provisions [326 IAC 2-7-16]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:
 - (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
 - (2) The permitted facility was at the time being properly operated;
 - (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
 - (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, and the Southwest Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

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

Telephone Number: 812-380-2305 (Southwest Regional Office)
Facsimile Number: 812-380-2307

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

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

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

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

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

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

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
- (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
- (e) IDEM, OAQ, may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4-(c)(9) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAQ, by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.
- (g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
- (h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

B.12 Permit Shield [326 IAC 2-7-15] [326 IAC 2-7-20] [326 IAC 2-7-12]

- (a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed in compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this

permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced 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 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

- (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, 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. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.
- (c) 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. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.
- (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, OAQ, 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, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either
 - (1) incorporated as originally stated,
 - (2) revised, or

(3) deleted

by this permit.

(b) All previous registrations and permits are superseded by this permit.

B.14 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 Data Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

B.15 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)] The notification by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ, 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, OAQ, 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, OAQ, at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ, may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.16 Permit Renewal [326 IAC 2-7-4]

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ, 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) and 326 IAC 2-7-1(40). The renewal application does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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, Indiana 46206-6015

- (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, 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, 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, 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 being needed to process the application.

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

If IDEM, OAQ, fails 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.17 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

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

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

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

Indianapolis, Indiana 46206-6015

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

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]
- (d) No permit amendment or modification is required for the addition, operation or removal of a nonroad engine, as defined in 40 CFR 89.2.

B.18 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) 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.19 Operational Flexibility [326 IAC 2-7-20] [326 IAC 2-7-10.5]

- (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 preconstruction approval required by 326 IAC 2-7-10.5 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 Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

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

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, for public review.

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

- (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). 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 is not considered an application form, report or compliance certification. Therefore, the notification 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, OAQ, or U.S. EPA is required.

B.20 Source Modification Requirement [326 IAC 2-7-10.5]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-7-10.5.

B.21 Inspection and Entry [326 IAC 2-7-6] [IC 13-14-2-2] [IC 13-30-3-1][IC 13-17-3-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, 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 Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

- (a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

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

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

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)] [326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ, within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ, the applicable fee is due April 1 of each year.
- (b) Except as provided in 326 IAC 2-7-19(e), 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 317-233-4230 (ask for OAQ, I/M & Billing Section), to determine the appropriate permit fee.

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

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

- C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) pounds per hour [40 CFR 52 Subpart P] [326 IAC 6-3-2(c)]
- (a) Pursuant to [40 CFR 52 Subpart P], particulate matter emissions from any process not already regulated by 326 IAC 6-1 or any New Source Performance Standard, and which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour.
- (b) Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour. This condition is not federally enforceable.
- C.2 Opacity [326 IAC 5-1]
- Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- C.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. 326 IAC 9-1-2 is not federally enforceable.
- C.5 Fugitive Dust Emissions [326 IAC 6-4]
- The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.
- C.6 Operation of Equipment [326 IAC 2-7-6(6)]
- Except as otherwise provided by statute or rule, or in this permit, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission units vented to the control equipment are in operation.
- C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]
- (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 Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (e) **Procedures for Asbestos Emission Control**
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-4-1, emission control requirements are applicable 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) **Demolition and Renovation**
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **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 to use an Indiana Accredited Asbestos inspector is not federally enforceable.

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

C.8 Performance Testing [326 IAC 3-6]

- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

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

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

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

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

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

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

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

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

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

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

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

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).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a source modification shall be implemented when operation begins.

C.11 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

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

C.12 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

- (a) 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 ($\pm 2\%$) of full scale reading.
- (b) Whenever a condition in this permit requires the measurement of a temperature or fan amperage, the instrument 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 ($\pm 2\%$) of full scale reading.
- (c) The Preventive Maintenance Plan for the pH meter shall include calibration using known standards. The frequency of calibration shall be adjusted such that the typical error found at calibration is less than one pH point.
- (d) The Permittee may request the IDEM, OAQ approve the use of a pressure gauge or other instrument that does not meet the above specifications provided the Permittee can demonstrate an alternative pressure gauge or other instrument specification will adequately ensure compliance with permit conditions requiring the measurement of pressure drop or other parameters.

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

C.13 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 March 2, 1998.
- (b) Upon direct notification by IDEM, OAQ, 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.14 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]

If a regulated substance as defined in 40 CFR 68 is present at a source in more than a threshold quantity, the source must comply with the applicable requirements of 40 CFR 68.

C.15 Compliance Response Plan - Preparation, Implementation, Records, and Reports [326 IAC 2-7-5] [326 IAC 2-7-6]

- (a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. If a Permittee is required to have an Parametric Monitoring Plan and Start-up, Shutdown, and Malfunction Plan (SSMP) under 40 CFR Part 63, such plans shall be deemed to satisfy the requirements for a CRP for those compliance monitoring conditions. A CRP shall be submitted to IDEM, OAQ upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit

by the Permittee, supplemented from time to time by the Permittee, maintained on site, and comprised of:

- (1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected timeframe for taking reasonable response steps.
- (2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan or Parametric Monitoring Plan and Start-up, Shutdown, and Malfunction Plan (SSMP) and the Permittee documents such response in accordance with subsection (e) below, the Permittee shall amend its Compliance Response Plan or Parametric Monitoring Plan and Start-up, Shutdown, and Malfunction Plan (SSMP) to include such response steps taken.

The SSMP shall be submitted within the time frame specified by the applicable 40 CFR Part 63 requirement.

- (b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:
 - (1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan or Parametric Monitoring Plan and Start-up, Shutdown, and Malfunction Plan (SSMP); or
 - (2) If none of the reasonable response steps listed in the Compliance Response Plan or Parametric Monitoring Plan and Start-up, Shutdown, and Malfunction Plan (SSMP); is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.
 - (3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, and it will be ten (10) days or more until the unit or device will be shut down, then the permittee shall promptly notify the IDEM, OAQ of the expected date of the shut down. The notification shall also include the status of the applicable compliance monitoring parameter with respect to normal, and the results of the response actions taken up to the time of notification.
 - (4) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (c) The Permittee is not required to take any further response steps for any of the following reasons:
 - (1) A false reading occurs due to the malfunction of the monitoring equipment and prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for a minor permit modification to the permit, and such request has not been denied.
 - (3) An automatic measurement was taken when the process was not operating.

- (4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.
- (d) When implementing reasonable steps in response to a compliance monitoring condition, if the Permittee determines that an exceedance of an emission limitation has occurred, the Permittee shall report such deviations pursuant to Section B-Deviations from Permit Requirements and Conditions.
- (e) The Permittee shall record all instances when, in accordance with Section D, response steps are taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.
- (f) Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.

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

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

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

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

**C.17 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 estimated actual emissions of criteria pollutants from the source, in compliance with 326 IAC 2-6 (Emission Reporting);
 - (2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(32) ("Regulated pollutant which is used only for purposes of Section 19 of this rule") 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

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

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

- (a) Records of all required monitoring data, reports and support information required by this Permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.19 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]

- (a) The source shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (e) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

Stratospheric Ozone Protection

C.20 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

Facility Description [326 IAC 2-7-5(15)]: Magnet Wire Emission Units

- (a) Four (4) Department 200 Emission Units, identified as units 215E, 215W, 216E, 216W, each constructed in 1997. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 527 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (b) Twelve (12) Department 200 Emission Units, identified as units 209E, 209W, 210E, 210W, 211E, 211W, 212E, 212W, 213E, 213W, 214E, 214W, each constructed in 1998. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units. unit has a maximum copper wire producing capacity of 527 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (c) Twelve (12) Department 300 Emission Units, identified as units 305E, 305W, 306E, 306W, 309E, 309W, 310E, 310W, 311E, 311W, 312E, and 312W, each constructed in 1996. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 284 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (d) Eight (8) Department 300 Emission Units, identified as units 313E, 313W, 314E, 314W, 315E, 315W, 316E, and 316W constructed in 1997. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 284 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (e) Two (2) Department 200 Emission Units, identified as units 201E and 201W, each constructed in 1989 and modified in 1998. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (f) Four (4) Department 200 Emission Units, identified as units 202E, 202W, 203E, and 203W, each constructed in 1993 and modified in 1998. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.

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

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

- (g) Four (4) Department 200 Emission Units, identified as units 207E, 207W, 208E, 208W, constructed in 1994 and modified in 1997. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (h) Six (6) Department 200 Emission Units, identified as units 204E, 204W, 205E, 205W, 206E, and 206W, each constructed in 1995 and modified in 1997 or 1998. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator. 204E, 204W, 205W, and 205W each use an separate annealer, whereas 206E and 206W share an annealer. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (i) Eight (8) Department 300 Emission Units, identified as units 301E, 301W, 302E, 302W, 303E, 303W, 304E, and 304W constructed in 1994. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 284 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (j) Four (4) Department 300 Emission Units, identified as units 307E, 307W, 308E, and 308W constructed in 1995. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 284 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.

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

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

D.1.1 General Provisions Relating to NESHAP [326 IAC 20-1] [40 CFR Part 63, Subpart A] [Table 2 to 40 CFR Part 63, Subpart M]

- (a) The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 20-1, apply to the magnet wire emission units except when otherwise specified in 40 CFR Part 63, Subpart M. The Permittee shall comply with these requirements on and after January 2, 2004.
- (b) Since the applicable requirements associated with the compliance options are not included and specifically identified in this permit, the permit shield authorized by the B section of this permit in the condition titled Permit Shield, and set out in 326 IAC 2-7-15 does not apply to paragraph (a) of this condition.

D.1.2 National Emission Standards for Hazardous Air Pollutants: Surface Coating of Miscellaneous Metal Parts and Products [40 CFR Part 63, Subpart M] [40 CFR 63.3882] [40 CFR 63.3883] [40 CFR 63.3890]

- (a) The provisions of 40 CFR Part 63, Subpart M (National Emission Standards for Hazardous Air Pollutants: Surface Coating of Miscellaneous Metal Parts and Products) apply to the affected source (as defined in (c) below). A copy of this rule is available on the US EPA Air Toxics Website at <http://www.epa.gov/ttn/atw/misc/miscpg.html>.

Pursuant to 40 CFR 63.3883, the Permittee must comply with these requirements on and after January 2, 2007.

- (b) Since the applicable requirements associated with the compliance options are not included and specifically identified in this permit, the permit shield authorized by the B section of this permit in the condition titled Permit Shield, and set out in 326 IAC 2-7-15 does not apply to paragraph (a) of this condition.
- (c) The affected source is the collection of all of the items listed in 40 CFR 63.3882, paragraphs (b)(1) through (b)(4), that are used for surface coating of miscellaneous metal parts and products within each subcategory as defined in 40 CFR 63.3881(a), paragraphs (2) through (6), which include:
 - (1) All coating operations as defined in 40 CFR 63.3981;
 - (2) All storage containers and mixing vessels in which coatings, thinners and/or other additives, and cleaning materials are stored or mixed;
 - (3) All manual and automated equipment and containers used for conveying coatings thinners and/or other additives, and cleaning materials; and
 - (4) All storage containers and all manual and automated equipment and containers used for conveying waste materials generated by a coating operation.
- (d) Terminology used in this section are defined in the Clean Air Act, in 40 CFR Part 63, Section 63.2, and in 40 CFR 63.3981, which are incorporated by reference.

D.1.3 Prevention of Significant Deterioration - BACT [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3, BACT for magnet wire emission units 201E and 201W through 216E and 216W has been determined to be the following:

- (a) The integral thermal oxidizers shall control VOC emissions from the magnet wire emission units and achieve a minimum one-hundred percent (100%) capture efficiency (as defined by Method 204 of 40 CFR Part 52, Appendix M) and ninety-eight and five tenths percent (98.5%) destruction efficiency.
- (b) The total VOC delivered by the coating applicators prior to drying/curing with integral thermal oxidization shall not exceed 9228 tons per twelve consecutive month period with compliance determined at the end of each month.
- (c) The total VOC input used after the drying/curing with integral thermal oxidization shall not exceed 314 tons per twelve consecutive month period with compliance determined at the end of each month.
- (d) The total VOC emissions shall not exceed 453 tons per year. Compliance with (a) through (c) above will ensure compliance with this limit.

Compliance with these limitations will satisfy the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration).

D.1.4 Volatile Organic Compounds [326 IAC 8-2-8]

- (a) Pursuant to 326 IAC 8-2-8 (Magnet Wire Coating Operations), the owner or operator shall not allow the discharge into the atmosphere of VOC in excess of 1.7 pounds VOC per gallon of coating, excluding water, as delivered to the applicator.
- (b) Pursuant to 326 IAC 8-1-2 (b), the magnet wire emission units' VOC emissions shall be limited to no greater than the equivalent emissions, expressed as pounds of VOC per

gallon of coating solids, allowed in (a).

This equivalency was determined by the following equation:

$$E = L / (1 - (L/D))$$

where:

- L = Applicable emission limit from 326 IAC 8 in pounds of VOC per gallon of coating
- D = Density of VOC in coating in pounds per gallon of VOC
- E = Equivalent emission limit in pounds of VOC per gallon of coating solids as applied.

Actual solvent density shall be used to determine compliance of the surface coating operation using the compliance methods in 326 IAC 8-1-2 (a).

- (c) The equivalent pounds of VOC per gallon of coating solids as applied (E) shall be limited to less than 2.21, when L is equal to 1.7 and D is equal to 7.36.
- (d) Pursuant to 326 IAC 8-1-2(c):
 - (1) The overall control efficiency of the thermal oxidizers controlling units 201E and 201W through 216E and 216W shall be no less than 96.0%; and
 - (2) The overall control efficiency of the thermal oxidizers controlling units 301E and 301W through 316E and 316W shall be no less than 97.8%.

The overall control efficiency (O) was calculated by the following equation:

$$O = \frac{V - E}{V} \times 100$$

where:

- V = The actual VOC content of the coating or, if multiple coatings are used, the daily weighted average VOC content of all coatings, as applied to the subject coating line as determined by the applicable test methods and procedures specified in 326 IAC 8-1-4 in units of pounds of VOC per gallon of coating solids as applied.
- E = Equivalent emission limit in pounds of VOC per gallon of coating solids as applied.
- O = Overall efficiency of the capture system and control device as a percentage.

Compliance with Condition D.1.3 will ensure compliance with the requirements of 326 IAC 8-2-8.

D.1.5 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 integral control devices.

Compliance Determination Requirements

D.1.6 Volatile Organic Compounds (VOC) [326 IAC 8-1-2]

Pursuant to 326 IAC 8-1-2(a), the Permittee shall operate the integral thermal oxidizers at all times the respective facilities are in operation to achieve compliance with Conditions D.1.3 and D.1.4.

D.1.7 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

- (a) Within 180 days after issuance of this permit, the Permittee shall conduct performance tests (described below) to verify the VOC control efficiency pursuant to Conditions D.1.3 and D.1.4 for the integral thermal oxidizers.
- (b) The Permittee shall test three (3) integral thermal oxidizers from any Department 200 magnet wire emission units and three (3) integral thermal oxidizers from any Department 300 magnet wire emission units that have not been tested in the past ten (10) years. These tests shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted using methods approved by the Commissioner and in accordance with 326 IAC 3-6-3 and Section C - Performance Testing.

D.1.8 Thermal Oxidizer Temperature

- (a) A continuous monitoring system shall be calibrated, maintained, and operated on the thermal oxidizer for measuring operating temperature of the integral thermal oxidizer. For the purposes of this condition, continuous monitoring shall mean no less often than once per minute. The output of this system shall be recorded as an hourly average.
- (b) If the continuous monitoring system is not in operation, the temperature will be recorded manually once in a 15-minute period or in any other IDEM-approved manner. Nothing in this permit shall excuse the Permittee from complying with the requirement to continuously monitor the temperature of the integral thermal oxidizer.
- (c) From the date of issuance of this permit until the results from the approved stack tests, required by Condition D.1.7, are available, the Permittee shall operate the thermal oxidizer at or above the minimum hourly average temperature of 1360°F.
- (d) Once the results from the approved stack tests are available, the Permittee shall determine the minimum hourly average temperature that demonstrates compliance with the limits in Conditions D.1.3 and D.1.4, as approved by IDEM. The Permittee shall then operate the thermal oxidizer at or above the minimum hourly average temperature determined from the most recent compliant stack test following approval of that temperature.
- (e) The oxidizer shall operate with a five (5) degree buffer such that if an eight-hour average temperature falls within five degrees Fahrenheit (5 °F) of the minimum required temperature, corrective action shall be performed and one-hour average temperatures shall be investigated to determine if any temperature fell below the actual minimum temperature. If a one-hour average temperature is less than the established minimum temperature, the Permittee shall take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. An hourly average temperature that is below the minimum hourly average temperature is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

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

D.1.9 National Emission Standards for Hazardous Air Pollutants: Surface Coating of Miscellaneous Metal Parts and Products - Notifications [40 CFR 63.3910]

- (a) The Permittee must submit the applicable notifications in 40 CFR 63.7(b) and (c), 63.8(f)(4), and 63.9(b) through (e) and (h) by the dates specified in those sections, except as provided in paragraphs (b) and (c) below.
- (b) The Permittee must submit the Initial Notification required by 40 CFR 63.9(b) and 40 CFR 63.3910(b) no later than January 2, 2005.

(c) The Permittee must submit the Notification Of Compliance Status required by 40 CFR 63.9(h) and 40 CFR 63.3910(c) no later than March 1, 2008. The notification of compliance status must contain the information specified in 40 CFR 63.3910(c) paragraphs (1) through (11) and any additional information specified in 40 CFR 63.9(h).

(d) All notifications, required by (a) through (c) above, must be submitted to:

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

and

United States Environmental Protection Agency, Region V
Director, Air and Radiation Division
77 Jackson Boulevard
Chicago, Illinois 60604-3590

D.1.10 Record Keeping Requirements

(a) To document compliance with Conditions D.1.3 and D.1.4, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (4) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC usage and content limits established in Conditions D.1.3 and D.1.4. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.

(1) The VOC content of each coating material and solvent used less water.

(2) The amount of coating material and solvent used on a monthly basis.

(A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.

(B) Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(3) The total VOC usage for each month.

(4) The oxidizer temperature (reduced to 1-hour block averages), as read by the continuous monitor or IDEM-approved manner, and the hourly average temperature used to demonstrate compliance during the most recent compliant stack test.

(b) To document compliance with Condition D.1.5, the Permittee shall maintain records of any additional inspections prescribed by the Preventive Maintenance Plan.

(c) To document compliance with Condition D.1.7, the Permittee shall maintain records of the test results.

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

D.1.12 Requirement to Submit a Significant Permit Modification Application [326 IAC 2-7-12] [326 IAC 2-7-5]

The Permittee shall submit an application for a significant permit modification to IDEM, OAQ to include information from the Notification Of Compliance Status (NOCS) in the Title V permit.

- (a) The significant permit modification application shall be consistent with 326 IAC 2-7-12, including information sufficient for IDEM, OAQ to incorporate into the Title V permit the applicable requirements of 40 CFR 63, Subpart Mmmm a description of the affected source and activities subject to the standard, and a description of how the Permittee will meet the applicable requirements of the standard.
- (b) The significant permit modification application shall be submitted no later than April 2, 2006 and 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

D.1.13 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.1.3(b) and (c) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the responsible official as defined by 326 IAC 2-7-1(34).

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Copper Rod and Bar Manufacturing Process

(k) One (1) Copper Rod and Bar Manufacturing Process, identified as P-1, constructed in 1976, a maximum capacity of 20 tons of copper per hour, with emissions uncontrolled, exhausting to stack S-1, and consisting of:

- (1) One (1) natural gas-fired vertical melt furnace, with a heat input capacity of 24 MMBtu/hr,
- (2) One (1) holding furnace, with a heat input capacity of 2.0 MMBtu/hr,
- (3) One (1) tundish, with a heat input capacity of 1.5 MMBtu/hr, and
- (4) Various ancillary launders, with an aggregate heat input capacity of 2.5 MMBtu/hr.

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

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

D.2.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the copper rod and bar manufacturing process (identified as P-1) shall not exceed 30.51 pounds per hour when operating at a process weight rate of 20 tons per hour.

The pound per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

D.2.2 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.

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

D.2.3 Visible Emissions Notations

- (a) Visible emission notations of the exhaust from the copper rod and bar manufacturing process (exhausting to stack S-1) shall be performed once per shift 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 these units shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

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

D.2.4 Record Keeping Requirements

- (a) To document compliance with Condition D.3.3, the Permittee shall maintain once per shift records of the visible emission notations.
- (b) To document compliance with Condition D.3.2, the Permittee shall maintain of records of any additional inspections prescribed by the Preventive Maintenance Plan.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Alcohol Quench Process and Storage Tanks

- (l) One (1) mill emulsion system identified as P-2 Mill Emulsion System, constructed in 1976, which pumps a mill emulsion solution containing 0.2% - 2.5% by volume Isopropyl Alcohol (2-propanol) through sprays in an enclosed rolling mill stand area, with emissions uncontrolled, and exhausting to stack/vent V-1;
- (m) One (1) quench system identified as P-2 Quench System, constructed in 1976, which pumps a quench solution containing 0.8% - 3.0% by volume Isopropyl Alcohol (2-propanol) ejectors into tubes, with emissions uncontrolled, and exhausting to stack/vent V-2;

The maximum capacity of the P-2 Alcohol Quench Process (Mill Emulsion System and Alcohol Quench System) is 300 pounds of 2-propanol (IPA) per hour.
- (n) One (1) 15,000 gallon mill emulsion storage tank, constructed in 1995;
- (o) One (1) 7,500 gallon quench solution storage tank, constructed in 1978.

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

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

D.3.1 Standards for Vessels [326 IAC 12]

Pursuant to 326 IAC 12 and 326 IAC 1-1-3, the Permittee shall maintain readily available records showing the dimensions of the 15,000 gallon mill emulsion storage tank and an analysis showing its capacity. This requirement will remain in effect until 326 IAC 12 and 326 IAC 1-1-3 are revised to incorporate the October 15, 2003, or later, version of 40 CFR Part 60, Subpart Kb. This condition of the permit is not federally enforceable.

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

D.3.2 Record Keeping Requirements

To document compliance with Condition D.4.1, the Permittee shall keep readily accessible records showing the dimension of the storage tanks and an analysis showing the capacity of the storage tanks.

SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Specifically Regulated Insignificant Activities

- (a) Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]
- (b) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]
- (c) Activities with emissions equal to or less than the following thresholds: 5 tons per year PM or PM10, 10 tons per year SO₂, NO_x, or VOC, 0.2 tons per year Pb, 1.0 tons per year of a single HAP, or 2.5 tons per year of any combination of HAPs:

Six (6) degreaser units, identified as 'P, T1, T2, T3, T4, and T5' using solvent identified as 'Thinner-907' and mechanical agitation. [326 IAC 8-3-2] [326 IAC 8-3-5]

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

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

D.4.1 Volatile Organic Compounds (VOC)

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations) for cold cleaning operations constructed after January 1, 1980, the Permittee shall:

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a facility for draining cleaned parts;
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

D.4.2 Volatile Organic Compounds (VOC)

(a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), the Permittee of a cold cleaner degreaser facility, construction of which commenced after July 1, 1990, shall ensure that the following requirements are met:

- (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch measured at thirty-eight degrees Celsius (38EC)(one hundred degrees Fahrenheit (100EF));
 - (B) The solvent is agitated; or
 - (C) The solvent is heated.

- (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
 - (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
 - (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
 - (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9EC) (one hundred twenty degrees Fahrenheit (120EF)):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when the solvent used is insoluble in, and heavier than, water.
 - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility construction of which commenced after July 1, 1990, shall ensure that the following operating requirements are met:
- (1) Close the cover whenever articles are not being handled in the degreaser.
 - (2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
 - (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

D.4.3 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the insignificant brazing equipment, cutting torches, soldering equipment, and welding equipment operations shall be limited as follows:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY

PART 70 OPERATING PERMIT CERTIFICATION

Source Name: Essex Group, Inc., Vincennes plant
Source Address: 1299 East Essex Road, Vincennes, IN, 47591
Mailing Address: 1299 East Essex Road, Vincennes, IN, 47591
Part 70 Permit No.: T083-7422-00008

**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
- Test Result (specify) _____
- Report (specify) _____
- Notification (specify) _____
- Affidavit (specify) _____
- Other (specify) _____

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

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
Compliance Branch**

Part 70 Quarterly Report

Source Name: Essex Group, Inc., Vincennes plant
Source Address: 1299 East Essex Road, Vincennes, IN, 47591
Mailing Address: 1299 East Essex Road, Vincennes, IN, 47591
Part 70 Permit No.: T083-7422-00008
Facilities: 201E and 201W through 216E and 216W and 301E and 301W through 316E and 316W
Parameter: The total VOC delivered by the coating applicators prior to drying/curing with integral thermal oxidization
Limit: Less than 9228 tons of VOC per twelve consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	Total VOC Usage This Month	Total VOC Usage from Past 11 Months	Total VOC Usage (12 Month Total)
Month 1			
Month 2			
Month 3			

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

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

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 Compliance Branch**

Part 70 Quarterly Report

Source Name: Essex Group, Inc., Vincennes plant
 Source Address: 1299 East Essex Road, Vincennes, IN, 47591
 Mailing Address: 1299 East Essex Road, Vincennes, IN, 47591
 Part 70 Permit No.: T083-7422-00008
 Facilities: 201E and 201W through 216E and 216W and 301E and 301W through 316E and 316W
 Parameter: The total VOC used after the drying/curing with integral thermal oxidization
 Limit: Less than 314 tons of VOC per twelve consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	Total VOC Usage This Month	Total VOC Usage from Past 11 Months	Total VOC Usage (12 Month Total)
Month 1			
Month 2			
Month 3			

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

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

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH**

**P.O. Box 6015, 100 North Senate Avenue
Indianapolis, Indiana 46206-6015
Phone: 317-233-5674
Fax: 317-233-5967**

**PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT**

Source Name: Essex Group, Inc., Vincennes plant
Source Address: 1299 East Essex Road, Vincennes, IN, 47591
Mailing Address: 1299 East Essex Road, Vincennes, IN, 47591
Part 70 Permit No.: T083-7422-00008

This form consists of 2 pagesPage 1 of 2

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

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

Facility/Equipment/Operation:

Control Equipment:

Permit Condition or Operation Limitation in Permit:

Description of the Emergency:

Describe the cause of the Emergency:

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

Page 2 of 2

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

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

A certification is not required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 Compliance Data Section**

**PART 70 OPERATING PERMIT
 QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Essex Group, Inc., Vincennes plant
 Source Address: 1299 East Essex Road, Vincennes, IN, 47591
 Mailing Address: 1299 East Essex Road, Vincennes, IN, 47591
 Part 70 Permit No.: T083-7422-00008

Months: _____ **to** _____ **Year:** _____

<p>This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. Deviations that are required to be reported by an applicable requirement shall be reported according to the schedule stated in the applicable requirement and do not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".</p>	
<p><input checked="" type="radio"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.</p>	
<p><input checked="" type="radio"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD</p>	
<p>Permit Requirement (specify permit condition #)</p>	
<p>Date of Deviation:</p>	<p>Duration of Deviation:</p>
<p>Number of Deviations:</p>	
<p>Probable Cause of Deviation:</p>	
<p>Response Steps Taken:</p>	
<p>Permit Requirement (specify permit condition #)</p>	
<p>Date of Deviation:</p>	<p>Duration of Deviation:</p>
<p>Number of Deviations:</p>	
<p>Probable Cause of Deviation:</p>	
<p>Response Steps Taken:</p>	

Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed By: _____

Title/Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

Indiana Department of Environmental Management Office of Air Quality

Addendum to the Technical Support Document for a Part 70 Operating Permit

Source Background and Description

Source Name: Essex Group, Inc.- Vincennes plant
Source Location: 1299 East Essex Road, Vincennes, IN, 47591
County: Knox
SIC Code: 3351 and 3357
Operation Permit No.: T083-7422-00008
Permit Reviewer: ERG/BS

On December 22, 2003, the Office of Air Quality (OAQ) had a notice published at the Knox County Public Library, 502 North 7th, Vincennes, Indiana, 47591 stating that Essex Group, Inc. ("Essex") had applied for Part 70 permit for the operation of a stationary copper rod production and magnet wire manufacturing plant. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On January 20, 2004, Essex submitted comments on the proposed Part 70 permit. The following is a summary of the comments and responses to those comments. The Table Of Contents has been modified, if applicable, to reflect any changes.

Comment 1:

While mixed departmental groupings (presented in permit sections D.1 and D.2) are appropriate for the PSD analysis and emission limits, it is unwieldy to use these groupings as the basis for the VOC input record keeping and recording requirements within the permit. The current structure of the record keeping and recording requirements in the permit endangers the source of being in administrative non-compliance for several reasons. One of our major concerns is based on the fact that various parts of the process run off centralized enamel feed systems that are aligned in such a way that compliance with the proposed recording keeping would be impossible. None of the facilities have a individual flow meter from the central system and therefore the amount of enamel to a specific coating unit can not be isolated.

(Below is a summary of a post Public Notice letter on this same subject dated February 24, 2004)

Essex understands that the structure of the record keeping and reporting requirements is dependent upon the basis of the corresponding VOC limits. Per your correspondence with Bob Distler, Essex requests that the units not subject to PSD (201E, 201W, 202E, 202W, 203E, 203W, 209E and 209W through 214E and 214W) be added under the existing PSD requirements for units 204E and 204W through 208E and 208W, 215E, 215W, 216E, 216W, 301E and 301W through 316E and 316W. Units 201E, 201W, 202E, 202W, 203E, 203W, 209E and 209W through 214E and 214W are not legally subject to the PSD rules. Essex is voluntarily proposing this action to simplify the record keeping and recording requirements of the proposed Part 70 permit. These units are identical to those that have been through the BACT analysis. In making this request, Essex does not in any way admit that the units voluntarily placed under PSD are

legally subject to PSD. Therefore, their inclusion under PSD should not be used by IDEM in any enforcement action.

Response to Comment 1:

IDEM, OAQ accepts Essex's proposal. All of the magnet wire emission units at Essex are essentially identical and BACT for any one unit would be accepted as BACT for another. The net change in VOC emissions from all of magnet wire replacements that occurred from 1989 to 1998 is less than 250 tons per year. As a result, a new PSD permit application (including a new BACT analysis and Ambient Air Quality Impact Analysis), reflecting the inclusion of all magnet wire emission units, is not required.

The following changes have been made in response to this comment. Specifically, magnet wire emission units are now covered by the VOC limit included as part of BACT under 326 IAC 2-2 (PSD). The VOC input limits from Conditions D.1.3 and D.2.3 have been combined, the units from Section D.2 have been moved to Section D.1 and the former D.2 section has been deleted.

These changes should be reflected in Appendix C: BACT Determination to the Technical Support Document (TSD). However, because the OAQ prefers that the TSD reflect the permit that was on public notice, a new Appendix D shows a revised BACT determination. No changes were made to the TSD.

The following changes have been made in response to this comment:

SECTION D.1

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Magnet Wire Emission Units constructed 1994-1997

- (a) Four (4) Department 200 Emission Units, identified as units 215E, 215W, 216E, 216W, each constructed in 1997. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 527 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (b) **Twelve (12) Department 200 Emission Units, identified as units 209E, 209W, 210E, 210W, 211E, 211W, 212E, 212W, 213E, 213W, 214E, 214W, each constructed in 1998. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units. unit has a maximum copper wire producing capacity of 527 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.**
- (c) Twelve (12) Department 300 Emission Units, identified as units 305E, 305W, 306E, 306W, 309E, 309W, 310E, 310W, 311E, 311W, 312E, and 312W, each constructed in 1996. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 284 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (d) Eight (8) Department 300 Emission Units, identified as units 313E, 313W, 314E, 314W, 315E, 315W, 316E, and 316W constructed in 1997. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 284 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.

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

- (e) Two (2) Department 200 Emission Units, identified as units 201E and 201W, each constructed in 1989 and modified in 1998. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.**
- (f) Four (4) Department 200 Emission Units, identified as units 202E, 202W, 203E, and 203W, each constructed in 1993 and modified in 1998. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.**
- (g) Four (4) Department 200 Emission Units, identified as units 207E, 207W, 208E, 208W, constructed in 1994 and modified in 1997. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (h) Six (6) Department 200 Emission Units, identified as units 204E, 204W, 205E, 205W, 206E, and 206W, each constructed in 1995 and modified in 1997 or 1998. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator. 204E, 204W, 205W, and 205W each use an separate annealer, whereas 206E and 206W share an annealer. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (i) Eight (8) Department 300 Emission Units, identified as units 301E, 301W, 302E, 302W, 303E, 303W, 304E, and 304W constructed in 1994. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 284 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (j) Four (4) Department 300 Emission Units, identified as units 307E, 307W, 308E, and 308W constructed in 1995. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 284 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.

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

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

D.1.3 Prevention of Significant Deterioration - BACT [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3, BACT for magnet wire emission units ~~204E and 204W~~ **201E and 201W** through **216E and 216W** ~~208E and 208W, 215E, 215W, 216E, 216W~~ and 301E and 301W through 316E and 316W has been determined to be the following:

- (a) The integral thermal oxidizers shall control VOC emissions from the magnet wire emission units and achieve a minimum one-hundred percent (100%) capture efficiency (as defined by Method 204 of 40 CFR Part 52, Appendix M) and ninety-eight and five tenths percent (98.5%) destruction efficiency.
- (b) The total VOC delivered by the coating applicators prior to drying/curing with integral thermal oxidization shall not exceed ~~6652~~ **9228** tons per twelve consecutive month period with compliance determined at the end of each month.
- (c) The total VOC input used after the drying/curing with integral thermal oxidization shall not exceed ~~242~~ **314** tons per twelve consecutive month period with compliance determined at the end of each month.
- (d) The total VOC emissions shall not exceed ~~312~~ **453** tons per year. Compliance with (a) through (c) above will ensure compliance with this limit.

Compliance with these limitations will satisfy the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration).

D.1.4 Volatile Organic Compounds [326 IAC 8-2-8]

...

- (d) Pursuant to 326 IAC 8-1-2(c):
 - (1) The overall control efficiency of the thermal oxidizers controlling units ~~204E and 204W~~ **201E and 201W** through **216E and 216W** ~~208E and 208W, 215E, 215W, 216E, and 216W~~ shall be no less than 96.0%; and
 - (2) The overall control efficiency of the thermal oxidizers controlling units 301E and 301W through 316E and 316W shall be no less than 97.8%.

The overall control efficiency (O) was calculated by the following equation:

$$O = \frac{V - E}{V} \times 100$$

where:

V = The actual VOC content of the coating or, if multiple coatings are used, the daily weighted average VOC content of all coatings, as applied to the subject coating line as determined by the applicable test methods and procedures specified in 326 IAC 8-1-4 in units of pounds of VOC per gallon of coating solids as applied.

E = Equivalent emission limit in pounds of VOC per gallon of coating solids as applied.
O = Overall efficiency of the capture system and control device as a percentage.

Compliance with Condition D.1.3 will ensure compliance with the requirements of 326 IAC 8-2-8.

D.1.7 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

- (a) Within 180 days after issuance of this permit, the Permittee shall conduct performance tests (described below) to verify the VOC control efficiency pursuant to Conditions D.1.3; ~~and D.1.4, D.2.3, and D.2.4~~ for the integral thermal oxidizers.

(Section D.2 has been deleted in its entirety and Sections D.3 and D.4 have been renumbered accordingly)

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Magnet Wire Emission Units constructed in 1989, 1993 and 1998

- (b) Twelve (12) Department 200 Emission Units, identified as units 209E, 209W, 210E, 210W, 211E, 211W, 212E, 212W, 213E, 213W, 214E, 214W, each constructed in 1998. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 527 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (e) Two (2) Department 200 Emission Units, identified as units 201E and 201W, each constructed in 1989 and modified in 1998. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (f) Four (4) Department 200 Emission Units, identified as units 202E, 202W, 203E, and 203W, each constructed in 1993 and modified in 1998. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.

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

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

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
Compliance Branch**

Part 70 Quarterly Report

Source Name: Essex Group, Inc., Vincennes plant
 Source Address: 1299 East Essex Road, Vincennes, IN, 47591
 Mailing Address: 1299 East Essex Road, Vincennes, IN, 47591
 Part 70 Permit No.: T083-7422-00008
 Facilities: ~~204E and 204W~~ **201E and 201W** through **216E and 216W** ~~208E and 208W,~~
~~215E, 215W, 216E, 216W~~ and 301E and 301W through 316E and 316W
 Parameter: The total VOC delivered by the coating applicators prior to drying/curing with
 integral thermal oxidization
 Limit: Less than ~~6652~~ **9228** tons of VOC per twelve consecutive month period with
 compliance determined at the end of each month.

YEAR: _____

Month	Total VOC Usage This Month	Total VOC Usage from Past 11 Months	Total VOC Usage (12 Month Total)
Month 1			
Month 2			
Month 3			

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

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

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
Compliance Branch**

Part 70 Quarterly Report

Source Name: Essex Group, Inc., Vincennes plant
Source Address: 1299 East Essex Road, Vincennes, IN, 47591
Mailing Address: 1299 East Essex Road, Vincennes, IN, 47591
Part 70 Permit No.: T083-7422-00008
Facilities: ~~204E and 204W~~ **201E and 201W** through **216E and 216W** ~~208E and 208W,
215E, 215W, 216E, 216W~~ and 301E and 301W through 316E and 316W
Parameter: The total VOC used after the drying/curing with integral thermal oxidization
Limit: Less than ~~212~~ **314** tons of VOC per twelve consecutive month period with
compliance determined at the end of each month.

YEAR: _____

Month	Total VOC Usage This Month	Total VOC Usage from Past 11 Months	Total VOC Usage (12 Month Total)
Month 1			
Month 2			
Month 3			

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

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

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
Compliance Branch**

Part 70 Quarterly Report

Source Name: _____ Essex Group, Inc., Vincennes plant
Source Address: _____ 1299 East Essex Road, Vincennes, IN, 47591
Mailing Address: _____ 1299 East Essex Road, Vincennes, IN, 47591
Part 70 Permit No.: _____ T083-7422-00008
Facilities: _____ 201E, 201W, 202E, 202W, 203E, 203W, 209E and 209W through 214E and 214W
Parameter: _____ The total VOC delivered by the coating applicators prior to drying/curing with integral thermal oxidization
Limit: _____ Less than 2576 tons of VOC per twelve consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	Total VOC Usage This Month	Total VOC Usage from Past 11 Months	Total VOC Usage (12 Month Total)
Month 1			
Month 2			
Month 3			

_____ No deviation occurred in this quarter.

_____ Deviation/s occurred in this quarter.

_____ Deviation has been reported on: _____

_____ Submitted by: _____

_____ Title / Position: _____

_____ Signature: _____

_____ Date: _____

_____ Phone: _____

_____ Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
Compliance Branch

Part 70 Quarterly Report

Source Name: _____ Essex Group, Inc., Vincennes plant
Source Address: _____ 1299 East Essex Road, Vincennes, IN, 47591
Mailing Address: _____ 1299 East Essex Road, Vincennes, IN, 47591
Part 70 Permit No.: _____ T083-7422-00008
Facilities: _____ 201E, 201W, 202E, 202W, 203E, 203W, 209E and 209W through 214E and 214W
Parameter: _____ The total VOC used after the drying/curing with integral thermal oxidization
Limit: _____ Less than 102 tons of VOC per twelve consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	Total VOC Usage This Month	Total VOC Usage from Past 11 Months	Total VOC Usage (12 Month Total)
Month 1			
Month 2			
Month 3			

_____ No deviation occurred in this quarter.
_____ Deviation/s occurred in this quarter.
_____ Deviation has been reported on: _____

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

_____ Attach a signed certification to complete this report.

Comment 2:

Permit Sections D.1 and D.2 both reference the proposed Miscellaneous Metal Parts & Products (MMPP) surface coating MACT (40 CFR Part 63, Subpart Mmmm). This is appropriate, because our magnet wire manufacturing plant is believed to be subject the MMPP MACT.

We have recently learned that the MMPP MACT was printed in the Federal Register on Friday, January 2, 2004. However, Essex remains concerned about some references to the MMPP MACT in the public notice draft Title V (permit subsections C.15, D.1.1, D.1.2, D.1.10, D.2.1, D.2.2, and D.2.10), due to the level of specificity about the MMPP MACT in those subsections of the permit, considering that the MMPP MACT was not yet final when this public notice draft Title V was issued.

Essex has not had an opportunity for a thorough review of the MMPP MACT as printed in the January 2, 2004 Federal Register, to confirm that the MMPP MACT remains unchanged from its August 2003 signing by the US EPA Administrator. Essex is scheduled to participate in a meeting with its fellow magnet wire industry professionals, to thoroughly review the MMPP MACT as printed in the Federal Register. This meeting is scheduled for early February, at the headquarters of the National Electrical Manufacturers' Association (NEMA) in suburban Washington, D.C.

Thus, Essex believes that it's unwise to incorporate specific demands from the MMPP MACT in this public notice draft Title V. A case could possibly develop in which final permit conflicts with the final MMPP MACT. It would be inappropriate for Essex to offer such a comment without offering an alternative, and thus we suggest one of two courses:

- (a) Issuance of a final Title V for the Vincennes plant should be delayed until both Essex and IDEM (and/or its subcontractors) have an opportunity to review the MMPP MACT as printed in the Federal Register. Then, both Essex and IDEM can be confident that all specifics about the MMPP MACT are indeed incorporated correctly into the final Title V.
Or,
- (b) If IDEM wishes to finalize the Vincennes Title V earlier than spring 2004, then IDEM can issue the final Title V to Vincennes, including broad reference(s) to the MMPP MACT, generally stating that Essex must complete the necessary tasks in the final MMPP MACT in a timely fashion.

Essex suspects that IDEM may already be heading down the path described in the second preceding bullet, if we're correctly grasping Conditions D.1.12 and D.2.12 (Requirement to Submit a Significant Permit Modification Application). In other words, IDEM seems resigned to the fact that any soon-to-be-issued Title V permits will not sufficiently address the MMPP MACT, and thus it will be necessary to update these Title Vs at some later date to more correctly incorporate the MMPP MACT. If this is correct, then it would seem excessive and perhaps even dangerous (i.e., potentially creating conflict between a Title V and the MMPP MACT) to include specifics about the MMPP MACT, as noted at Conditions D.1.1, D.1.2, D.2.1, and D.2.2 of the public notice draft Title V for the Vincennes plant.

Essex would like to re-state another important point about the MMPP MACT, regarding Conditions D.1.2(c) and D.2.2(c) vs. the MMPP MACT definition of an 'affected source'. While processes such as those noted in Conditions D.1.2(c) and D.2.2(c) may indeed be subject to the MMPP MACT, several exchanges with US-EPA's MMPP MACT work group (by letter, email, telephone, and face-to-face meetings) have produced an understanding that "no separate or direct accounting of emissions from storage, mixing, and conveying of coatings, thinners,

additives, cleaning materials, and associated wastes is required under this rule". It is Essex's understanding that these exchanges are part of the official docket for the MMPP MACT.

In summary, please revise permit sections D.1 and D.1 to incorporate MMPP MACT in the broadest sense possible to ensure that the permit does not conflict with 40 CFR Part 63, Subpart MMMM.

Response to Comment 2:

Both the draft and final permit address the new NESHAP as suggested by bullet (b) of the comment. The subject facilities are now all covered under Section D.1. The first condition cites broadly to the general provisions of Part 63 and that those became applicable on January 2, 2004. The second condition cites broadly to the MMPP NESHAP stating that the final compliance date is January 2, 2007, that terminology is defined at 40 CFR 63.3981, that the permittee is required to submit the initial notification no later than January 2, 2005 and the final notification of compliance status no later than no later than March 1, 2008. The second condition also cites to the provisions of 40 CFR 63 that outline what is to be included in the final notification of compliance.

There are no more specific requirements in the permit. Condition D.1.12 requires that the application for a significant permit modification be submitted no later than April 2, 2006, in order to include the specific requirements of the NESHAP into the permit at that time.

The conditions have been revised to reflect the final publication date, the specific dates for the above notifications and applications, and to correctly cite to the 40 CFR:

D.1.1 General Provisions Relating to NESHAP [326 IAC 20-1] [40 CFR Part 63, Subpart A] [Table 2 to 40 CFR Part 63, Subpart MMMM]

- (a) The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 20-1, apply to the magnet wire emission units except when otherwise specified in 40 CFR Part 63, Subpart MMMM. The Permittee shall comply with these requirements on and after ~~the effective date of 40 CFR Part 63, Subpart MMMM~~ **January 2, 2004**.

D.1.2 National Emission Standards for Hazardous Air Pollutants: Surface Coating of Miscellaneous Metal Parts and Products [40 CFR Part 63, Subpart MMMM] [40 CFR 63.3882] [40 CFR 63.3883] [40 CFR 63.3890]

- (a) The provisions of 40 CFR Part 63, Subpart MMMM (National Emission Standards for Hazardous Air Pollutants: Surface Coating of Miscellaneous Metal Parts and Products) apply to the affected source (as defined in (c) below). A copy of this rule is available on the US EPA Air Toxics Website at <http://www.epa.gov/ttn/atw/misc/miscpg.html>. Pursuant to 40 CFR ~~63.3891~~ **63.3883**, the Permittee must comply with these requirements on and after ~~three years following the effective date of 40 CFR Part 63, Subpart MMMM~~ **January 2, 2007**.
- (d) Terminology used in this section are defined in the Clean Air Act, in 40 CFR Part 63, Section 63.2, and in 40 CFR ~~63.3980~~ **63.3981**, which are incorporated by reference.

~~D.1.409~~ National Emission Standards for Hazardous Air Pollutants: Surface Coating of Miscellaneous Metal Parts and Products - Notifications [40 CFR 63.3910]

- (b) The Permittee must submit the Initial Notification required by 40 CFR 63.9(b) and 40 CFR 63.3910(b): **no later than January 2, 2005.**
- (c) The Permittee must submit the Notification Of Compliance Status required by 40 CFR 63.9(h) and 40 CFR 63.3910(c): **no later than March 1, 2008.** The notification of compliance status must contain the information specified in 40 CFR 63.3910(c), paragraphs (1) through (11) and any additional information specified in 40 CFR 63.9(h).

D.1.12 Requirement to Submit a Significant Permit Modification Application [326 IAC 2-7-12]
[326 IAC 2-7-5]

The Permittee shall submit an application for a significant permit modification to IDEM, OAQ to include information from the Notification Of Compliance Status (NOCS) in the Title V permit.

- (b) The significant permit modification application shall be submitted no later than ~~27 months after the effective date of 40 CFR Part 63, Subpart MMMM~~: **April 2, 2006 and shall be submitted to:**
- ~~(c) The significant permit modification application shall be submitted to:~~

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

Comment 3:

Condition D.1.11(a)(5) requires daily recording of magnet wire oven exhaust fan amperage. This requirement is genuinely excessive and unnecessary. The US EPA addressed this issue in the MMPP MACT with a far more modest demand by requiring that the oven exhaust fan must be operational when enamel is being applied (items 2.4 and 2.5 of draft MMPP MACT Appendix A). No fan amperage readings are required as part of this MMPP MACT compliance philosophy. Note that the Technical Support Document (TSD) for the permit states that the thermal oxidizers used in conjunction with the ovens are integral to the process; i.e. a magnet wire oven cannot function properly and produce saleable product without fresh air intake, which of course requires a complementary output of exhaust gases. As a result, please remove this requirement from the permit.

Response to Comment 3:

IDEM agrees that, given the integral nature of the thermal oxidizers and the existing requirement to monitor temperature, monitoring of the fan amperage is unnecessary in this case. As a result, the following changes have been made in response to this comment:

~~D.1.9 Parametric Monitoring~~

- ~~(a) The Permittee shall determine the appropriate fan amperage from the most recent valid~~

~~stack test that demonstrates compliance with limits in Condition D.1.3 as approved by IDEM.~~

- ~~(b) The Permittee shall observe the fan amperage at least once per day when the thermal oxidizer is in operation. The oxidizer fan amperage shall be maintained within the normal range as specified by the manufacturer or as established in the most recent compliant stack test. When for any one reading, the fan amperage is outside the normal range, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. A reading that is outside the range as established in the most recent compliant stack test is not a deviation from this permit. Failure to take response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.~~

D.1.14 10 Record Keeping Requirements

- (a) To document compliance with Conditions D.1.3 and D.1.4, the Permittee shall maintain records in accordance with (1) through ~~(5)~~ **(4)** below. Records maintained for (1) through ~~(5)~~ **(4)** shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC usage and content limits established in Conditions D.1.3 and D.1.4. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.
- (1) The VOC content of each coating material and solvent used less water.
 - (2) The amount of coating material and solvent used on a monthly basis.
 - (A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.
 - (B) Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
 - (3) The total VOC usage for each month.
 - (4) The oxidizer temperature (reduced to 1-hour block averages), as read by the continuous monitor or IDEM-approved manner, and the hourly average temperature used to demonstrate compliance during the most recent compliant stack test.
 - ~~(5) The daily records of the fan amperage.~~

Comment 4:

As stated in Essex's November 13, 2003 letter to IDEM, we would also like to reiterate our disappointment with the excessive stack testing proposed in Condition D.1.7. Even the US EPA has embraced the philosophy of testing one representative oven of several like units, thus establishing common operating parameters (Item 1.9 of draft MMPP MACT Appendix A). The philosophy of representative testing was a major point of discussion at a meeting on July 25, 2003 at the Holiday Inn at Indianapolis International Airport. This meeting was intended to maximize air operating permit flexibility for the Indiana magnet wire industry, while still meeting the underlying air regulations. Attending was a diverse group including representatives of IDEM, Indiana magnet wire manufacturers, state and local chambers of commerce, northeastern Indiana congressional and mayoral staffers, etc.

In addition, file stack test data already exists for magnet wire ovens at the Vincennes plant. The test results indicate that compliance is easily achieved which is even more reason to abandon the excessive stack testing proposed at Condition D.1.7.

Similar comments about excessive stack testing were made in Essex's aforementioned letter, in response to the first draft of the permit. Note that these comments were personally acknowledged in a December 16th voice mail from the Chief of IDEM's Office of Air Quality Permits Branch, Paul Dubenetzky.

Response to Comment 4:

Essex owns and operates two magnet wire departments, each consisting of 32 magnet wire coating Emission Units. As indicated in the permit, each Emission Unit consists of one (1) curing oven equipped with an integral thermal oxidizer. Condition D.1.7 requires Essex to test at least three units in each department; which is equivalent to less than 10% of the total number of Emission Units. IDEM does not consider this representative fraction to be "excessive" and believes that this requirement will aid in ensuring continuous compliance.

Comment 5:

The TSD and permit do not include two (2) 7000-gallon tanks that store isopropyl alcohol. They were built in 1988 and, based on TANKS and SOCME emission analyses, are insignificant activities. Please include them in the TSD and permit.

Response to Comment 5:

The OAQ prefers that the Technical Support Document (TSD) reflect the permit that was on public notice. Changes to the permit that occur after the public notice are documented in this Addendum to the TSD. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision. Therefore, no changes were made to the TSD as a result of this comment.

The respective tanks are insignificant activities (VOC emissions estimated at less than 3 lb/hr and 15 lb/day) and are not subject to any state or federal rules. Therefore, they will not be added to the permit but their existence is documented here and will be included in the TSD for the Part 70 Renewal. No changes were made to the permit as a result of this comment.

Comment 6:

Please make the following changes to the TSD and permit where applicable:

- (1) Delete all references to Group #s. These designations had limited meaning several years ago and are meaningless now.
- (2) Delete all references to the PO Box address. It has been deactivated and all mail is delivered to 1299 East Essex Road.
- (3) The language provided under 326 IAC 12 is applicable only until this rule is revised to be consistent with 40 CFR Part 60, Subpart Kb. Please revise the condition to state that the record keeping requirement is not applicable once 326 IAC 12 has been revised or repealed.

Response to Comment 6:

The OAQ prefers that the Technical Support Document (TSD) reflect the permit that was on public notice. Changes to the permit that occur after the public notice are documented in this Addendum to the TSD. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision. Therefore, no changes were made to the TSD as a result of this comment.

The following changes have been made to the permit in response to the comment regarding 326 IAC 12:

D.43.1 ~~40 CFR Part 60, Subpart Kb (Volatile Organic Storage Vessels)~~ **Standards for Vessels [326 IAC 12]**

Pursuant to 326 IAC 12 and 326 IAC 1-1-3, the Permittee shall maintain readily available records showing the dimensions of the 15,000 gallon mill emulsion storage tank and an analysis showing its capacity. This requirement will remain in effect until 326 IAC 12 and 326 IAC 1-1-3 are revised to incorporate the October 15, 2003, or later, version of 40 CFR Part 60, Subpart Kb. This condition of the permit is not federally enforceable.

~~(a) The one (1) 15,000 gallon mill emulsion storage tank is subject to 40 CFR Part 60, Subpart Kb because the maximum capacity of the mill emulsion tank is greater than 40 m³ that is used to store volatile organic liquids for which construction, reconstruction, or modification commenced after July 23, 1984. Pursuant to this rule, the permittee must maintain records as required by 40 CFR 60.116b(a) and 60.116b(b).~~

~~(b) The one (1) 7,500 gallon quench solution storage tank is not subject to 40 CFR Part 60, Subpart Kb because the maximum capacity of the quench solution tank is less than 40 m³.~~

~~(c) Both tanks are exempt from the General Provisions (Part 60, subpart A) and from the standards of subpart Kb, except as specified in 40 CFR 60.116b(a) and .116b(b), because the tanks have capacities less than 75 m³ storing liquid.~~

**Indiana Department of Environmental Management
Office of Air Quality**

Technical Support Document (TSD) for a Part 70 Operating Permit

Source Background and Description

Source Name: Essex Group, Inc.- Vincennes plant
Source Location: 1299 East Essex Road, Vincennes, IN, 47591
County: Knox
SIC Code: 3351 and 3357
Operation Permit No.: T083-7422-00008
Permit Reviewer: ERG/BS

The Office of Air Quality (OAQ) has reviewed a Part 70 permit application from Essex Group, Inc. relating to the operation of a stationary copper rod production and magnet wire manufacturing plant.

This Part 70 permit contains provisions intended to satisfy the requirements of the construction permit rules.

Permitted Emission Units and Pollution Control Equipment

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

Magnet Wire Production, Department 200

- (a) Four (4) Department 200 Emission Units, identified as units 215E, 215W, 216E, 216W, each constructed in 1997. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 527 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (b) Twelve (12) Department 200 Emission Units, identified as units 209E, 209W, 210E, 210W, 211E, 211W, 212E, 212W, 213E, 213W, 214E, 214W, each constructed in 1998. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 527 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.

Magnet Wire Production, Department 300

- (c) Twelve (12) Department 300 Emission Units, identified as units 305E, 305W, 306E, 306W, 309E, 309W, 310E, 310W, 311E, 311W, 312E, and 312W, each constructed in 1996. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 284 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.

- (d) Eight (8) Department 300 Emission Units, identified as units 313E, 313W, 314E, 314W, 315E, 315W, 316E, and 316W constructed in 1997. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 284 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.

Unpermitted Emission Units and Pollution Control Equipment

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

Magnet Wire Production, Department 200

- (e) Two (2) Department 200 Emission Units, identified as units 201E and 201W, each constructed in 1989 and modified in 1998. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (f) Four (4) Department 200 Emission Units, identified as units 202E, 202W, 203E, and 203W, each constructed in 1993 and modified in 1998. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (g) Four (4) Department 200 Emission Units, identified as units 207E, 207W, 208E, 208W, constructed in 1994 and modified in 1997. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (h) Six (6) Department 200 Emission Units, identified as units 204E, 204W, 205E, 205W, 206E, and 206W, each constructed in 1995 and modified in 1997 or 1998. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator. 204E, 204W, 205W, and 205W each use an separate annealer, whereas 206E and 206W share an annealer. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.

Magnet Wire Production, Department 300

- (i) Eight (8) Department 300 Emission Units, identified as units 301E, 301W, 302E, 302W, 303E, 303W, 304E, and 304W constructed in 1994. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 284 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.

- (j) Four (4) Department 300 Emission Units, identified as units 307E, 307W, 308E, and 308W constructed in 1995. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 284 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.

Copper Rod and Bar Production

- (k) One (1) Copper Rod and Bar Manufacturing Process, identified as P-1, constructed in 1976, a maximum capacity of 20 tons of copper per hour, with emissions uncontrolled, exhausting to stack S-1, and consisting of:
 - (1) One (1) natural gas-fired vertical melt furnace, with a heat input capacity of 24 MMBtu/hr,
 - (2) One (1) holding furnace, with a heat input capacity of 2.0 MMBtu/hr,
 - (3) One (1) tundish, with a heat input capacity of 1.5 MMBtu/hr, and
 - (4) Various ancillary launders, with an aggregate heat input capacity of 2.5 MMBtu/hr.

Alcohol Quench Process

- (l) One (1) mill emulsion system identified as P-2 Mill Emulsion System, constructed in 1976, which pumps a mill emulsion solution containing 0.2% - 2.5% by volume Isopropyl Alcohol (2-propanol) through sprays in an enclosed rolling mill stand area, with emissions uncontrolled, and exhausting to stack/vent V-1;
- (m) One (1) quench system identified as P-2 Quench System, constructed in 1976, which pumps a quench solution containing 0.8% - 3.0% by volume Isopropyl Alcohol (2-propanol) ejectors into tubes, with emissions uncontrolled, and exhausting to stack/vent V-2;

The maximum capacity of the P-2 Alcohol Quench Process (Mill Emulsion System and Alcohol Quench System) is 300 pounds of 2-propanol (IPA) per hour.

Storage Tanks

- (n) One (1) 15,000 gallon mill emulsion storage tank, constructed in 1995;
- (o) One (1) 7,500 gallon quench solution storage tank, constructed in 1978.

Insignificant Activities

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]
- (b) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]
- (c) Activities with emissions equal to or less than the following thresholds: 5.0 tons per year PM or PM10, 10.0 tons per year SO₂, NO_x, or VOC, 0.2 tons per year Pb, 1.0 tons per year of a single HAP, or 2.5 tons per year of any combination of HAPs:

Six (6) degreaser units, identified as 'P, T1, T2, T3, T4, and T5' using solvent identified as 'Thinner-907' and mechanical agitation. [326 IAC 8-3-2] [326 IAC 8-3-5]

- (d) Refractory storage not requiring air pollution control equipment
- (e) Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings.
- (f) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons
- (g) Cleaners and solvents characterized as follows:
 - (1) Having a vapor pressure equal to or less than 2 kPa; 15mm Hg; or 0.3 psi measured at 38 degrees C (100°F) or;
 - (2) Having a vapor pressure equal to or less than 0.7 kPa; 5 mm Hg; or 0.1 psi measured at 20°C (68°F); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.
- (h) Combustion source flame safety purging on startup.
- (i) Noncontact, forced and induced, draft cooling tower system not regulated under a NESHAP.
- (j) Heat exchanger cleaning and repair.
- (k) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour: thirty-three (33) space heaters with an aggregate heat input capacity of 38.4 MMBtu; five (5) water heaters for warming ancillary processes to the magnet wire operations with an aggregate heat input capacity of 0.75 MMBtu/hr; and one (1) 0.195 MMBtu/hr wastewater evaporator.
- (l) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- (m) Stationary fire pumps.
- (n) Purge double block and bleed valves.
- (o) Filter or coalescer media changeout.
- (p) A laboratory as defined in 326 IAC 2-7-1(21)(D).
- (q) Activities with emissions equal to or less than the following thresholds: 5 tons per year PM or PM10, 10 tons per year SO₂, NO_x, or VOC, 0.2 tons per year Pb, 1.0 tons per year of a single HAP, or 2.5 tons per year of any combination of HAPs:
 - (1) Three (3) outdoor solvent storage tanks;
 - (2) Two (2) indoor enamel storage tanks; and
 - (3) Two (2) 7000-gal wastewater storage tanks
- (r) Activities associated with the transportation and treatment of sanitary sewage, provided discharge to the treatment plant is under the control of the owner/operator, that is, an on-site sewage treatment facility.

Existing Approvals

The source has constructed and has been operating under the following previous approvals including:

- (a) OP 42-12-94-0123, issued February 21, 1990;
- (b) OP 42-12-94-0124, issued February 21, 1990;
- (c) OP 42-12-94-0125, issued February 21, 1990;
- (d) CP 083-5312-00008, issued May 24, 1996;
- (e) CP 083-8303-00008, issued August 27, 1997; and
- (f) A 083-10167-000008, issued December 1, 1998.

All terms and conditions from previous permits issued pursuant to permitting programs approved into the state implementation plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

The following terms and conditions from previous approvals were not incorporated into this Part 70 permit:

- (a) All construction conditions from all previously issued permits.

Reason not incorporated:

All previously permitted facilities have already been constructed; therefore, the construction conditions are no longer necessary as part of the operating permit. Any facilities that were previously permitted but have not yet been constructed would need new pre-construction approval before beginning construction.

The following terms and conditions from previous approvals have been revised in this Part 70 permit:

- (a) Condition 6 from CP 083-5312-00008, issued May 24, 1996:
The integral thermal oxidizers controlling emissions from the magnet wire curing ovens in Department 300 shall have an overall control efficiency of at least 95.6%. The integral thermal oxidizers controlling emissions from the magnet wire curing ovens in Department 200 shall have an overall control efficiency of at least 98.5%. Compliance with these requirements will render the requirements of 326 IAC 2-2 not applicable.

Revised condition:

Pursuant to 326 IAC 2-2-3, BACT for magnet wire emission units 204E and 204W through 208E and 208W, 215E, 215W, 216E, 216W and 301E and 301W through 316E and 316W has been determined to be the following:

- (a) The integral thermal oxidizers shall control VOC emissions from the magnet wire emission units and achieve a minimum one-hundred percent (100%) capture efficiency (as defined by Method 204 of 40 CFR Part 52, Appendix M) and ninety-eight and five tenths percent (98.5%) destruction efficiency.
- (b) The total VOC delivered by the coating applicators prior to drying/curing with integral thermal oxidization shall not exceed 6652 tons per twelve consecutive month period with compliance determined at the end of each month.

- (c) The total VOC input used after the drying/curing with integral thermal oxidization shall not exceed 212 tons per twelve consecutive month period with compliance determined at the end of each month.
- (d) The total VOC emissions shall not exceed 312 tons per year. Compliance with (a) through (c) above will ensure compliance with this limit.

Compliance with these limitations will satisfy the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration).

Reason revised:

As explained in the State Rule Applicability - 326 IAC 2-2 section of this document, BACT for facilities 204E and 204W through 208E and 208W, 215E, 215W, 216E, 216W and 301E and 301W through 316E and 316W has been determined to be the use of thermal oxidizers operating with 98.5% control.

- (b) Condition 9 from CP 083-8303-00008, issued on August 27, 1997:
The total input volatile organic compounds (VOC), including lube oils, solvents, and coatings, delivered to units 201E and 201W through 214E and 214W shall not exceed 1101 tons per month. This limit, combined with the use of integral thermal oxidizers with a minimum destruction efficiency of 98.5%, is equivalent to a VOC emission limit of 16.52 tons per month. This limit is necessary such that the net emissions increase (future potential minus past actual) is less than 40 tons per year. Compliance with this limit will render the requirements of 40 CFR 52.21 and 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

Revised condition:

Pursuant to CP 083-8303-00008, issued August 27, 1997, the integral thermal oxidizers shall control VOC emissions from facilities 201E, 201W, 202E, 202W, 203E, 203W, 209E and 209W through 214E and 214W :

- (a) The integral thermal oxidizers shall control VOC emissions from the magnet wire emission units and achieve a minimum one-hundred percent (100%) capture efficiency and ninety-eight and five tenths percent (98.5%) destruction efficiency.
- (b) The total VOC delivered by the coating applicators prior to drying/curing with integral thermal oxidization shall not exceed 2576 tons per twelve consecutive month period with compliance determined at the end of each month.
- (c) The total VOC input used after the drying/curing with integral thermal oxidization shall not exceed 102 tons per twelve consecutive month period with compliance determined at the end of each month.
- (d) The total VOC emissions shall not exceed 141 tons per year. Compliance with (a) through (c) above will ensure compliance with this limit.

Compliance with these requirements will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable. This limit is necessary such that the net emissions increase of the modification permitted via CP 083-8303-00008, issued August 27, 1997, is less than 40 tons per year.

Reason revised:

At the time CP 083-8303-00008 was issued, a thorough and complete PSD netting analysis had not been completed and the Department 200 units were inaccurately reviewed pursuant to the requirements of 40 CFR 52.21 and 326 IAC 2-2 (PSD). Pursuant to this permit, magnet wire emission units 204E and 204W through 208E and

208W, 215E, 215W, 216E, and 216W are in fact subject to the requirements of PSD. The remaining Department 200 emission units are not subject to PSD. However, the maximum total VOC input capacity of these units is only 223 tons per month (less than 20% of the original input limit). As a result, the 1101 ton per month input limit is superfluous and no longer required.

Air Pollution Control Justification as an Integral Part of the Process

The source has submitted the following justification such that the thermal oxidizers be considered as part of the wire coating process:

Wire from the annealer is sent to the enamel applicator where the wire is coated with a base coat and top coat. The coated wire then passes to a drying oven equipped with an thermal oxidizer. The heat requirement of the magnet wire curing oven is, in part, satisfied by heat generated from the combustion of the VOC in the thermal oxidizers. Therefore, the thermal oxidizers are responsible for the necessary curing of the coating applied to the magnet wire. The process could not operate without the oxidizers and the oxidizers serve a primary purpose other than pollution control.

IDEM, OAQ has evaluated the justifications and agreed that the thermal oxidizers will be considered as an integral part of the wire coating process. Therefore, the permitting level will be determined using the potential to emit after the thermal oxidizers. Operating conditions in the proposed permit will specify that the thermal oxidizers shall operate at all times when the wire coating process is in operation.

Enforcement Issue

- (a) IDEM is aware that several facilities have been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled Unpermitted Emission Units and Pollution Control Equipment.
- (b) IDEM is also aware that several facilities are subject to the requirements of 326 IAC 2-2 (PSD) and have been subject since their construction. However, the Permittee did not apply for the necessary preconstruction permit with the applicable 326 IAC 2-2 requirements.

IDEM is reviewing these matters and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit and 326 IAC 2-2 rules.

Recommendation

The staff recommends to the Commissioner that the Part 70 permit 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 administratively complete Part 70 permit application for the purposes of this review was received on December 10, 1996.

An administratively complete PSD (40 CFR 52.21 and 326 IAC 2-2) application was received on September 16, 2003.

A notice of completeness was mailed to the source on January 8, 1997.

Emission Calculations

See Appendix A (pages 1 through 5) of this document for detailed emissions calculations.

Unrestricted Potential To Emit

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. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	less than 100
PM-10	less than 100
SO ₂	less than 100
VOC	greater than 250
CO	less than 100
NO _x	less than 100

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

HAPs	Potential To Emit (tons/year)
Phenol	greater than 10
Cresylic Acid	greater than 10
Xylene	less than 10
Cumene	less than 10
TOTAL	greater than 25

- (a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of VOC is equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.
- (b) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is equal to or greater than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPs is greater than or equal to twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.
- (c) Fugitive Emissions
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are not counted toward determination of PSD and Emission Offset applicability.

Actual Emissions

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

Pollutant	Actual Emissions (tons/year)
PM	not reported
PM-10	18.36
SO ₂	0.13
VOC	738.65
CO	5.29
NO _x	24.01

HAP	Not reported
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Potential to Emit 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 operating permit.

Process/facility	Limited Potential to Emit (tons/year)						
	PM	PM-10	SO ₂	VOC	CO	NO _x	HAPs
Copper Rod and Bar Manufacturing Process (P-1)	15.3 ^(a)	13.1	0.08	0.71	10.8	12.8	Neg.
Alcohol Quench/Mill Emulsion System (P-2)	0	0	0	1314	0	0	0
Magnet Wire Operations (204E and 204W through 208E and 208W, 215E, 215W, 216E, 216W and 301E and 301W through 316E and 316W)	2.14	2.14	0.17	312 ^(b)	23.7	28.2	93.5
Magnet Wire Operations (201E, 201W, 202E, 202W, 203E, 203W, 209E and 209W through 214E and 214W)	0.84	0.84	0.07	141 ^(c)	9.27	11.1	
15,000 gal Mill Solution Storage Tank	0	0	0	(d)	0	0	0
7,500 gal Quench Solution Storage Tank	0	0	0	(d)	0	0	0
Insignificant degreasing	0	0	0	1.96 ^(e)	0	0	1.96 ^(e)
Total Emissions	18.3	16.1	0.32	1770	43.8	52.1	95.5

Neg. - Negligible; emissions are less than 0.01 tons per year

Unless otherwise footnoted, the emissions listed in the table above are based on the facility's respective maximum capacity, control efficiency (if applicable), and 8760 hours per year, since no federal or 326 IAC limits are applicable.

See Appendix A for detailed emission calculations.

(a) The particulate emissions from these facilities are limited pursuant to 326 IAC 6-3-2.

(b) Pursuant to 326 IAC 2-2, the thermal oxidizers shall achieve a minimum 100% capture efficiency and 98.5% destruction efficiency. Compliance with this limit is equivalent to VOC emissions of less than 312 tons per year (100 tons of controlled emissions from top coat and base coats and 212 tons of uncontrolled emissions from solvent blend and topical coatings) and will satisfy the requirements of 326 IAC 2-2. See Appendices A, B, and C for details.

(c) Pursuant to CP 083-8303-00008, issued on August 27, 1997, the integral thermal oxidizers shall control VOC emissions from facilities 201E, 201W, 202E, 202W, 203E, 203W, 209E and 209W through 214E and 214W and achieve a minimum one-hundred percent (100%) capture efficiency and ninety-eight and five tenths percent (98.5%) destruction efficiency. Compliance with this requirement is equivalent to VOC emissions of less than 141 tons per year and will render the requirements of 326 IAC 2-2

(Prevention of Significant Deterioration) not applicable. This limit is necessary such that the net emissions increase (future potential minus past actual) is less than 40 tons per year.

(d) Emissions from the storage tanks have been accounted for in the emissions from the Alcohol Quench/Mill Emulsion Systems.

(e) The source estimates that the VOC/HAP PTE of the insignificant degreasing operations are 1.96 tons per year.

County Attainment Status

The source is located in Knox County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Knox County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)).
- (b) Knox County has been classified as attainment or unclassifiable for all criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)).
- (c) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are not counted toward determination of PSD applicability.

Part 70 Permit Conditions

This source is subject to the requirements of 326 IAC 2-7, pursuant to which the source has to meet the following:

- (a) Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of issuance of Part 70 permits.
- (b) Monitoring and related record keeping requirements which assume that all reasonable information is provided to evaluate continuous compliance with the applicable requirements.

Federal Rule Applicability

- (a) The 15,000 gallon mill emulsion storage tank and the 7,500 gallon quench solution tank are not subject to the requirements of 40 CFR Part 60 Subpart Kb (New Source Performance Standards for Volatile Organic Storage Vessels) because the maximum capacity of each tank is less than 75 m³.
- (b) The insignificant degreasing operations are not subject to the requirements of 40 CFR Part 63 Subpart T (National Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning) because those operations do not use halogenated HAP solvents.

- (c) The magnet wire emission units are not subject to the requirements of 40 CFR Part 63 Subpart SSSS (National Emission Standards for Hazardous Air Pollutants: Surface Coating of Metal Coil) because, pursuant to 40 CFR 63.5110, metal coil is defined as “a continuous metal strip” (with a thickness) and the magnet wire coated at this source is not a strip, but a cylindrical piece (with a diameter).
- (d) The magnet wire emission units are not subject to the requirements of 40 CFR Part 60 Subpart TT (New Source Performance Standards: Surface Coating of Metal Coil) because, pursuant to 40 CFR 60.461, metal coil is defined as “a continuous metal strip” (with a thickness) and the magnet wire coated at this source is not a strip, but a cylindrical piece (with a diameter).
- (e) The copper bar and rod manufacturing process is not subject to the requirements of 40 CFR Part 60 Subpart P (New Source Performance Standards: Primary Copper Smelters) because the shaft furnace produces copper from cathode and in-plant scrap rather than from copper ore.
- (f) The magnet wire emission units are subject to the requirements of 40 CFR Part 63 Subpart MMMM (National Emission Standards for Hazardous Air Pollutants: Surface Coating of Miscellaneous Metal Parts and Products) because they are located at a source which is a major source of HAPs and are used for the surface coating of magnet wire. A copy of the MACT is available on the U.S. EPA website, <http://www.epa.gov/ttn/atw/misc/miscpg.html>.

The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the affected source described in this section except when otherwise specified in 40 CFR Part 63, Subpart MMMM.

This rule has a future compliance date; therefore, the specific details of the rule and how the Permittee will demonstrate compliance are not provided in the permit. The Permittee shall submit an application for a significant permit modification no later than 27 months after the effective date of 40 CFR Part 63, Subpart MMMM, that will specify the option or options for the emission limitations and standards and methods for determining compliance chosen by the Permittee. At that time, IDEM, OAQ will include the specific details of the rule and how the Permittee will demonstrate compliance. In addition, pursuant to 40 CFR Part 63, Subpart MMMM, the Permittee shall submit the:

- (1) Applicable notifications in 40 CFR 63.7(b) and (c), 63.8(f)(4), and 63.9(b) through (e) and (h) by the dates specified in those sections, except as provided in paragraphs (2) and (3) below.
 - (2) Initial Notification required by 40 CFR 63.9(b) and 40 CFR 63.3910(b).
 - (3) Notification Of Compliance Status required by 40 CFR 63.9(h) and 40 CFR 63.3910(c). The notification of compliance status must contain the information specified in 40 CFR 63.3910(c), paragraphs (1) through (11) and any additional information specified in 40 CFR 63.9(h).
- (g) The requirements of Section 112(j) of the Clean Air Act (40 CFR Part 63.50 through 63.56) are not applicable to this source because the source does not include one or more units that belong to one or more source categories affected by the Section 112(j) MACT Hammer date of May 15, 2002. The source submitted a Part 1 112(j) application on May 12, 2002 because 40 CFR Part 63 Subpart MMMM (NESHAP for Miscellaneous Metal Coatings) had not been promulgated at that time. However, 40 CFR Part 63 Subpart MMMM was promulgated on August 20, 2003.
 - (h) This source is not subject to the provisions of 40 CFR Part 64, Compliance Assurance Monitoring (CAM). In order for this rule to apply, a pollutant-specific-emissions-unit at a source that requires a Part 70 or Part 71 permit must meet three criteria for a given

pollutant: 1) the unit is subject to an applicable emission limitation or standard for the applicable regulated air pollutant, 2) the unit uses a control device to achieve compliance with any such emission limitation or standard, and 3) the unit has the potential to emit, of the applicable regulated air pollutant, equal or greater than 100 percent of the amount required for a source to be classified as a major source. None of the facilities at this source meet all these criteria and therefore are not subject to 40 CFR Part 64 (CAM).

State Rule Applicability - Entire Source

326 IAC 1-5-2 (Emergency Reduction Plans)

The source has submitted an Emergency Reduction Plan (ERP) on March 2, 1998.

326 IAC 1-6-3 (Preventive Maintenance Plan)

The source has submitted a Preventive Maintenance Plan (PMP) on December 17, 1997.

326 IAC 2-2 (Prevention of Significant Deterioration)

This source consists of two divisions, a Concast division, constructed in 1976, which produces copper rod and bars, and a Magnet Wire division, originally constructed in 1967, which processes the copper products from the Concast division into coated copper wire. The Concast division is comprised of Copper Rod and Bar Process and an Alcohol Quench Process. The Magnet Wire Division is subsequently divided into two departments, Department 200 and 300. Each department contains 32 emission units; with each emission unit consisting of an wire annealer, enamel applicator, curing oven, wire cooler, and topical lube applicator.

On May 24, 1996, the source was issued CP 083-5312-00008 for the construction of 24 single ovens, each with integral thermal oxidizers, to replace 2 existing twin ovens in Department 200 and 10 existing twin ovens in Department 300. During the permit review process, the source was determined to be a minor source for PSD. Therefore, the proposed construction was permitted as a minor modification to a PSD minor source.

On December 10, 1996, the source submitted a permit application for this part 70 permit. The permit application stated that the potential VOC emissions from the Alcohol Quench Process were in excess of 700 tons per year; which was in stark contrast to the Permittee's previous claim that the potential VOC emissions were negligible. This estimate indicated that CP 083-5312-00008 was incorrectly reviewed and because the source, prior to the modification permitted via CP 083-5312-00008, was a major PSD source.

On August 27, 1997, the source was issued CP 083-8303-00008 to increase the capacity of Department 200 by 28 new magnet wire lines, and construct 12 single ovens, with integral thermal oxidizers, to replace 6 twin ovens in Department 200. IDEM, OAQ determined that the source was not a minor PSD source, but rather a major PSD source prior to the modification. Accounting for the use of integral thermal oxidizers and VOC emission decrease from the removal of six drying ovens, compliance with the following limit will render the requirements of 326 IAC 2-2 not applicable (See the Existing Approval section for more information):

Pursuant to CP 083-8303-00008, issued August 27, 1997, the integral thermal oxidizers shall control VOC emissions from facilities 201E, 201W, 202E, 202W, 203E, 203W, 209E and 209W through 214E and 214W :

- (a) The integral thermal oxidizers shall control VOC emissions from the magnet wire emission units and achieve a minimum one-hundred percent (100%) capture efficiency and ninety-eight and five tenths percent (98.5%) destruction efficiency.
- (b) The total VOC delivered by the coating applicators prior to drying/curing with integral thermal oxidization shall not exceed 2576 tons per twelve consecutive month period with compliance determined at the end of each month.

- (c) The total VOC input used after the drying/curing with integral thermal oxidization shall not exceed 102 tons per twelve consecutive month period with compliance determined at the end of each month.
- (d) The total VOC emissions shall not exceed 141 tons per year. Compliance with (a) through (c) above will ensure compliance with this limit.

Compliance with these requirements will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable. This limit is necessary such that the net emissions increase of the modification permitted via CP 083-8303-00008, issued August 27, 1997, is less than 40 tons per year.

On December 28, 1998, the source sent a letter to IDEM amending the permit application indicating that the VOC emissions from the Alcohol Quench Process in the Concast division were significantly less than the 700 ton per year figure that was included in the original permit application and that the source should consequently be classified as a minor source for VOC.

On March 6, 2001, the source clarified that the VOC emission estimate of approximately 700 tons per year for the Alcohol Quench Process included in the original permit application was more accurate than the estimate provided in 1998. Consequently, IDEM and Essex agreed that the source was a major PSD source upon promulgation of the PSD rules.

All significant construction that has commenced since the construction of the Concast division in 1976 has involved the replacement of curing ovens in the 200 and 300 departments of the Magnet Wire division. Given that the source was in fact a PSD major source during the curing oven replacement activities that occurred from 1993 to 1998, IDEM, OAQ completed a retroactive PSD applicability analysis (see Appendix B).

As the attached analysis indicates, the net increase in VOC emissions of each modification completed from 1994 to 1997 is greater than 40 tons per year. As a result, each modification is subject to the requirements of 326 IAC 2-2.

In order to satisfy the applicable PSD requirements, the source submitted a BACT analysis, pursuant to 326 IAC 2-2-3 during the Part 70 review process. IDEM, OAQ has determined that the following will serve as BACT for magnet wire emission units 204E and 204W through 208E and 208W, 215E, 215W, 216E, 216W, and 301E and 301W through 316E and 316W (See Appendix C for a detailed BACT analysis):

- (a) The integral thermal oxidizers shall control VOC emissions from the magnet wire emission units and achieve a minimum one-hundred percent (100%) capture efficiency and ninety-eight and five tenths percent (98.5%) destruction efficiency.
- (b) The total VOC delivered by the coating applicators prior to drying/curing with integral thermal oxidization shall not exceed 6652 tons per twelve consecutive month period with compliance determined at the end of each month.
- (c) The total VOC input used after the drying/curing with integral thermal oxidization shall not exceed 212 tons per twelve consecutive month period with compliance determined at the end of each month.
- (d) The total VOC emissions shall not exceed 312 tons per year. Compliance with (a) through (c) above will ensure compliance with this limit.

Compliance with these limitations will satisfy the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration).

The requirement to comply with the provisions of 326 IAC 2-2 does not include compliance with 326 IAC 2-2-4 (Air Quality Analysis), 326 IAC 2-2-5 (Air Quality Impact), and 326 IAC 2-2-7 (Additional Analyses) because: 1) IDEM has representative monitoring data for the Vincennes

area, 2) the VOC emission increase from the modification is less than 250 tons per year, and 3) no ozone increment exists.

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

This source emits levels of hazardous air pollutants (HAPs) greater than those that constitute major source applicability according to Section 112 of the 1990 Clean Air Act. However, this source was constructed before July 27, 1997, with the construction/reconstruction of facilities 209E and 209W through 216E and 216W, 315E, 315W, 316E, and 316W after July 27, 1997. Each of these facilities has the potential to emit: a single HAP less than 10 tons per year, and any combination of HAPs less than of 25 tons per year. As a result, the provisions of 326 IAC 2-4.1 are not applicable to this source.

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 VOC. 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 5-1 (Opacity Limitations)

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

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

326 IAC 6-4 (Fugitive Dust)

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

326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)

This source is not located in a county listed in 326 IAC 6-5-1(a) and has not added a facility with the potential to emit fugitive particulate matter greater than 25 tons per year, which requires a permit as set forth in 326 IAC 2, after December 13, 1985. Therefore, pursuant to 326 IAC 6-5-1, this source is not subject to the requirements of 326 IAC 6-5.

326 IAC 9 (Carbon Monoxide Emission Limits)

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

326 IAC 10-4 (NO_x Budget Trading Program)

The vertical shaft furnace, part of the Copper Rod and Bar Manufacturing Process, is not subject to 326 IAC 10-4-1 because it is not a "large affected unit" as defined in 326 IAC 10-4-2(27). The furnace is not a "large affected unit" because it does not have a maximum design heat input greater than two hundred fifty million (250,000,000) Btu per hour.

State Rule Applicability - Copper Rod and Bar Manufacturing Process

326 IAC 6-3-2 (Particulate Emission Limitations from Manufacturing Processes)

Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the Copper Rod and Bar Manufacturing process (P-1) shall not exceed 30.51 pounds per hour when operating at a process weight rate of 20 tons per hour.

The pound per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{emission rate in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

The Copper Rod and Bar Manufacturing process (P-1) has the potential to emit SO₂ less than 25 tons per year. Therefore, the Copper Rod and Bar Manufacturing process is not subject to the requirements of 326 IAC 7-1.1.

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

The Copper Rod and Bar Manufacturing process (P-1) has potential VOC emissions of less than 25 tons per year and was constructed prior to January 1, 1980. Therefore, the Copper Rod and Bar Manufacturing process is not subject to the requirements of 326 IAC 8-1-6.

State Rule Applicability - Alcohol Quench Process

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

The Alcohol Quench Process (AQP) (consisting of the mill emulsion and quench systems), identified as P-2, is significant source of VOC emissions. The AQP was constructed prior to January 1, 1980 and therefore is not subject to the requirements of 326 IAC 8-1-6 (BACT).

326 IAC 8-6 (Volatile Organic Compounds - Organic Solvent Emission Limitations)

The Alcohol Quench Process (AQP) commenced operation after October 7, 1974 and prior to January 1, 1980 and has the PTE greater than 100 tons of VOC per year. However, the 2-Propanol used in the AQP is not used as an organic solvent so the requirements of 326 IAC 8-6 do not apply to the AQP.

State Rule Applicability - Magnet Wire Coating Operations

326 IAC 6-3-2 (Particulate Emission Limitations from Manufacturing Processes)

Particulate emissions from the magnet wire coating operation result from the combustion of natural gas in the thermal oxidizers. The magnet wire coating operations are not subject to the requirements of 326 IAC 6-3-2 because, pursuant to 326 IAC 6-3-1(b)(14), each magnet wire emission unit emits significantly less than 0.551 pounds of particulate per hour.

326 IAC 8-2-8 (Magnet Wire Coating Operations)

All magnet wire emission units are located in Knox county and have actual pre-control VOC emissions greater than 15 pounds per day. As a result, the magnet wire emission units are subject to the requirements of 326 IAC 8-2-8.

The volatile organic compound (VOC) content of electrically insulating varnishes or enamel applied to aluminum or copper wire for use in electrical machinery shall be limited to 1.7 pounds VOC per gallon of coating less water delivered to the applicator.

This limit includes the evaporation of thinners being added to coatings to adjust viscosity, therefore, it is necessary to keep coating and solvent containers covered at all times to prevent solvent evaporation.

The integral thermal oxidizers associated with facilities 204E and 204W through 208E and 208W, 215E, 215W, 216E, and 216W shall operate with an overall efficiency of at least 96.0%.

The integral thermal oxidizers associated with facilities 301E and 301W through 316E and 316W shall operate with an overall efficiency of at least 97.8%.

The integral thermal oxidizers associated with facilities 201E, 201W, 202E, 202W, 203E, 203W, 209E and 209W through 214E and 214W shall operate with an overall efficiency of at least 96.0%.

These overall efficiencies are necessary to ensure compliance with 326 IAC 8-2-8.

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

All sixty-four (64) magnet wire emission units are subject to 326 IAC 8-2-8. Therefore, 326 IAC 8-1-6 is not applicable to these facilities.

State Rule Applicability - Storage Tanks

326 IAC 12 (Volatile Organic Storage Vessels)

Due to the revisions to 40 CFR 60, Subpart Kb on October 15, 2003, the source is no longer subject to Subpart Kb. However, 326 IAC 12 currently incorporates the July 1, 2000 version of Subpart Kb into the state regulations. Therefore, pursuant to 326 IAC 12, the permittee must keep records showing the dimensions and capacity of the 15,000 gallon mill emulsion storage tank as required in the previous version of Subpart Kb.

State Rule Applicability - Specifically Regulated Insignificant Activities

326 IAC 6-3-2 (Particulate Emission Limitations from Manufacturing Processes)

Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the insignificant welding, brazing, cutting torch, and soldering operations shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

326 IAC 8-3-2 (Cold Cleaner Operations)

The cold-cleaner degreasing operations are subject to the requirements of 326 IAC 8-3-2 because they were constructed after January 1, 1980 and are located in Knox county.

Pursuant to 326 IAC 8-3-2, the Permittee of a cold cleaner degreaser shall:

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a facility for draining cleaned parts;
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

326 IAC 8-3-5 (Volatile Organic Compounds)

The cold-cleaner degreasing operations conducted at this source, located in Knox County, were constructed after July 1, 1990. Pursuant to 326 IAC 8-3-5, the degreasing operations are subject to the requirements of this rule. Therefore, the Permittee shall ensure that the following requirements are met:

- (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF));
 - (B) The solvent is agitated; or
 - (C) The solvent is heated.
- (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
- (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
- (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
- (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9EC) (one hundred twenty degrees Fahrenheit (120EF)):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when solvent is used is insoluble in, and heavier than, water.
 - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (7) Close the cover whenever articles are not being handled in the degreaser.
- (8) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
- (9) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

326 IAC 8-9 (Volatile Organic Compounds)

None of the tanks located at this source are subject to the requirements of 326 IAC 8-9 because the source is not located in Clark, Floyd, Lake or Porter counties.

Testing Requirements

VOC emissions from the magnet wire emission units are calculated according to the methodology set out in Appendix A: Emission Calculations. In order to comply with the established requirements, the thermal oxidizers for all 64 magnet wire emission units must operate at or above the specified minimum efficiencies. Therefore, VOC performance testing is required to

verify that the oxidizers achieve the respective control efficiencies. The magnet wire emission units in Department 200 vary slightly from those Department 300. All oxidizers on the units from both departments must maintain a minimum control efficiency of at least 98.5% either to satisfy, or render not applicable, the requirements of 326 IAC 2-2. As a result, the testing listed in the permit requires testing of a representative number of Department 200 and 300 units, regardless of rule applicability. Therefore, testing is only specified in section D.1 of the permit.

The Copper Rod and Bar Manufacturing process (P-1) is subject to the requirements of 326 IAC 6-3-2. Compliance with 326 IAC 6-3-2 is expected based on emission calculations. Therefore, performance testing is not required for the Copper Rod and Bar Manufacturing process (P-1).

The Alcohol Quench Process is not subject to any emission limitations. Therefore, performance testing is not required for the Alcohol Quench Process.

Compliance Requirements

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

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

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

1. Magnet wire emission units 204E and 204W through 208E and 208W, 215E, 215W, 216E, 216W and 301E and 301W through 316E and 316W, and respective thermal oxidizers, have applicable compliance monitoring conditions as specified below:
 - (a) A continuous monitoring system shall be calibrated, maintained, and operated on the thermal oxidizer for measuring operating temperature of the integral thermal oxidizer. For the purposes of this condition, continuous monitoring shall mean no less often than once per minute. The output of this system shall be recorded as an hourly average.
 - (b) If the continuous monitoring system is not in operation, the temperature will be recorded manually once in a 15-minute period or in any other IDEM-approved manner. Nothing in this permit shall excuse the Permittee from complying with the requirement to continuously monitor the temperature of the integral thermal oxidizer.
 - (c) From the date of issuance of this permit until the results from the approved stack tests, required by Condition D.1.7, are available, the Permittee shall operate the thermal oxidizer at or above the minimum hourly average temperature of 1360°F.
 - (d) Once the results from the approved stack tests are available, the Permittee shall determine the minimum hourly average temperature that demonstrates compliance with the limits in Conditions D.1.3 and D.1.4, as approved by IDEM.

The Permittee shall then operate the thermal oxidizer at or above the minimum hourly average temperature determined from the most recent compliant stack test following approval of that temperature.

- (e) The oxidizer shall operate with a five (5) degree buffer such that if an eight-hour average temperature falls within five degrees Fahrenheit (5 °F) of the minimum required temperature, corrective action shall be performed and one-hour average temperatures shall be investigated to determine if any temperature fell below the actual minimum temperature. If a one-hour average temperature is less than the established minimum temperature, the Permittee shall take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. An hourly average temperature that is below the minimum hourly average temperature is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.
- (f) The Permittee shall determine the appropriate fan amperage from the most recent valid stack test that demonstrates compliance with the 326 IAC 2-2 limits as approved by IDEM.
- (g) The Permittee shall observe the fan amperage at least once per day when the thermal oxidizer is in operation. The oxidizer fan amperage shall be maintained within the normal range as specified by the manufacturer or as established in the most recent compliant stack test. When for any one reading, the fan amperage is outside the normal range, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. A reading that is outside the range as established in the most recent compliant stack test is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

These monitoring conditions are necessary because the oxidizers must operate properly to ensure compliance with 326 IAC 2-2 (Prevention of Significant Deterioration), and 326 IAC 8-2-8 (Magnet Wire Coating Operations).

- 2. Magnet wire emission units 201E, 201W, 202E, 202W, 203E, 203W, 209E and 209W through 214E and 214W, and respective thermal oxidizers, have applicable compliance monitoring conditions as specified below:
 - (a) A continuous monitoring system shall be calibrated, maintained, and operated on the thermal oxidizer for measuring operating temperature of the integral thermal oxidizer. For the purposes of this condition, continuous monitoring shall mean no less often than once per minute. The output of this system shall be recorded as an hourly average.
 - (b) If the continuous monitoring system is not in operation, the temperature will be recorded manually once in a 15-minute period or in any other IDEM-approved manner. Nothing in this permit shall excuse the Permittee from complying with the requirement to continuously monitor the temperature of the integral thermal oxidizer.
 - (c) From the date of issuance of this permit until the results from the approved stack tests, required by Condition D.2.7, are available, the Permittee shall operate the thermal oxidizer at or above the minimum hourly average temperature of 1360EF.
 - (d) Once the results from the approved stack tests are available, the Permittee shall determine the minimum hourly average temperature that demonstrates

compliance with the limits in Conditions D.2.3 and D.2.4, as approved by IDEM. The Permittee shall then operate the thermal oxidizer at or above the minimum hourly average temperature determined from the most recent compliant stack test following approval of that temperature.

- (e) The oxidizer shall operate with a five (5) degree buffer such that if an eight-hour average temperature falls within five degrees Fahrenheit (5 °F) of the minimum required temperature, corrective action shall be performed and one-hour average temperatures shall be investigated to determine if any temperature fell below the actual minimum temperature. If a one-hour average temperature is less than the established minimum temperature, the Permittee shall take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. An hourly average temperature that is below the minimum hourly average temperature is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.
- (f) The Permittee shall determine the appropriate fan amperage from the most recent valid stack test that demonstrates compliance with the 326 IAC 2-2 limits as approved by IDEM.
- (g) The Permittee shall observe the fan amperage at least once per day when the thermal oxidizer is in operation. The oxidizer fan amperage shall be maintained within the normal range as specified by the manufacturer or as established in the most recent compliant stack test. When for any one reading, the fan amperage is outside the normal range, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. A reading that is outside the range as established in the most recent compliant stack test is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

These monitoring conditions are necessary because the oxidizers must operate properly to ensure compliance with 326 IAC 8-2-8 (Magnet Wire Coating Operations) and render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

3. The Copper Rod and Bar Manufacturing process has applicable compliance monitoring conditions as specified below:
 - (a) Visible emission notations of the exhaust from the copper rod and bar manufacturing process (exhausting to stack S-1) shall be performed once per shift 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 these units shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

This monitoring condition is necessary to ensure compliance with 326 IAC 5-1 (Opacity) and 326 IAC 6-3-2 (Particulate Emission Limitations from Manufacturing Processes).

Compliance monitoring of the Alcohol Quench Process is not required because there are no applicable emission limitations.

Conclusion

The operation of this copper rod production and magnet wire manufacturing plant shall be subject to the conditions of the attached Part 70 Permit No. T083-7422-00008.

Appendix A: Emissions Calculations
Natural Gas Combustion from Magnet Wire Curing Ovens

Company Name: Essex Group, Inc - Vincennes
Address City IN Zip: Essex Rd., P.O. Box 259, Vincennes, IN, 47591
Part 70 permit: T083-7422-00008
Reviewer: ERG/BS
Date: 08/21/03

Aggregate Heat Input Capacity (64 units @ 1.4 MMBtu/hr each)

MMBtu/hr Potential Throughput: MMCF/yr MMCF/hr

Criteria Pollutants	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emissions (ton/yr)	2.98	2.98	0.24	39.24	2.16	32.97
PTE of ovens subject to 326 IAC 2	2.14	2.14	0.17	28.21	1.55	23.69
PTE of other ovens	0.84	0.84	0.07	11.04	0.61	9.27

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

METHODOLOGY

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu; MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4,

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

**Appendix A: Emissions Calculations
VOC and Particulate
From Wire Coating Operations**

**Company Name: Essex Group, Inc - Vincennes
Address City IN Zip: Essex Rd., P.O. Box 259, Vincennes, IN, 47591
Part 70 permit: T083-7422-00008
Reviewer: ERG/BS
Date: 08/21/03**

Unit ID*	Coating Material	Density (Lb/Gal)	Gal of Mat. (gal/lb Cu)	Maximum throughput (lb Cu/hour)**	Weight % Phenol	Weight % Cresylic Acid	Weight % Xylene	Weight % Cumene	Uncontrolled HAPs				control efficienc (%)	Potential HAPs after integral contro			
									Phenol Emissions (ton/yr)	Cresylic Acid (ton/yr)	Xylene Emission (ton/yr)	Cumene Emission (ton/yr)		Phenol Emission (ton/yr)	Cresylic Acid (ton/yr)	Xylene Emissions (ton/yr)	Cumene Emissions (ton/yr)
Dept 200	nylon top coat	8.60	0.00297	3948.0	43.60%	22.90%	0.52%	0.26%	192.57	101.14	2.28	1.14	98.5%	2.89	1.52	0.03	0.02
Group 1 EUs	polyester base coat	9.10	0.00566	3948.0	19.80%	28.33%	0.62%	0.31%	176.35	252.32	5.50	2.75	98.5%	2.65	3.78	0.08	0.04
(201E&W-	solvent blend	7.27	0.00003	3948.0	0.00%	0.00%	3.00%	1.50%	0.00	0.00	0.12	0.06	0.0%	0.00	0.00	0.12	0.06
203E&W)	dri lube topical	5.90	0.00036	3948.0	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.0%	0.00	0.00	0.00	0.00
Dept 200	nylon top coat	8.60	0.00297	6580.0	43.60%	22.90%	0.52%	0.26%	320.95	168.57	3.80	1.90	98.5%	4.81	2.53	0.06	0.03
Group 1 EUs	polyester base coat	9.10	0.00566	6580.0	19.80%	28.33%	0.62%	0.31%	293.92	420.54	9.17	4.59	98.5%	4.41	6.31	0.14	0.07
(204E&W-	solvent blend	7.27	0.00003	6580.0	0.00%	0.00%	3.00%	1.50%	0.00	0.00	0.21	0.10	0.0%	0.00	0.00	0.21	0.10
208E&W)	dri lube topical	5.90	0.00036	6580.0	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.0%	0.00	0.00	0.00	0.00
Dept 200	nylon top coat	8.60	0.00297	2108.0	43.60%	22.90%	0.52%	0.26%	102.82	54.01	1.22	0.61	98.5%	1.54	0.81	0.02	0.01
Group 2 EUs	polyester base coat	9.10	0.00566	2108.0	19.80%	28.33%	0.62%	0.31%	94.16	134.73	2.94	1.47	98.5%	1.41	2.02	0.04	0.02
(215E&W-	solvent blend	7.27	0.00003	2108.0	0.00%	0.00%	3.00%	1.50%	0.00	0.00	0.05	0.03	0.0%	0.00	0.00	0.05	0.03
216E&W)	dri lube topical	5.90	0.00036	2108.0	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.0%	0.00	0.00	0.00	0.00
Dept 200	nylon top coat	8.60	0.00297	6324.0	43.60%	22.90%	0.52%	0.26%	308.47	162.02	3.65	1.83	98.5%	4.63	2.43	0.05	0.03
Group 3 EUs	polyester base coat	9.10	0.00566	6324.0	19.80%	28.33%	0.62%	0.31%	282.48	404.18	8.82	4.41	98.5%	4.24	6.06	0.13	0.07
(209E&W-	solvent blend	7.27	0.00003	6324.0	0.00%	0.00%	3.00%	1.50%	0.00	0.00	0.16	0.08	0.0%	0.00	0.00	0.16	0.08
214E&W)	dri lube topical	5.90	0.00036	6324.0	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.0%	0.00	0.00	0.00	0.00
Dept 300	nylon top coat	8.50	0.00700	2840.0	45.40%	15.20%	18.19%	0.15%	336.02	112.50	134.64	1.08	98.5%	5.04	1.69	2.02	0.02
Group 1 EUs	urethane base coat	8.43	0.01010	2840.0	23.40%	10.80%	0.02%	0.59%	247.83	114.38	0.22	6.20	98.5%	3.72	1.72	0.00	0.09
(301-304,	solvent blend	7.60	0.00004	2840.0	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.0%	0.00	0.00	0.00	0.00
307E&W)	dri lube topical	5.90	0.00049	2840.0	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.0%	0.00	0.00	0.00	0.00
Dept 300	nylon top coat	8.50	0.00700	6248.0	45.40%	15.20%	18.19%	0.15%	739.24	247.50	296.20	2.37	98.5%	11.09	3.71	4.44	0.04
Group 2 EUs	urethane base coat	8.43	0.01010	6248.0	23.40%	10.80%	0.02%	0.59%	545.23	251.64	0.49	13.63	98.5%	8.18	3.77	0.01	0.20
(305,306,	solvent blend	7.60	0.00004	6248.0	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.0%	0.00	0.00	0.00	0.00
308E&W-316E&W)	dri lube topical	5.90	0.00049	6248.0	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0%	0.00	0.00	0.00	0.00

** The copper throughput listed represents the copper throughput of one unit of that production group multiplied by the number of units in that group
Individual HAP Total PTE

54.60 36.35 7.58 0.90

Total HAP Total PTE

99.43

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

Appendix A: Emissions Calculations
Determination of minimum control efficiency necessary to comply with 326 IAC 8-2-8

Company Name: Essex Group, Inc - Vincennes
Address City IN Zip: Essex Rd., P.O. Box 259, Vincennes, IN, 47591
Part 70 permit: T083-7422-00008
Reviewer: ERG/BS
Date: 08/21/03

Unit ID*	Coating Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/lb Cu)	Maximum throughput (lb Cu/hour)**	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Uncontrolled VOC PTE (ton/yr)	lb VOC/ gal solids	Control efficiency required to comply with 326 IAC 8-2-8 (%)
Dept 200	nylon top coat	8.60	83.70%	0.2%	83.5%	0.2%	13.07%	0.00297	3948.0	7.20	7.18	84.23	2021.63	368.95	54.96	95.98%
Group 1 EUs	polyester base coat	9.10	69.90%	0.1%	69.8%	0.2%	21.40%	0.00566	3948.0	6.36	6.35	141.85	3404.49	621.32	29.66	92.55%
(201E&W-	solvent blend	7.27	100.00%	0.2%	99.8%	0.2%	0.00%	0.00003	3948.0	7.27	7.26	0.74	17.87	3.26	#DIV/0!	0.0%
203E&W)	dri lube topical	5.90	98.80%	0.2%	98.6%	0.1%	0.92%	0.00036	3948.0	5.83	5.82	8.29	198.99	36.32	632.34	0.0%
Dept 200	nylon top coat	8.60	83.70%	0.2%	83.5%	0.2%	13.07%	0.00297	6580.0	7.20	7.18	140.39	3369.38	614.91	54.96	95.98%
Group 1 EUs	polyester base coat	9.10	69.90%	0.1%	69.8%	0.2%	21.40%	0.00566	6580.0	6.36	6.35	236.42	5674.16	1035.53	29.66	92.55%
(204E&W-	solvent blend	7.27	100.00%	0.2%	99.8%	0.2%	0.00%	0.00003	6580.0	7.27	7.26	1.24	29.79	5.44	#DIV/0!	0.0%
208E&W)	dri lube topical	5.90	98.80%	0.2%	98.6%	0.1%	0.92%	0.00036	6580.0	5.83	5.82	13.82	331.65	60.53	632.34	0.0%
Dept 200	nylon top coat	8.60	83.70%	0.2%	83.5%	0.2%	13.07%	0.00297	2108.0	7.20	7.18	44.98	1079.43	197.00	54.96	95.98%
Group 2 EUs	polyester base coat	9.10	69.90%	0.1%	69.8%	0.2%	21.40%	0.00566	2108.0	6.36	6.35	75.74	1817.80	331.75	29.66	92.55%
(215E&W-	solvent blend	7.27	100.00%	0.2%	99.8%	0.2%	0.00%	0.00003	2108.0	7.27	7.26	0.40	9.54	1.74	#DIV/0!	0.0%
216E&W)	dri lube topical	5.90	98.80%	0.2%	98.6%	0.1%	0.92%	0.00036	2108.0	5.83	5.82	4.43	106.25	19.39	632.34	0.0%
Dept 200	nylon top coat	8.60	83.70%	0.2%	83.5%	0.2%	13.07%	0.00297	6324.0	7.20	7.18	134.93	3238.29	590.99	54.96	95.98%
Group 3 EUs	polyester base coat	9.10	69.90%	0.1%	69.8%	0.2%	21.40%	0.00566	6324.0	6.36	6.35	227.23	5453.40	995.25	29.66	92.55%
(209E&W-	solvent blend	7.27	100.00%	0.2%	99.8%	0.2%	0.00%	0.00003	6324.0	7.27	7.26	1.19	28.63	5.23	#DIV/0!	0.0%
214E&W)	dri lube topical	5.90	98.80%	0.2%	98.6%	0.1%	0.92%	0.00036	6324.0	5.83	5.82	13.28	318.75	58.17	632.34	0.0%
Dept 300	nylon top coat	8.50	87.80%	0.2%	87.6%	0.2%	7.57%	0.00700	2840.0	7.46	7.45	148.07	3553.61	648.53	98.39	97.75%
Group 1 EUs	urethane base coat	8.43	70.90%	0.1%	70.8%	0.1%	21.89%	0.01010	2840.0	5.97	5.96	171.10	4106.33	749.41	27.25	91.89%
(301-304,	solvent blend	7.60	100.00%	0.2%	99.8%	0.2%	0.00%	0.00004	2840.0	7.60	7.58	0.86	20.68	3.77	#DIV/0!	0.0%
307E&W)	dri lube topical	5.90	98.80%	0.2%	98.6%	0.1%	0.92%	0.00049	2840.0	5.83	5.82	8.10	194.30	35.46	632.34	0.0%
Dept 300	nylon top coat	8.50	87.80%	0.2%	87.6%	0.2%	7.57%	0.00700	6248.0	7.46	7.45	325.75	7817.94	1426.77	98.39	97.75%
Group 2 EUs	urethane base coat	8.43	70.90%	0.1%	70.8%	0.1%	21.89%	0.01010	6248.0	5.97	5.96	376.41	9033.93	1648.69	27.25	91.89%
(305,306,	solvent blend	7.60	100.00%	0.2%	99.8%	0.2%	0.00%	0.00004	6248.0	7.60	7.58	1.90	45.49	8.30	#DIV/0!	0.0%
308E&W-316E&W)	dri lube topical	5.90	98.80%	0.2%	98.6%	0.1%	0.92%	0.00049	6248.0	5.83	5.82	17.81	427.45	78.01	632.34	0.0%

State Potential Emissions

* Each Emission Unit (EU) as denoted by the source, consists of a combination of equipment: annealer (shared by E&W units), enamel applicator, curing oven, wire cooler, and topical lube applicator.

** The copper throughput listed represents the total copper throughput of all the units in that group.

Note: The emissions calculated using this spreadsheet represent emissions from only the respective coating operations from each EU. The emissions resulting from curing oven and thermal oxidizer firing are included on another page.

All coatings represent the worst case use scenario

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/lb Cu) * Maximum (lb Cu/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/lb) * Maximum (lb/hr) * (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/lb) * Maximum (lb/hr) * (8760 hr/yr) * (1 ton/2000 lbs)

Particulate Potential Tons per Year = (lb/hour) * (gal/lb) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) * (8760 hrs/yr) * (1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

Required Control Efficiency (%) = (Pounds VOC per Gallon of Solids (lb VOC/ gal S) - 2.21) / Pounds VOC per Gallon of Solids (lb VOC/ gal S)

Total = Worst Coating + Sum of all solvents used

Appendix A: Emissions Calculations

VOC and Particulate

From Wire Coating Operations

Company Name: Essex Group, Inc - Vincennes
 Address City IN Zip: Essex Rd., P.O. Box 259, Vincennes, IN, 47591
 Part 70 permit: T083-7422-00008
 Reviewer: ERG/BS
 Date: 08/21/03

Unit ID*	Coating Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/lb Cu)	Maximum throughput (lb Cu/hour)**	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Uncontrolled VOC PTE (ton/yr)	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency	Control efficiency (%)	Controlled VOC PTE (ton/yr)													
Dept 200	nylon top coat	8.60	83.70%	0.2%	83.5%	0.2%	13.07%	0.00297	3948.0	7.20	7.18	84.23	2021.63	368.95	0.00	54.96	100%	98.50%	5.53													
Group 1 EUs	polyester base coat	9.10	69.90%	0.1%	69.8%	0.2%	21.40%	0.00566	3948.0	6.36	6.35	141.85	3404.49	621.32	0.00	29.66	100%	98.50%	9.32													
(201E&W-	solvent blend	7.27	100.00%	0.2%	99.8%	0.2%	0.00%	0.00003	3948.0	7.27	7.26	0.74	17.87	3.26	0.00	#DIV/0!	100%	0.0%	3.26													
203E&W)	dri lube topical	5.90	98.80%	0.2%	98.6%	0.1%	0.92%	0.00036	3948.0	5.83	5.82	8.29	198.99	36.32	0.00	632.34	100%	0.0%	36.32													
Dept 200	nylon top coat	8.60	83.70%	0.2%	83.5%	0.2%	13.07%	0.00297	6580.0	7.20	7.18	140.39	3369.38	614.91	0.00	54.96	100%	98.50%	9.22													
Group 1 EUs	polyester base coat	9.10	69.90%	0.1%	69.8%	0.2%	21.40%	0.00566	6580.0	6.36	6.35	236.42	5674.16	1035.53	0.00	29.66	100%	98.50%	15.53													
(204E&W-	solvent blend	7.27	100.00%	0.2%	99.8%	0.2%	0.00%	0.00003	6580.0	7.27	7.26	1.24	29.79	5.44	0.00	#DIV/0!	100%	0.0%	5.44													
208E&W)	dri lube topical	5.90	98.80%	0.2%	98.6%	0.1%	0.92%	0.00036	6580.0	5.83	5.82	13.82	331.65	60.53	0.00	632.34	100%	0.0%	60.53													
Dept 200	nylon top coat	8.60	83.70%	0.2%	83.5%	0.2%	13.07%	0.00297	2108.0	7.20	7.18	44.98	1079.43	197.00	0.00	54.96	100%	98.50%	2.95													
Group 2 EUs	polyester base coat	9.10	69.90%	0.1%	69.8%	0.2%	21.40%	0.00566	2108.0	6.36	6.35	75.74	1817.80	331.75	0.00	29.66	100%	98.50%	4.98													
(215E&W-	solvent blend	7.27	100.00%	0.2%	99.8%	0.2%	0.00%	0.00003	2108.0	7.27	7.26	0.40	9.54	1.74	0.00	#DIV/0!	100%	0.0%	1.74													
216E&W)	dri lube topical	5.90	98.80%	0.2%	98.6%	0.1%	0.92%	0.00036	2108.0	5.83	5.82	4.43	106.25	19.39	0.00	632.34	100%	0.0%	19.39													
Dept 200	nylon top coat	8.60	83.70%	0.2%	83.5%	0.2%	13.07%	0.00297	6324.0	7.20	7.18	134.93	3238.29	590.99	0.00	54.96	100%	98.50%	8.86													
Group 3 EUs	polyester base coat	9.10	69.90%	0.1%	69.8%	0.2%	21.40%	0.00566	6324.0	6.36	6.35	227.23	5453.40	995.25	0.00	29.66	100%	98.50%	14.93													
(209E&W-	solvent blend	7.27	100.00%	0.2%	99.8%	0.2%	0.00%	0.00003	6324.0	7.27	7.26	1.19	28.63	5.23	0.00	#DIV/0!	100%	0.0%	5.23													
214E&W)	dri lube topical	5.90	98.80%	0.2%	98.6%	0.1%	0.92%	0.00036	6324.0	5.83	5.82	13.28	318.75	58.17	0.00	632.34	100%	0.0%	58.17													
Dept 300	nylon top coat	8.50	87.80%	0.2%	87.6%	0.2%	7.57%	0.00700	2840.0	7.46	7.45	148.07	3553.61	648.53	0.00	98.39	100%	98.50%	9.73													
Group 1 EUs	urethane base coat	8.43	70.90%	0.1%	70.8%	0.1%	21.89%	0.01010	2840.0	5.97	5.96	171.10	4106.33	749.41	0.00	27.25	100%	98.50%	11.24													
(301-304,	solvent blend	7.60	100.00%	0.2%	99.8%	0.2%	0.00%	0.00004	2840.0	7.60	7.58	0.86	20.68	3.77	0.00	#DIV/0!	100%	0.0%	3.77													
307E&W)	dri lube topical	5.90	98.80%	0.2%	98.6%	0.1%	0.92%	0.00049	2840.0	5.83	5.82	8.10	194.30	35.46	0.00	632.34	100%	0.0%	35.46													
Dept 300	nylon top coat	8.50	87.80%	0.2%	87.6%	0.2%	7.57%	0.00700	6248.0	7.46	7.45	325.75	7817.94	1426.77	0.00	98.39	100%	98.50%	21.40													
Group 2 EUs	urethane base coat	8.43	70.90%	0.1%	70.8%	0.1%	21.89%	0.01010	6248.0	5.97	5.96	376.41	9033.93	1648.69	0.00	27.25	100%	98.50%	24.73													
(305,306,	solvent blend	7.60	100.00%	0.2%	99.8%	0.2%	0.00%	0.00004	6248.0	7.60	7.58	1.90	45.49	8.30	0.00	#DIV/0!	100%	0.0%	8.30													
308E&W-316E&W)	dri lube topical	5.90	98.80%	0.2%	98.6%	0.1%	0.92%	0.00049	6248.0	5.83	5.82	17.81	427.45	78.01	0.00	632.34	100%	0.0%	78.01													
TOTAL															0.00																	454.05

State Potential Emissions

* Each Emission Unit (EU) as denoted by the source, consists of a combination of equipment: annealer (shared by E&W units), enamel applicator, curing oven, wire cooler, and topical lube applicator.

** The copper throughput listed represents the total copper throughput of all the units in that group.

The estimated control efficiency of the thermal oxidizers is at least 98.5%.

Note: The emissions calculated using this spreadsheet represent emissions from only the respective coating operations from each EU. The emissions resulting from curing oven and thermal oxidizer firing are included on another page.

All coatings represent the worst case use scenario

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/lb Cu) * Maximum (lb Cu/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/lb) * Maximum (lb/hr) * (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/lb) * Maximum (lb/hr) * (8760 hr/yr) * (1 ton/2000 lbs)

Particulate Potential Tons per Year = (lb/hour) * (gal/lb) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

Total = Worst Coating + Sum of all solvents used

Appendix A: Emissions Calculations

Alcohol Quench Process

Company Name: Essex Group, Inc - Vincennes
Address City IN Zip: Essex Rd., P.O. Box 259, Vincennes, IN, 47591
Part 70 permit: T083-7422-00008
Reviewer: ERG/BS
Date: 08/21/03

Alcohol Quenching and Mill Emulsion						
TYPE OF MATERIAL	Maximum operating hours			Control Efficiency		
2-PROPANOL	8760			0.0%		
	PM	PM10	SOx	NOx	VOC *	CO
	lbs/hr	lbs/hr	lbs/hr	lbs/hr	lbs/hr	lbs/hr
	-	-	-	-	300	-
Potential Emissions (lbs/hr)	0.0	0.0	0.0	0.0	300.00	0.0
Potential Emissions (tons/year)	0.00	0.00	0.00	0.00	1314.00	0.00
Controlled Potential Emissions (tons/year)	0.00	0.00	0.00	0.00	1314.00	0.00

* Emission factor provided by source based on mass balance calculations.

Emissions from the storage tanks have been accounted for in the emissions from the alcohol quenching and emulsion.

METHODOLOGY

Potential Emissions (tpy) = VOC throughput (lb/hr) x 8760 (hr/yr) x 1/2000 (ton/lb)

Controlled Emissions (tpy) = Potential Emissions (tpy) x (1- Control Efficiency (%)/100)

Appendix A: Emissions Calculations
Emissions from Copper Rod and Bar Production (091 Line)
Company Name: Essex Group, Inc - Vincennes
Address City IN Zip: Essex Rd., P.O. Box 259, Vincennes, IN, 47591
Part 70 permit: T083-7422-00008
Reviewer: ERG/BS
Date: 08/21/03

Foundry Emissions (foundry emissions from vertical shaft furnace and soot emissions from casting)						
TYPE OF MATERIAL	Control	Production Capacity				
		ton/hr				
Pure Copper Cathode	none	20				
	PM *	PM10 *	SOx	NOx	VOC	CO
	lbs/ton Produced	lbs/ton Produced	lbs/ton Produced	lbs/ton Produced	lbs/ton Produced	lbs/tons Produced
	0.175	0.149	-	-	-	-
Uncontrolled PTE (lbs/hr)	3.5	3.0	0.0	0.0	0.0	0.0
Uncontrolled PTE (lbs/day)	84.0	71.5	0.0	0.0	0.0	0.0
Uncontrolled PTE (ton/yr)	15.3	13.1	0.0	0.0	0.0	0.0
Natural Gas Combustion (from melt furnace, tundish, launders, and holding furnace)						
	Aggregate Heat Input Capacity					
		MMBtu/hr	MMBtu/MMCF			
	PM *	PM10 *	SOx ***	NOx ***	VOC ***	CO***
	lb/MMCF	lb/MMCF	lb/MMCF	lb/MMCF	lb/MMCF	lb/MMCF
	-	-	0.60	100	5.5	84
Uncontrolled PTE (lbs/hr)	0.00	0.00	0.02	2.94	0.16	2.47
Uncontrolled PTE (lbs/day)	0.00	0.00	0.42	70.59	3.88	59.29
Uncontrolled PTE (ton/yr)	0.00	0.00	0.08	12.88	0.71	10.82
TOTAL Potential to Emit (ton/yr)	15.33	13.05	0.08	12.88	0.71	10.82

* Emission factors provided by the source based on results from stack testing.

*** Emission Factors from AP-42, 5th Ed, Ch 1.4

APPENDIX C

BEST AVAILABLE CONTROL TECHNOLOGY (BACT) DETERMINATION - PRELIMINARY

Source Background and Description

Source Name: Essex Group, Inc.- Vincennes plant
Source Location: 1299 East Essex Road, Vincennes, IN, 47591
County: Knox
SIC Code: 3351 and 3357
Operation Permit No.: T083-7422-00008
Permit Reviewer: ERG/BS

The Indiana Department of Environmental Management (IDEM) Office of Air Quality (OAQ) has performed the following federal BACT (Best Available Control Technology) review for the following magnet wire emission units owned and operated by Essex Group, Inc. ("Essex"), located in Vincennes, Indiana:

- (a) Four (4) Department 200, Group 2, Emission Units, identified as units 215E, 215W, 216E, 216W, each constructed in 1997. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (b) Twelve (12) Department 300, Emission Units, identified as units 305E, 305W, 306E, 306W, 309E, 309W, 310E, 310W, 311E, 311W, 312E, and 312W, each constructed in 1996. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 284 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (c) Eight (8) Department 300, Emission Units, identified as units 313E, 313W, 314E, 314W, 315E, 315W, 316E, and 316W constructed in 1997. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 284 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (d) Four (4) Department 200, Group 1, Emission Units, identified as units 207E, 207W, 208E, 208W, constructed in 1994. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (e) Six (6) Department 200, Group 1, Emission Units, identified as units 204E, 204W, 205E, 205W, 206E, and 206W, each constructed in 1995. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.

- (f) Eight (8) Department 300, Emission Units, identified as units 301E, 301W, 302E, 302W, 303E, 303W, 304E, and 304W constructed in 1994. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 284 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (g) Four (4) Department 300, Emission Units, identified as units 307E, 307W, 308E, and 308W constructed in 1995. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 284 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.

The source is located in Knox County which is designated as attainment or unclassifiable for all criteria pollutants. The magnet wire emission units listed above were constructed as older units failed from 1994 to 1997. Considering all units that were constructed in a given calendar year as a single modification, Essex completed four modifications from 1994 to 1997, each with a net emissions increase greater than 40 tons of VOC per year; the PSD significant threshold level for VOC. See Appendix B for a detailed PSD netting analysis.

Because the VOC emissions from each modification are greater than the respective significance threshold for PSD, the aforementioned units were reviewed pursuant to the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) which requires the evaluation of BACT (Best Available Control Technology). BACT is an emission limitation based on the maximum degree of reduction of each pollutant subject to the PSD requirements. IDEM conducts BACT analyses in accordance with the *"Top-Down" Best Available Control Technology Guidance Document* outlined in the 1990 draft USEPA *New Source Review Workshop Manual*, which outlines the steps for conducting a top-down BACT analysis. Those steps are listed below.

- (1) Identify all potentially available control options;
- (2) Eliminate technically infeasible control options;
- (3) Rank remaining control technologies by control effectiveness;
- (4) Evaluate the most effective controls and document the results; and
- (5) Select BACT.

In accordance with the *"Top-Down" Best Available Control Technology Guidance Document* outlined in the 1990 draft USEPA *New Source Review Workshop Manual*, BACT analyses take into account the energy, environmental, and economic impacts on the source. These reductions may be determined through the application of available control techniques, process design, and/or operational limitations. Such reductions are necessary to demonstrate that the emissions remaining after application of BACT will not cause or contribute to air pollution thereby protecting public health and the environment.

The following BACT determination is based on the following information:

- (1) The PSD permit application submitted by Essex Group, Inc. on September 16, 2003;
- (2) Results from stack testing on representative emission units at the Vincennes plant completed in May, 1999 ;
- (3) The EPA RACT/BACT/LAER (RBL) Clearinghouse; and

- (4) Permit requirements of other magnet wire production facilities.

Process and Emissions Description

Each magnet wire emission unit consists of an enamel applicator, drying/curing oven, wire cooler, and topical lube applicator. Each pair of magnet wire emission units, units which share the same numerical ID number, share a wire annealer and thermal oxidizer. Wire from the annealer is sent to the enamel applicator where the wire is coated. The coated wire then passes to a drying/curing oven equipped with an integral thermal oxidizer (see the Existing Approvals section of the TSD for a justification of the integral nature of the thermal oxidizers). VOC emissions generated by the magnet wire emission units result from the evaporation of the VOC present in the enamel coatings during drying/curing. The oven drying/curing operation is totally enclosed, as defined by Method 204 of 40 CFR Part 51 Appendix M, which allows for complete capture of the VOC emissions. The majority of the VOC emissions are subsequently destroyed in the integral thermal oxidizer which serves to satisfy the heat requirement of the oven and function as a control device.

Step 1 - Identify Control Options

The following technologies were identified as potentially available options that could be used to control VOC emissions from the magnet wire emission units. IDEM and the source: searched EPA’s RACT/BACT/LAER Clearinghouse (RBLC), reviewed permits of nearly identical sources, and obtained copies of stack test results completed by the source to produce this list of technologies.

SIC Code	Source Name (location)	RBLC ID or Permit Number	Process	Technology	Control Efficiency
3357	Essex Group - Vincennes (Vincennes, IN)	NA (from stack testing)	Magnet wire curing	Integral thermal oxidization	greater than 98.5%
3357	Essex Group - Vincennes (Vincennes, IN)	CP 083-8303-00008	Magnet wire curing	Integral thermal oxidization	98.5%
3357	Essex Group - Vincennes (Vincennes, IN)	CP 083-5312-00008	Magnet wire curing	Integral thermal oxidization	98.5%
3357	Rea Magnet Wire Company (Lafayette, IN)	T 157-6960-00032	Magnet wire curing	Integral thermal oxidization	98.5%
3357	Phelps Dodge Magnet Wire Company (Fort Wayne, IN)	T 003-6925-00013	Magnet wire curing	Integral thermal oxidization	96.7%
3357	Essex Group - Franklin (Franklin, TN)	LAER TN-0022	Magnet wire curing	Incineration using an afterburner	95%
3357	Essex Group - Franklin (Franklin, TN)	LAER TN-0120	Magnet wire curing	Thermal Oxidization	87%

Step 2 - Eliminate technically infeasible control options

As with all baking/curing operations, the temperature used to cure the product must be high enough to ensure product quality (e.g. the enamel is not “sticky”) but low enough to ensure that the coating is not damaged (e.g. the enamel is not burned or “coked”). The use of integral thermal oxidization at a destruction efficiency of greater than 98.5% is not technically feasible because the oven temperatures that would result from the operation of the integral thermal

oxidizers at that destruction efficiency would potentially damage the coatings and compromise product quality. An efficiency of greater than 98.5% was achieved during the stack tests at the Essex plant by using worst-case, atypical (relatively high VOC) coatings on scrap wire. The relatively high VOC content of the coatings used during testing generated higher concentrations of VOC in the air stream and consequently allowed for a higher destruction efficiency that could not be met during normal operation.

Step 3 - Rank remaining control technologies by control effectiveness

The remaining technically feasible options for controlling VOC emissions from the magnet wire emission units are:

- (1) Integral Thermal Oxidization, 98.5% efficient;
- (2) Integral Thermal Oxidization, 96.7% efficient;
- (3) Incineration with an Afterburner, 95% efficient; and
- (4) Non-integral Thermal Oxidization, 87% efficient.

Step 4 - Evaluate the most effective controls and document results

Integral thermal oxidization, operating with a 98.5% destruction efficiency, is the best (greatest emission reduction potential) technically feasible control option. Since this option is currently employed by Essex as required by existing permit requirements, economic and energy analyses are not necessary to evaluate its emission potential or economic impact. The use of integral thermal oxidization will result in a potential VOC emission reduction of 6229.15 tons per year based on an overall control efficiency of 98.5% (100% capture and 98.5% destruction). The potential post-BACT VOC emission rate from the respective magnet wire emission units is 295 tons per year [94.9 tons from the post-BACT control of coatings used prior to drying/curing (topcoats and base coats) + 199.5 tons from uncontrolled emissions used after drying/curing (topical lubricant and solvents)]. In order to quantify and ensure this level of control, the total VOC input to the affected units has been limited in addition to the control efficiency.

Step 5 - Select BACT

Based on the considerations mentioned above, IDEM has determined that BACT for magnet wire emission units, 204E and 204W through 208E and 208W, 215E, 215W, 216E, 216W and 301E and 301W through 316E and 316W, located at Essex Group, Inc. - Vincennes, is the following:

- (a) The integral thermal oxidizers shall control VOC emissions from the magnet wire emission units and achieve a minimum one-hundred percent (100%) capture efficiency (as defined by Method 204 of 40 CFR Part 52, Appendix M) and ninety-eight and five tenths percent (98.5%) destruction efficiency.
- (b) The total VOC delivered by the coating applicators prior to drying/curing with integral thermal oxidization shall not exceed 6324 tons per twelve consecutive month period with compliance determined at the end of each month.
- (c) The total VOC input used after the drying/curing with integral thermal oxidization shall not exceed 199.5 tons per twelve consecutive month period with compliance determined at the end of each month.
- (d) The total VOC emissions shall not exceed 295 tons per year. Compliance with (a) through (c) above will ensure compliance with this limit.

Compliance with these limitations will satisfy the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration).

Appendix B: Essex Vincennes PSD Netting Analysis

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The following chart provides a retroactive PSD netting analysis for the replacement of all 64 magnet wire curing ovens at the Essex Vincennes plant. For the purposes of this review, each "modification" is defined as all of the oven replacements that occurred during the respective calendar year.

	1989 ⁽³⁾	1993 ⁽³⁾	1994	1995	1996	1997	1998 ⁽⁴⁾
VOC PTE of modification (ton/yr)	14.53	29.07	77.23	67.68	72.25	77.23	<40
Actual VOC emissions from removed ovens (ton/yr)	NA	-15.22	-51.21	-43.10	-50.26	-50.65	-
Creditable contemporaneous VOC increases (ton/yr) ⁽¹⁾	-	-	43.60	106.30	173.98	246.24	-
Creditable contemporaneous VOC decreases (ton/yr) ⁽²⁾	-	-	-15.22	-66.43	-109.53	-159.79	-
Net change in emissions (VOC) (ton/yr)	-	-	54.40	64.45	86.44	113.03	-
PSD major threshold (VOC) (ton/yr)	40	40	40	40	40	40	40

NA - Not available

The contemporaneous time period used in this analysis is 5 years - the year in question (e.g. 1997) and the four years prior (e.g. 1993 - 1996).

(1) The creditable contemporaneous increases are equal to the aggregate VOC PTE of the modifications completed for the previous four years. (For example, the creditable contemporaneous increases for 1997 are equal to the total VOC PTE of the modifications from 1993 - 1996.)

(2) The creditable contemporaneous decreases is equal to the aggregate actual emissions of the ovens replaced during the previous four years. (For example, the creditable contemporaneous decreases for 1997 is equal to the sum of the actual emissions from the ovens removed from 1993 to 1996.)

(3) The replacement of ovens in 1989 and 1993 are not considered major modifications because the aggregate PTE of the ovens constructed each year was less than 40 tons VOC per year. As a result, a PSD netting analysis is not completed for those years. Note that the actual emissions associated with the replacement of the 1993 ovens is accounted for in the netting analyses for 1994 through 1997. See the 'emissions summary' worksheet for more information.

(4) The oven replacements that occurred after 1997 were not included in netting analysis because the source acquired a permit (CP 083-8303-00008, issued August 27, 1997) for those replacements. Note that a netting analysis was not completed in that permit because the permit included a VOC input limit which limited the net emissions increase of the modification to less than 40 tons per year. See the 'emissions summary' worksheet for more information.

The source has not added or removed any units, besides the ovens in question, during the time period under review. Therefore, there are no other contemporaneous increases or decreases to consider.

Appendix B: Essex Vincennes PSD Netting Analysis

The Vincennes' plant VOC PTE increased from 1989 to 1998. This increase was the result of two activities: 1) the replacement of all 64 magnet wire curing ovens, and 2) a permitted increase in the magnet wire production capacity of units 201E/W through 208E/W.

PTE (per oven) of replacement Group I Dept 200 ovens (201E/W - 208 E/W, 215E/W- 216E/W) = 7.27
 PTE of replacement Group II Dept 200 ovens (209E/W & 214E/W) = Limited by CP³
 PTE of increased capacity of certain Group I Dept 200 ovens (201E/W & 208E/W) = Limited by CP³
 PTE (per oven) of replacement Dept 300 ovens (301E/W - 316E/W) = 6.02
 Note that the PTE of the ovens vary as the capacities of the ovens vary. See 'PTE' sheet for calculations.

REPLACEMENT YEAR	Oven ID	Actual Start-Up Date ⁴	VOC PTE (new oven) ¹	VOC AE (actuals from old oven) ²
1989	201E	10/20/1989	7.27	not provided (assume zero as worst case)
	201W	10/20/1989	7.27	
1993	202E	Sep-93	7.27	3.81
	202W	Sep-93	7.27	3.81
	203E	Sep-93	7.27	3.81
	203W	Sep-93	7.27	3.81
1994	207E	Aug-94	7.27	4.27
	207W	Aug-94	7.27	4.27
	208E	Aug-94	7.27	4.27
	208W	Aug-94	7.27	4.27
	301E	11/21/1994	6.02	4.27
	301W	11/21/1994	6.02	4.27
	302E	11/26/1994	6.02	4.27
	302W	11/26/1994	6.02	4.27
	303E	1/10/1995	6.02	4.27
	303W	1/10/1995	6.02	4.27
	304E	1/6/1995	6.02	4.27
	304W	1/6/1995	6.02	4.27
1995	205E	7/15/1995	7.27	4.31
	205W	7/15/1995	7.27	4.31
	206E	7/15/1995	7.27	4.31
	206W	7/15/1995	7.27	4.31
	307E	8/29/1995	6.02	4.31
	307W	8/29/1995	6.02	4.31
	308E	8/29/1995	6.02	4.31
	308W	8/29/1995	6.02	4.31
	204E	11/30/1995	7.27	4.31
	204W	11/30/1995	7.27	4.31
1996	305E	8/1/1996	6.02	4.19
	305W	8/1/1996	6.02	4.19
	306E	8/1/1996	6.02	4.19
	306W	8/1/1996	6.02	4.19
	309E	9/15/1996	6.02	4.19
	309W	9/15/1996	6.02	4.19
	310E	9/21/1996	6.02	4.19
	310W	9/21/1996	6.02	4.19
	312E	12/28/1996	6.02	4.19
	312W	12/28/1996	6.02	4.19
	311E	1/3/1997	6.02	4.19
	311W	1/3/1997	6.02	4.19

Appendix B: Essex Vincennes PSD Netting Analysis

REPLACEMENT YEAR	Oven ID	Actual Start-Up Date	VOC PTE (new oven) ¹	VOC AE (actuals from old oven) ²
1997	215E	3/10/1997	7.27	4.22
	215W	3/10/1997	7.27	4.22
	216E	3/10/1997	7.27	4.22
	216W	3/10/1997	7.27	4.22
	313E	5/27/1997	6.02	4.22
	313W	5/27/1997	6.02	4.22
	314E	5/27/1997	6.02	4.22
	314W	5/27/1997	6.02	4.22
	315E	8/28/1997	6.02	4.22
	315W	8/28/1997	6.02	4.22
	316E	8/28/1997	6.02	4.22
	316W	8/28/1997	6.02	4.22
1998³	213E	2/16/1998	Limited by CP 8303	Accounted for in CP 8303
	213W	2/16/1998		
	214E	2/16/1998		
	214W	2/16/1998		
	211E	9/22/1998		
	211W	9/22/1998		
	212E	9/25/1998		
	212W	9/25/1998		
	210E	1/10/1999		
	210W	1/10/1999		
	209E	1/12/1999		
	209W	1/12/1999		
	capacity increase of 205E/W - 208E/W	9/1997		
	capacity increase of 201E/W - 204E/W	3/98-6/98		

1- Determined by ERG. Based on standard surface coating methodology and 98.5% (as permitted) integral control.

2- Provided by the source. Based on actual VOC usage and 95% integral control. The thermal oxidizers used to control emissions on the old ovens were not as efficient as the oxidizers now used on the new ovens. See 'AEI' tab for calculations.

3- Units 201E/W-208E/W were replaced prior to 1997. CP 089-8303-000083 permitted a modification to the existing source. The modification consisted of: 1) the replacement of ovens 209E/W-214E/W, and 2) an increase in capacity for 201E/W-208E/W. A VOC input limit was placed on all of the ovens involved in the modification such that the net emissions increase of the modification was limited to less than 40 tpy to render the requirements of PSD not applicable. This modification was started in 1997 and finished in 1999 with the majority of the modification completed in 1998.

4- Some of the units' exact start up dates are not known. Units that fall into that category have dates listed as text and only the month and year are indicated. The replacement of several ovens began at the end of one year and start up commenced soon after the beginning of the next year. Units that fall into this category are listed under the year during which construction began.

APPENDIX D

BEST AVAILABLE CONTROL TECHNOLOGY (BACT) DETERMINATION - FINAL

Source Background and Description

Source Name: Essex Group, Inc.- Vincennes plant
 Source Location: 1299 East Essex Road, Vincennes, IN, 47591
 County: Knox
 SIC Code: 3351 and 3357
 Operation Permit No.: T083-7422-00008
 Permit Reviewer: ERG/BS

The Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) has performed the following federal BACT (Best Available Control Technology) review for the following magnet wire emission units owned and operated by Essex Group, Inc. ("Essex"), located in Vincennes, Indiana:

Magnet Wire Production - Department 200

- (a) Two (2) Department 200 Emission Units, identified as units 201E and 201W, each constructed in 1989 and modified in 1998. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (b) Four (4) Department 200 Emission Units, identified as units 202E, 202W, 203E, and 203W, each constructed in 1993 and modified in 1998. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (c) Six (6) Department 200 Emission Units, identified as units 204E, 204W, 205E, 205W, 206E, and 206W, each constructed in 1995 and modified in 1997 or 1998. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator. 204E, 204W, 205W, and 205W each use an separate annealer, whereas 206E and 206W share an annealer. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (d) Four (4) Department 200 Emission Units, identified as units 207E, 207W, 208E, 208W, constructed in 1994 and modified in 1997. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 658 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (e) Twelve (12) Department 200 Emission Units, identified as units 209E, 209W, 210E, 210W, 211E, 211W, 212E, 212W, 213E, 213W, 214E, 214W, each constructed in 1998. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing

system. Each unit has a maximum copper wire producing capacity of 527 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.

- (f) Four (4) Department 200 Emission Units, identified as units 215E, 215W, 216E, 216W, each constructed in 1997. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 527 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.

Magnet Wire Production - Department 300

- (g) Eight (8) Department 300 Emission Units, identified as units 301E, 301W, 302E, 302W, 303E, 303W, 304E, and 304W constructed in 1994. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 284 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (h) Twelve (12) Department 300 Emission Units, identified as units 305E, 305W, 306E, 306W, 309E, 309W, 310E, 310W, 311E, 311W, 312E, and 312W, each constructed in 1996. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 284 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (i) Four (4) Department 300 Emission Units, identified as units 307E, 307W, 308E, and 308W constructed in 1995. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 284 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.
- (j) Eight (8) Department 300 Emission Units, identified as units 313E, 313W, 314E, 314W, 315E, 315W, 316E, and 316W constructed in 1997. Each Emission Unit consists of one (1) enamel applicator, one (1) curing oven, one (1) wire cooler, one (1) topical lube applicator and each pair sharing one (1) annealing system. Each unit has a maximum copper wire producing capacity of 284 lb copper per hour, using integral thermal oxidizers, exhausting to stacks identified with the same names as their respective emission units.

The source is located in Knox County which is designated as attainment or unclassifiable for all criteria pollutants. The magnet wire emission units listed above were constructed as older units failed from 1989 to 1998. For the purposes of this review, all units that were constructed in a given calendar year are considered a single modification; therefore, Essex completed four modifications from 1994 to 1997, each with a net emissions increase greater than 40 tons of VOC per year; the PSD significant threshold level for VOC. Units constructed in 1989, 1993, and 1998 have been included in this determination at Essex's request to simplify record keeping and recording requirements. See Appendix B for a detailed PSD netting analysis.

Because the VOC emissions from each modification are greater than the respective significance threshold for PSD, the aforementioned units were reviewed pursuant to the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) which requires the evaluation of BACT (Best Available Control Technology). BACT is an emission limitation based on the maximum degree of

reduction of each pollutant subject to the PSD requirements. IDEM conducts BACT analyses in accordance with the *“Top-Down” Best Available Control Technology Guidance Document* outlined in the 1990 draft USEPA *New Source Review Workshop Manual*, which outlines the steps for conducting a top-down BACT analysis. Those steps are listed below.

- (1) Identify all potentially available control options;
- (2) Eliminate technically infeasible control options;
- (3) Rank remaining control technologies by control effectiveness;
- (4) Evaluate the most effective controls and document the results; and
- (5) Select BACT.

In accordance with the *“Top-Down” Best Available Control Technology Guidance Document* outlined in the 1990 draft USEPA *New Source Review Workshop Manual*, BACT analyses take into account the energy, environmental, and economic impacts on the source. These reductions may be determined through the application of available control techniques, process design, and/or operational limitations. Such reductions are necessary to demonstrate that the emissions remaining after application of BACT will not cause or contribute to air pollution thereby protecting public health and the environment.

The following BACT determination is based on the following information:

- (1) The PSD permit application submitted by Essex Group, Inc. on September 16, 2003;
- (2) Results from stack testing on representative emission units at the Vincennes plant completed in May, 1999 ;
- (3) The EPA RACT/BACT/LAER (RBLC) Clearinghouse; and
- (4) Permit requirements of other magnet wire production facilities.

Process and Emissions Description

Each magnet wire emission unit consists of an enamel applicator, drying/curing oven, wire cooler, and topical lube applicator. Each pair of magnet wire emission units, units which share the same numerical ID number, share a wire annealer and thermal oxidizer. Wire from the annealer is sent to the enamel applicator where the wire is coated. The coated wire then passes to a drying/curing oven equipped with an integral thermal oxidizer (see the Existing Approvals section of the TSD for a justification of the integral nature of the thermal oxidizers). VOC emissions generated by the magnet wire emission units result from the evaporation of the VOC present in the enamel coatings during drying/curing. The oven drying/curing operation is totally enclosed, as defined by Method 204 of 40 CFR Part 51 Appendix M, which allows for complete capture of the VOC emissions. The majority of the VOC emissions are subsequently destroyed in the integral thermal oxidizer which serves to satisfy the heat requirement of the oven and function as a control device.

Step 1 - Identify Control Options

The following technologies were identified as potentially available options that could be used to control VOC emissions from the magnet wire emission units. IDEM and the source: searched EPA's RACT/BACT/LAER Clearinghouse (RBLC), reviewed permits of nearly identical sources, and obtained copies of stack test results completed by the source to produce this list of technologies.

SIC Code	Source Name (location)	RBLC ID or Permit Number	Process	Technology	Control Efficiency
3357	Essex Group - Vincennes (Vincennes, IN)	NA (from stack testing)	Magnet wire curing	Integral thermal oxidization	greater than 98.5%
3357	Essex Group - Vincennes (Vincennes, IN)	CP 083-8303-00008	Magnet wire curing	Integral thermal oxidization	98.5%
3357	Essex Group - Vincennes (Vincennes, IN)	CP 083-5312-00008	Magnet wire curing	Integral thermal oxidization	98.5%
3357	Rea Magnet Wire Company (Lafayette, IN)	T 157-6960-00032	Magnet wire curing	Integral thermal oxidization	98.5%
3357	Phelps Dodge Magnet Wire Company (Fort Wayne, IN)	T 003-6925-00013	Magnet wire curing	Integral thermal oxidization	96.7%
3357	Essex Group - Franklin (Franklin, TN)	LAER TN-0022	Magnet wire curing	Incineration using an afterburner	95%
3357	Essex Group - Franklin (Franklin, TN)	LAER TN-0120	Magnet wire curing	Thermal Oxidization	87%

Step 2 - Eliminate technically infeasible control options

As with all baking/curing operations, the temperature used to cure the product must be high enough to ensure product quality (e.g. the enamel is not “sticky”) but low enough to ensure that the coating is not damaged (e.g. the enamel is not burned or “coked”). The use of integral thermal oxidization at a destruction efficiency of greater than 98.5% is not technically feasible because the oven temperatures that would result from the operation of the integral thermal oxidizers at that destruction efficiency would potentially damage the coatings and compromise product quality. An efficiency of greater than 98.5% was achieved during the stack tests at the Essex plant by using worst-case, atypical (relatively high VOC) coatings on scrap wire. The relatively high VOC content of the coatings used during testing generated higher concentrations of VOC in the air stream and consequently allowed for a higher destruction efficiency that could not be met during normal operation.

Step 3 - Rank remaining control technologies by control effectiveness

The remaining technically feasible options for controlling VOC emissions from the magnet wire emission units are:

- (1) Integral Thermal Oxidization, 98.5% efficient;
- (2) Integral Thermal Oxidization, 96.7% efficient;
- (3) Incineration with an Afterburner, 95% efficient; and
- (4) Non-integral Thermal Oxidization, 87% efficient.

Step 4 - Evaluate the most effective controls and document results

Integral thermal oxidization, operating with a 98.5% destruction efficiency, is the best (greatest emission reduction potential) technically feasible control option. Since this option is currently employed by Essex as required by existing permit requirements, economic and energy analyses

are not necessary to evaluate its emission potential or economic impact. The use of integral thermal oxidation will result in a potential VOC emission reduction of 9089 tons per year based on an overall control efficiency of 98.5% (100% capture and 98.5% destruction). The potential post-BACT VOC emission rate from the respective magnet wire emission units is 453 tons per year [139 tons from the post-BACT control of coatings used prior to drying/curing (topcoats and base coats) + 314 tons from uncontrolled emissions used after drying/curing (topical lubricant and solvents)]. In order to quantify and ensure this level of control, the total VOC input to the affected units has been limited.

Step 5 - Select BACT

Based on the considerations mentioned above, IDEM has determined that BACT for the magnet wire emission units (201E and 201W through 216E and 216W, and 301E and 301W through 316E and 316W) located at the Essex plant in Vincennes, Indiana, is the following:

- (a) The integral thermal oxidizers shall control VOC emissions from the magnet wire emission units and achieve a minimum one-hundred percent (100%) capture efficiency (as defined by Method 204 of 40 CFR Part 52, Appendix M) and ninety-eight and five tenths percent (98.5%) destruction efficiency.
- (b) The total VOC delivered by the coating applicators prior to drying/curing with integral thermal oxidization shall not exceed 9228 tons per twelve consecutive month period with compliance determined at the end of each month.
- (c) The total VOC input used after the drying/curing with integral thermal oxidization shall not exceed 314 tons per twelve consecutive month period with compliance determined at the end of each month.
- (d) The total VOC emissions shall not exceed 453 tons per year. Compliance with (a) through (c) above will ensure compliance with this limit.

Compliance with these limitations will satisfy the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration).