



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: April 22, 2009

RE: Zimmer, Inc. / 085-24888-00064

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

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

Enclosures
FNPER.dot12/03/07



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Federally Enforceable State Operating Permit Renewal OFFICE OF AIR QUALITY

Zimmer, Inc.
1800 West Center Street
Warsaw, Indiana 46580

(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 reissuance, or modification; or denial of a permit renewal application. 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 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a FESOP under 326 IAC 2-8.

Operation Permit No.: F085-24888-00064	
Issued by:  Alfred C. Dumauval, Ph. D., Section Chief Permits Branch Office of Air Quality	Issuance Date: April 22, 2009 Expiration Date: April 22, 2014

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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 2-8-3(b)]

The Permittee owns and operates a stationary prosthetic device manufacturing company (casting, cutting, grinding, polishing, and abrasive blasting to produce orthopedic and prosthetic appliances).

Source Address:	1800 West Center Street, Warsaw, Indiana 46580 1535 West Center Street, Warsaw, Indiana, 46580 and 1777 West Center Street, Warsaw, Indiana, 46580
Mailing Address:	PO Box 708, Warsaw, IN 46581
General Source Phone Number:	574-372-4526
SIC Code:	3842
County Location:	Kosciusko
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

A.2 Source Definition [326 IAC 2-8-1] [326 IAC 2-7-1(22)]

This prosthetic device manufacturing company consists of three (3) plants:

- (a) Building 5 is located at 1800 West Center Street, Warsaw, Indiana 46580;
- (b) Building 4 is located at 1777 West Center Street, Warsaw, Indiana, 46580;
- (c) Building 19 is located at 1535 West Center Street, Warsaw, Indiana, 46580.

Since the three (3) plants are located on contiguous or adjacent properties, belong to the same industrial grouping, and are under common control of the same entity, they will be considered one (1) source, effective from the date of issuance of this FESOP.

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

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

- (a) One (1) hip and stem production line (identified as Hip), with a maximum capacity of 99 pounds per hour, constructed in 1972, comprised of the following processes:
 - (1) Collar polishing using a wet dust collector (stack ID Z2) as particulate control with no external exhaust.
 - (2) Stem polishing using three (3) dry dust collectors (stack ID Z8, Z10, and Z12) as particulate control with no external exhaust.

- (b) One (1) knee production line (identified as Knee), with a maximum capacity of 99 pounds per hour, constructed in 1972, comprised of the following processes:
 - (1) Tumbleblasting using steel shot media with dry dust collectors (stack ID ZA1 and ZA2) as particulate control with external exhaust.
 - (2) Grinding using a wet dust collector (stack ID Z1) as particulate control with no external exhaust.
 - (3) Buffing using dry dust collectors (stack ID Z3, Z5, Z7, Z9, Z11) as particulate control with no external exhaust.

- (c) One (1) casting process line (identified as casting), with a maximum capacity of 99 pounds per hour, constructed in 1972, comprised of the following processes:
 - (1) Shell formation with two (2) fluidized bed sand units (stack ID ZA1) as particulate control with external exhaust.
 - (2) One (1) shotblast unit with stainless steel shot media and a dry dust collector (stack ID ZA1) as particulate control with external exhaust.
 - (3) One (1) tumbleblast unit with stainless steel shot media and a dry dust collector (stack ID ZA1) as particulate control with external exhaust.
 - (4) Grinding using a dry dust collector (stack ID ZA1) as particulate control with external exhaust.
 - (5) Deburring with dry dust collectors (stack ID ZA1 and ZA2) as particulate control with external exhaust.

- (d) One (1) prosthetic device manufacturing process, constructed in 2004, with a maximum capacity of 99 pounds per hour, with a blast room, blast/buff room, Weldon Grinder, and a polishing robot controlled by two wet dust collectors (identified as Z13 with a maximum flow rate of 15,000 scfm, and Z14 with a maximum flow rate of 30,000 scfm), each exhausting into the building.

- (e) One (1) knee production line, with a maximum capacity of 99 pounds per hour, constructed in 2005, comprised of wet grinding operations with no controls and polishing operations using a wet dust collector (stack ID Z16) as particulate control with a maximum flow rate of 30,000 scfm and no external exhaust.

- (f) One (1) prosthetic knee manufacturing process, with a maximum capacity of 99 pounds per hour, constructed in 2007, with tumble blast, grinding, and polishing operations controlled using a fabric filter collector (stack ID Z17) as particulate control with a maximum air flow rate of 20,000 scfm and no external exhaust.

- (g) One (1) prosthetic knee manufacturing process, with a maximum capacity of 99 pounds per hour, constructed in 2007, with tumble blast, grinding, and polishing operations controlled using a fabric filter collector (stack ID Z18) as particulate control with a maximum air flow rate of 35,000 scfm and no external exhaust.

- (h) One (1) investment casting process, with a maximum capacity of 99 pounds per hour, constructed in 2007, with shot blast, tumble blast, grinding, and deburring operations controlled using a fabric filter collector (stack ID Z19) as particulate control with a maximum air flow rate of 20,000 scfm and no external exhaust.

- (i) One (1) investment casting process located in Building 19, with a maximum capacity of ninety-nine (99) pounds per hour throughput, constructed in 2008, with shot blast, tumble blast, grinding, and deburring operations controlled using a fabric filter collector (stack ID Z20) as particulate control with a maximum flow rate of 20,000 cfm and no external exhaust.
- (j) One (1) casting process line located in Building 19, with a maximum capacity of 99 pounds per hour, constructed in 2008, with shell formation, shot blast, tumble blast, grinding, and deburring operations controlled using two (2) fabric filter collectors (stack ID Z21 and Z22) as particulate control with a maximum air flow rate of 10,000 scfm per collector, and no external exhaust.

A.4 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities:

- (a) Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]
- (b) 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 [326 IAC 6-3-2]:
 - (1) Stem polishing using a dry cyclone with secondary cloth filtration as particulate control with no external exhaust.
 - (2) Burr grinding using a dry cyclone with secondary cloth filtration as particulate control with no external exhaust.
 - (3) Stem polishing using cartridge filtration as particulate control with no external exhaust.
 - (4) Abrasive blast cabinets using aluminum oxide or glass bead media with fabric filters as particulate control with no external exhaust.
 - (5) Buffing using a dry cyclone with secondary cloth filtration as particulate control with no external exhaust.
 - (6) Burr grinding using a dry cyclone with secondary cloth filtration as particulate control with no external exhaust.
 - (7) Grinding using an oil mist collector with electrostatic precipitation as particulate control with no external exhaust.
 - (8) Deburring with a dry cyclone as particulate control with external exhaust.
 - (9) Machining of polypropylene parts controlled by cloth filters (stack ID Z139 through Z141) with no external exhaust.
- (c) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring, buffing, polishing, abrasive blasting, pneumatic conveying, an woodworking operations [326 IAC 6-3-2]:
 - (1) Stem polishing using a Trimer Wet Cyclone (stack ID Z101) as particulate control with external exhaust.

- (2) Machine rasping using a Trimer Wet Cyclone (stack ID Z102) as particulate control with external exhaust.
- (d) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour:
- (1) Two (2) natural gas boilers (identified as B1 and B2) installed in 1991 and 1995, respectively, each having a maximum capacity of 500,000 BTU per hour [326 IAC 6-2-4];
 - (2) One (1) natural gas boiler (identified as B3) installed in 2000, having a maximum capacity of 1 million BTU per hour [326 IAC 6-2-4];
 - (3) Three (3) natural gas ceramic shell preheat furnaces, identified as WB1, installed in 1981, each having a maximum capacity of 2.8 million BTU per hour.
 - (4) Sixty-one (61) natural gas space heaters (identified as SH1), installed in 1972, each having a maximum capacity of 0.3 million BTU per hour; and
 - (5) Three (3) electric induction furnaces (identified as IF1), installed in 1972.
 - (6) Nine (9) rooftop heaters, with maximum heat input capacity of 0.85 MMBtu/hr each.
 - (7) Four (4) boilers in Building 19, constructed in 2008, with maximum heat input capacity of 0.50 MMBtu/hr, each.
 - (8) Two (2) Pusher Ovens, with maximum heat input capacity of 4.0 MMBtu/hr each.
- (e) Machining where an aqueous cutting coolant continuously floods the machining interface.
- (f) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- (g) Mold release agents using low volatile products (vapor pressure less than or equal to 2 kilopascals measured at 38 degrees C).
- (h) A laboratory as defined in 326 IAC 2-7-1(21) (D).
- (i) Other emission units, not regulated by a NESHAP, with PM₁₀, NO_x, and SO₂ emissions less than five (5) pounds per hour or twenty-five (25) pounds per day, CO emissions less than twenty-five (25) pounds per day, VOC emissions less than three (3) pounds per hour or fifteen (15) pounds per day, lead emissions less than six-tenths (0.6) tons per year or three and twenty-nine hundredths (3.29) pounds per day, and emitting greater than one (1) pound per day but less than five (5) pounds per day or one (1) ton per year of a single HAP, or emitting greater than one (1) pound per day but less than twelve and five tenths (12.5) pounds per day or two and five tenths (2.5) ton per year of any combination of HAPs:
- (1) One (1) pickling process, constructed in 2004, including a nitric acid (less than 80%) bath and a hydrofluoric acid (HF) bath.
 - (2) One (1) sintering process, constructed in 2004, with a maximum solvent (ethyl alcohol) usage of 55 gallons per year.

- (j) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6, including one (1) cleaning process, constructed in 2004, using isopropyl alcohol as the solvent. [326 IAC 8-3-2] [326 IAC 8-3-5]

A.5 FESOP Applicability [326 IAC 2-8-2]

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

SECTION B GENERAL CONDITIONS

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

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 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

-
- (a) This permit, F085-24888-00064, is issued for a fixed term of ten (10) 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 of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

- (a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or
- (b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-8-6] [IC 13-17-12]

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

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 2-8-4(5)(D)]

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

B.7 Duty to Provide Information [326 IAC 2-8-4(5)(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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1). 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 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]

- (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 an "authorized individual" 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. One (1) certification may cover multiple forms in one (1) submittal.
- (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

B.9 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

- (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. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (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 2-8-4(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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.10 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAQ may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

B.11 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)][326 IAC 2-8-5(a)(1)]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall maintain and implement Preventive Maintenance Plans (PMPs) 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.
- (b) 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 PMPs do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) 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 that unit.

B.12 Emergency Provisions [326 IAC 2-8-12]

- (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 except as provided in 326 IAC 2-8-12.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:
- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
 - (2) The permitted facility was at the time being properly operated;
 - (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
 - (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, and Northern 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 and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Compliance and Enforcement Branch)

Facsimile Number: 317-233-6865
Northern Regional Office phone: (574) 245-4870; fax: (574) 245-4877.

- (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 and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

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 2-8-4(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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (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) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) 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 2-8 and any other applicable rules.
- (g) Operations may continue during an emergency only if the following conditions are met:
- (1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
 - (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:

- (A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and
- (B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

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

- (h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

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

- (a) All terms and conditions of permits established prior to F085-24888-00064 and issued pursuant to permitting programs approved into the state implementation plan have been either:
 - (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted.
- (b) All previous registrations and permits are superseded by this permit.

B.14 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]

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 2-8-3(h) and 326 IAC 2-8-9.

B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(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 and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

B.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination
[326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State Operating 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 2-8-4(5)(C)] The notification by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (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 2-8-8(a)]
- (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 2-8-8(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(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 2-8-8(c)]

B.17 Permit Renewal [326 IAC 2-8-3(h)]

- (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 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:
 - (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (2) 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) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.18 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 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
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.19 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) through (d) without a prior permit revision, if each of the following conditions is met:

- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
- (2) Any approval required by 326 IAC 2-8-11.1 has been obtained;
- (3) The changes do not result in emissions which exceed the limitations provided in 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
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

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, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15(b) through (d). The Permittee shall make 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 2-8-15(b)(2), (c)(1), and (d).

- (b) **Emission Trades [326 IAC 2-8-15(c)]**
The Permittee may trade emissions increases and decreases at 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 2-8-15(c).
- (c) **Alternative Operating Scenarios [326 IAC 2-8-15(d)]**
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ, or U.S. EPA is required.
- (d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.20 Source Modification Requirement [326 IAC 2-8-11.1]

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

B.21 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

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 FESOP 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, at reasonable times, 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, at reasonable times, 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, at reasonable times, 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 2-8-10]

- (a) The Permittee must comply with the requirements of 326 IAC 2-8-10 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
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The application which shall be submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][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) 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, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.24 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

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.

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

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(b) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.

(c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.3 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.4 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.

C.5 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

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

C.6 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).

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
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue

MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (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 14-10-1, 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 Licensed 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 Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

Testing Requirements [326 IAC 2-8-4(3)]

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 and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (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 Permittee 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 2-8-4][326 IAC 2-8-5(a)(1)]

C.10 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(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 or ninety (90) days of initial start-up, whichever is later. 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 and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a permit revision 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 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)][326 IAC 2-8-5(1)]

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.

(b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

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 shall maintain the most recently submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.
- (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 2-8-4] [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 Permittee must comply with the applicable requirements of 40 CFR 68.

C.15 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

- (a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:
 - (1) initial inspection and evaluation;
 - (2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or
 - (3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - (1) monitoring results;
 - (2) review of operation and maintenance procedures and records; and/or
 - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall maintain the following records:
 - (1) monitoring data;
 - (2) monitor performance data, if applicable; and
 - (3) corrective actions taken.

C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]

- (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 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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

C.17 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

- (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 or ninety (90) days of initial start-up, whichever is later.

C.18 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (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 and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

Stratospheric Ozone Protection

C.19 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 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) hip and stem production line (identified as Hip), with a maximum capacity of 99 pounds per hour, constructed in 1972, comprised of the following processes:
 - (1) Collar polishing using a wet dust collector (stack ID Z2) as particulate control with no external exhaust.
 - (2) Stem polishing using three (3) dry dust collectors (stack ID Z8, Z10, and Z12) as particulate control with no external exhaust.
- (b) One (1) knee production line (identified as Knee), with a maximum capacity of 99 pounds per hour, constructed in 1972, comprised of the following processes:
 - (1) Tumbleblasting using steel shot media with dry dust collectors (stack ID ZA1 and ZA2) as particulate control with external exhaust.
 - (2) Grinding using a wet dust collector (stack ID Z1) as particulate control with no external exhaust.
 - (3) Buffing using dry dust collectors (stack ID Z3, Z5, Z7, Z9, Z11) as particulate control with no external exhaust.
- (c) One (1) casting process line (identified as casting), with a maximum capacity of 99 pounds per hour, constructed in 1972, comprised of the following processes:
 - (1) Shell formation with two (2) fluidized bed sand units (stack ID ZA1) as particulate control with external exhaust.
 - (2) One (1) shotblast unit with stainless steel shot media and a dry dust collector (stack ID ZA1) as particulate control with external exhaust.
 - (3) One (1) tumbleblast unit with stainless steel shot media and a dry dust collector (stack ID ZA1) as particulate control with external exhaust.
 - (4) Grinding using a dry dust collector (stack ID ZA1) as particulate control with external exhaust.
 - (5) Deburring with dry dust collectors (stack ID ZA1 and ZA2) as particulate control with external exhaust.
- (d) One (1) prosthetic device manufacturing process, constructed in 2004, with a maximum capacity of 99 pounds per hour, with a blast room, blast/buff room, Weldon Grinder, and a polishing robot controlled by two wet dust collectors (identified as Z13 with a maximum flow rate of 15,000 scfm, and Z14 with a maximum flow rate of 30,000 scfm), each exhausting into the building.
- (e) One (1) knee production line, with a maximum capacity of 99 pounds per hour, constructed in 2005, comprised of wet grinding operations with no controls and polishing operations using a wet dust collector (stack ID Z16) as particulate control with a maximum flow rate of 30,000 scfm and no external exhaust.

- (f) One (1) prosthetic knee manufacturing process, with a maximum capacity of 99 pounds per hour, constructed in 2007, with tumble blast, grinding, and polishing operations controlled using a fabric filter collector (stack ID Z17) as particulate control with a maximum air flow rate of 20,000 scfm and no external exhaust.
- (g) One (1) prosthetic knee manufacturing process, with a maximum capacity of 99 pounds per hour, constructed in 2007, with tumble blast, grinding, and polishing operations controlled using a fabric filter collector (stack ID Z18) as particulate control with a maximum air flow rate of 35,000 scfm and no external exhaust.
- (h) One (1) investment casting process, with a maximum capacity of 99 pounds per hour, constructed in 2007, with shot blast, tumble blast, grinding, and deburring operations controlled using a fabric filter collector (stack ID Z19) as particulate control with a maximum air flow rate of 20,000 scfm and no external exhaust.
- (i) One (1) investment casting process located in Building 19, with a maximum capacity of ninety-nine (99) pounds per hour throughput, constructed in 2008, with shot blast, tumble blast, grinding, and deburring operations controlled using a fabric filter collector (stack ID Z20) as particulate control with a maximum flow rate of 20,000 cfm and no external exhaust.
- (j) One (1) casting process line located in Building 19, with a maximum capacity of 99 pounds per hour, constructed in 2008, with shell formation, shot blast, tumble blast, grinding, and deburring operations controlled using two (2) fabric filter collectors (stack IDs Z21 and Z22) as particulate control with a maximum air flow rate of 10,000 scfm per collector, and no external exhaust.

Insignificant Activities

- b) 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 [326 IAC 6-3-2]:
 - (1) Stem polishing using a dry cyclone with secondary cloth filtration as particulate control with no external exhaust.
 - (2) Burr grinding using a dry cyclone with secondary cloth filtration as particulate control with no external exhaust.
 - (3) Stem polishing using cartridge filtration as particulate control with no external exhaust.
 - (4) Abrasive blast cabinets using aluminum oxide or glass bead media with fabric filters as particulate control with no external exhaust.
 - (5) Buffing using a dry cyclone with secondary cloth filtration as particulate control with no external exhaust.
 - (6) Burr grinding using a dry cyclone with secondary cloth filtration as particulate control with no external exhaust.
 - (7) Grinding using an oil mist collector with electrostatic precipitation as particulate control with no external exhaust.
 - (8) Deburring with a dry cyclone as particulate control with external exhaust.

- (9) Machining of polypropylene parts controlled by cloth filters (stack ID Z139 through Z141) with no external exhaust.
- (c) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring, buffing, polishing, abrasive blasting, pneumatic conveying, and woodworking operations [326 IAC 6-3-2]:
- (1) Stem polishing using a Trimer Wet Cyclone (stack ID Z101) as particulate control with external exhaust.
- (2) Machine rasping using a Trimer Wet Cyclone (stack ID Z102) as particulate control with external exhaust.

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

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

D.1.1 Particulate Emission Limitations [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), the allowable particulate emissions rate from any process shall not exceed 0.551 pounds per hour.

D.1.2 PM, PM10, PM2.5, and Hazardous Air Pollutant (HAP) Emission Limitations [326 IAC 2-8] [326 IAC 2-2]

- (a) In order to render of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable, particulate matter (PM) and particulate matter less than 2.5 microns in diameter (PM2.5) emissions from the individual emissions units listed in Section D.1 shall not exceed 0.551 pounds per hour, each.

Compliance with these limits, combined with the potential PM and PM2.5 emissions from all other emission units at this source, shall limit the source-wide total potential to emit PM and PM2.5 to less than 250 tons per 12 consecutive month period, each, and render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

- (b) Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable, particulate matter less than 10 microns in diameter (PM10) emissions from the individual emissions units listed in Section D.1 shall not exceed 0.551 pounds per hour, each.

Compliance with these limits, combined with the potential PM10 emissions from all other emission units at this source, shall limit the source-wide total potential to emit PM10 to less than 100 tons per 12 consecutive month period and render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-7 (Part 70 Permits) not applicable.

Compliance with these limits, combined with the potential hazardous air pollutant (HAP) emissions from all other emission units at this source, shall also limit the source-wide total potential to emit HAPs to less than 10 tons per 12 consecutive month period for a single HAP and less than and twenty-five (25) tons per 12 consecutive month period of total HAPs, and render the requirements of 326 IAC 2-7 (Part 70 Permits) not applicable.

D.1.3 Preventative Maintenance Plan [326 IAC 2-8-4(9)]

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

Compliance Determination Requirements

D.1.4 Particulate [326 IAC 2-8-5(a)(4)]

- (a) In order to comply with D.1.1 and D.1.2, the filters, wet dust collectors, fluidized bed sand units, and dry dust collectors for particulate control shall be in operation and control emissions from the facilities in the hip, knee, and casting production lines at all times that the prosthetic device manufacturing plant is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.1.5 Visible Emissions Notations

- (a) Visible emission notations of the ZA1 and ZA2 stack exhausts shall be performed once per day during normal daylight operations when exhausting to the atmosphere. 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) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.1.6 Baghouse Parametric Monitoring

- (a) The Permittee shall record the pressure drop across the baghouses associated with stacks ZA1 and ZA2, used in conjunction with the hip, knee, and casting operations at least once per day when the hip, knee, and casting lines are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

D.1.7 Broken or Failed Bag or Filter Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (b) For a single compartment baghouse controlling emissions from a batch process, feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

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

D.1.8 Record Keeping Requirements

- (a) To document compliance with Condition D.1.5, the Permittee shall maintain daily records of visible emission notations of the ZA1 and ZA2 stacks. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).
- (b) To document compliance with Condition D.1.6, the Permittee shall maintain records once per day of the pressure drop. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g., the process did not operate that day).
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.2

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Insignificant Activities

- (d) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour:
- (1) Two (2) natural gas boilers (identified as B1 and B2) installed in 1991 and 1995, respectively, each having a maximum capacity of 500,000 BTU per hour [326 IAC 6-2-4];
 - (2) One (1) natural gas boiler (identified as B3) installed in 2000, having a maximum capacity of 1 million BTU per hour [326 IAC 6-2-4];
 - (7) Four (4) boilers in Building 19, constructed in 2008, with maximum heat input capacity of 0.50 MMBtu/hr, each.

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

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

D.2.1 Particulate Emission Limitations [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4(a), the particulate emissions from B1, B2, B3, and the four (4) boilers in Building 19 shall in no case exceed 0.6 pounds each per million British thermal unit heat input.

SECTION D.3

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Insignificant Activities

- (j) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6, including one (1) cleaning process, constructed in 2004, using isopropyl alcohol as the solvent. [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 2-8-4(1)]

D.3.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

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; and
- (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.3.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-5]

- (a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), for cold cleaner degreaser operations without remote solvent reservoirs and constructed after July 1, 1990, the Permittee shall ensure that the following control equipment 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 (38°C) (one hundred degrees Fahrenheit (100°F));
 - (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 (38°C) (one hundred degrees Fahrenheit (100°F)), 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 (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when 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.

SECTION E.1

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) hip and stem production line (identified as Hip), with a maximum capacity of 99 pounds per hour, constructed in 1972, comprised of the following processes:
 - (1) Collar polishing using a wet dust collector (stack ID Z2) as particulate control with no external exhaust.
 - (2) Stem polishing using three (3) dry dust collectors (stack ID Z8, Z10, and Z12) as particulate control with no external exhaust.
- (b) One (1) knee production line (identified as Knee), with a maximum capacity of 99 pounds per hour, constructed in 1972, comprised of the following processes:
 - (3) Buffing using dry dust collectors (stack ID Z3, Z5, Z7, Z9, Z11) as particulate control with no external exhaust.
- (d) One (1) prosthetic device manufacturing process, constructed in 2004, with a maximum capacity of 99 pounds per hour, with a blast/buff room and a polishing robot controlled by two wet dust collectors (identified as Z13 with a maximum flow rate of 15,000 scfm, and Z14 with a maximum flow rate of 30,000 scfm), each exhausting into the building.
- (e) One (1) knee production line, with a maximum capacity of 99 pounds per hour, constructed in 2005, comprised of polishing operations using a wet dust collector (stack ID Z16) as particulate control with a maximum flow rate of 30,000 scfm and no external exhaust.
- (f) One (1) prosthetic knee manufacturing process, with a maximum capacity of 99 pounds per hour, constructed in 2007, with polishing operations controlled using a fabric filter collector (stack ID Z17) as particulate control with a maximum air flow rate of 20,000 scfm and no external exhaust.
- (g) One (1) prosthetic knee manufacturing process, with a maximum capacity of 99 pounds per hour, constructed in 2007, with polishing operations controlled using a fabric filter collector (stack ID Z18) as particulate control with a maximum air flow rate of 35,000 scfm and no external exhaust.

Insignificant Activities:

- (b) 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 [326 IAC 6-3-2]:
 - (1) Stem polishing using a dry cyclone with secondary cloth filtration as particulate control with no external exhaust.
 - (3) Stem polishing using cartridge filtration as particulate control with no external exhaust.
 - (5) Buffing using a dry cyclone with secondary cloth filtration as particulate control with no external exhaust.
- (c) machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per

actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: buffing and polishing operations:

- (1) Stem polishing using a Trimer Wet Cyclone (stack ID Z101) as particulate control with external exhaust.

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

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

E.1.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories [326 IAC 20] [40 CFR Part 63, Subpart A]

The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 20, apply to the facilities described in this section except when otherwise specified in 40 CFR Part 63, Subpart WWWWWW.

E.1.2 National Emission Standards for Hazardous Air Pollutants (NESHAP) for Area Source Standards for Plating and Polishing Operations [326 IAC 20] [40 CFR Part 63, Subpart WWWWWW]

The Registrant, which operates a stationary prosthetic device manufacturing company (casting, cutting, grinding, polishing, and abrasive blasting to produce orthopedic and prosthetic appliances), shall comply with the following provisions of 40 CFR Part 63, Subpart WWWWWW; included as Attachment A of this permit:

- (a) 63.11504(a), (a)(1), (a)(1)(iv), (a)(2), (a)(3)
- (b) 63.11505(a), (a)(3), (b), (c), (d)(1-6), (e)
- (c) 63.11506
- (d) 63.11507(e), (e)(1), (e)(2)
- (e) 63.11508(a), (b), (c), (c)(8), (c)(8)(i-iii), (d), (d)(1), (d)(2)
- (f) 63.11509(a), (a)(1-4), (b), (b)(1), (b)(2), (b)(2)(i-iv), (c), (c)(2), (c)(2)(ii), (c)(7), (d), (e), (e)(1-3), (f)
- (g) 63.11510
- (h) 63.11511
- (i) 63.11512

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

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
CERTIFICATION**

Source Name: Zimmer, Inc.
Source Address: 1800 West Center Street, Warsaw, Indiana 46580
Mailing Address: P.O. Box 708, Warsaw, IN 46581
FESOP Permit No.: F085-24888-00064

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 AND ENFORCEMENT BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: (317) 233-0178
Fax: (317) 233-6865**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
EMERGENCY OCCURRENCE REPORT**

Source Name: Zimmer, Inc.
Source Address: 1800 West Center Street, Warsaw, Indiana 46580
Mailing Address: P.O. Box 708, Warsaw, IN 46581
FESOP Permit No.: F085-24888-00064

This form consists of 2 pages

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- This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and
 - The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), 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 AND ENFORCEMENT BRANCH
FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Zimmer, Inc.
Source Address: 1800 West Center Street, Warsaw, Indiana 46580
Mailing Address: P.O. Box 708, Warsaw, IN 46581
FESOP Permit No.: F085-24888-00064

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

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<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. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does 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 type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.</p>	
<p><input type="checkbox"/> 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.

**Attachment A, NESHAP
40 CFR 63, Subpart WWWWWW**

**Zimmer, Inc.
1800 West Center Street
Warsaw, IN 46580**

Permit No. F085-24888-00064

Title 40: Protection of Environment

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

Subpart WWWW—National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations

Source: 73 FR 37741, July 1, 2008, unless otherwise noted.

Applicability and Compliance Dates

§ 63.11504 Am I subject to this subpart?

(a) You are subject to this subpart if you own or operate a plating and polishing facility that is an area source of hazardous air pollutant (HAP) emissions and meets the criteria specified in paragraphs (a)(1) through (3) of this section.

(1) A plating and polishing facility is a plant site that is engaged in one or more of the processes listed in paragraphs (a)(1)(i) through (vi) of this section.

(i) Electroplating other than chromium electroplating (i.e., non-chromium electroplating).

(ii) Electroless or non-electrolytic plating.

(iii) Other non-electrolytic metal coating processes, such as chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating; and thermal spraying.

(iv) Dry mechanical polishing of finished metals and formed products after plating.

(v) Electroforming.

(vi) Electropolishing.

(2) An area source of HAP emissions is any stationary source or group of stationary sources within a contiguous area under common control that does not have the potential to emit any single HAP at a rate of 9.07 megagrams per year (Mg/yr) (10 tons per year (tpy)) or more and any combination of HAP at a rate of 22.68 Mg/yr (25 tpy) or more.

(3) Your plating and polishing facility uses or has emissions of compounds of one or more plating and polishing metal HAP, which means any compound of any of the following metals: cadmium, chromium, lead, manganese, and nickel, as defined in §63.11511, "What definitions apply to this subpart?" With the exception of lead, plating and polishing metal HAP also include any of these metals in the elemental form.

(b) [Reserved]

§ 63.11505 What parts of my plant does this subpart cover?

(a) This subpart applies to each new or existing affected source, as specified in paragraphs (a)(1) through (3) of this section, at all times. A new source is defined in §63.11511, "What definitions apply to this subpart?"

(1) Each tank that contains one or more of the plating and polishing metal HAP, as defined in §63.11511, "What definitions apply to this subpart?", and is used for non-chromium electroplating; electroforming; electropolishing; electroless plating or other non-electrolytic metal coating operations, such as chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating.

(2) Each thermal spraying operation that applies one or more of the plating and polishing metal HAP, as defined in §63.11511, "What definitions apply to this subpart?"

(3) Each dry mechanical polishing operation that emits one or more of the plating and polishing metal HAP, as defined in §63.11511, "What definitions apply to this subpart?"

(b) An affected source is existing if you commenced construction or reconstruction of the affected source on or before March 14, 2008.

(c) An affected source is new if you commenced construction or reconstruction of the affected source after March 14, 2008.

(d) This subpart does not apply to any of the process units or operations described in paragraphs (d)(1) through (6) of this section.

(1) Process units that are subject to the requirements of 40 CFR part 63, subpart N (National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks).

(2) Research and development process units, as defined in §63.11511, "What definitions apply to this subpart?"

(3) Process units that are used strictly for educational purposes.

(4) Thermal spraying conducted to repair surfaces.

(5) Dry mechanical polishing conducted to restore the original finish to a surface to apply to restoring the original finish.

(6) Any plating or polishing process that does not use any material that contains cadmium, chromium, lead, or nickel in amounts of 0.1 percent or more by weight, or that contains manganese in amounts of 1.0 percent or more by weight, as reported on the Material Safety Data Sheet for the material.

(e) You are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, "Title V," provided you are not otherwise required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart applicable to area sources.

§ 63.11506 What are my compliance dates?

(a) If you own or operate an existing affected source, you must achieve compliance with the applicable provisions of this subpart no later than July 1, 2010.

(b) If you own or operate a new affected source for which the initial startup date is on or before July 1, 2008, you must achieve compliance with the provisions of this subpart no later than July 1, 2008.

(c) If you own or operate a new affected source for which the initial startup date is after July 1, 2008, you must achieve compliance with the provisions of this subpart upon initial startup of your affected source.

Standards and Compliance Requirements

§ 63.11507 What are my standards and management practices?

(a) If you own or operate an affected new or existing non-cyanide electroplating, electroforming, or electropolishing tank (hereafter referred to as an "electrolytic" process tank, as defined in §63.11511, "What definitions apply to this subpart?") that contains one or more of the plating and polishing metal HAP and operates at a pH of less than 12, you must comply with the requirements in paragraph (a)(1), (2), or (3) of this section, and implement the applicable management practices in paragraph (g) of this section, as practicable.

(1) You must use a wetting agent/fume suppressant, as defined in §63.11511, "What definitions apply to this subpart?", in the bath of the affected tank according to paragraphs (a)(1)(i) through (iii) of this section.

(i) You must initially add the wetting agent/fume suppressant in the amounts recommended by the manufacturer for the specific type of electrolytic process.

(ii) You must add wetting agent/fume suppressant in proportion to the other bath chemistry ingredients that are added to replenish the tank bath, as in the original make-up of the tank.

(iii) If a wetting agent/fume suppressant is included in the electrolytic process bath chemicals used in the affected tank according to the manufacturer's instructions, it is not necessary to add additional wetting agent/fume suppressants to the tank to comply with this rule.

(2) You must capture and exhaust emissions from the affected tank to any one of the following emission control devices: composite mesh pad, packed bed scrubber, or mesh pad mist eliminator, according to paragraphs (a)(2)(i) and (ii) of this section.

(i) You must operate all capture and control devices according to the manufacturer's specifications and operating instructions.

(ii) You must keep the manufacturer's specifications and operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(3) You must cover the tank surface according to paragraph (a)(3)(i) or (ii) of this section.

(i) For batch electrolytic process tanks, as defined in §63.11511, "What definitions apply to this subpart?", you must use a tank cover, as defined in §63.11511, over all of the effective surface area of the tank for at least 95 percent of the electrolytic process operating time.

(ii) For continuous electrolytic process tanks, as defined in §63.11511, "What definitions apply to this subpart?", you must cover at least 75 percent of the surface of the tank, as defined in §63.11511, whenever the electrolytic process tank is in operation.

(b) If you own or operate an affected new or existing "flash" or short-term electroplating tank, as defined in §63.11511, "What definitions apply to this subpart?", that uses or emits one or more of the plating and polishing metal HAP, you must comply with the requirements specified in paragraph (b)(1) or (b)(2), and implement the applicable management practices in paragraph (g) of this section, as practicable.

(1) You must limit short-term or "flash" electroplating to no more than 1 cumulative hour per day or 3 cumulative minutes per hour of plating time.

(2) You must use a tank cover, as defined in §63.11511, "What definitions apply to this subpart?", for at least 95 percent of the plating time.

(c) If you own or operate an affected new or existing process tank that is used both for short-term electroplating and for electrolytic processing of longer duration (i.e., processing that does not meet the definition of short-term or flash electroplating) and contains one or more of the plating and polishing metal HAP, you must meet the requirements specified in paragraph (a) or (b) of this section, whichever apply to the process operation, and implement the applicable management practices in paragraph (g) of this section, as practicable.

(d) If you own or operate an affected new or existing electroplating tank that uses cyanide in the plating bath, operates at pH greater than or equal to 12, and contains one or more of the plating and polishing metal HAP, you must comply with the requirements in paragraphs (d)(1) and (2) of this section:

(1) You must measure and record the pH of the tank upon start-up. No additional pH measurements are required.

(2) You must implement the applicable management practices in paragraph (g) of this section, as practicable.

(e) If you own or operate an affected new or existing dry mechanical polishing equipment that emits one or more of the plating and polishing metal HAP, you must operate a capture system that captures particulate matter (PM) emissions from the dry mechanical polishing process and transports the emissions to a cartridge, fabric, or high efficiency particulate air (HEPA) filter, according to paragraphs (e)(1) and (2) of this section.

(1) You must operate all capture and control devices according to the manufacturer's specifications and operating instructions.

(2) You must keep the manufacturer's specifications and operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(f) If you own or operate an affected thermal spraying operation that applies one or more of the plating and polishing metal HAP, you must meet the applicable requirements specified in paragraphs (f)(1) through (3) of this section, and the applicable management practices in paragraph (g) of this section.

(1) For existing permanent thermal spraying operations, you must operate a capture system that collects PM emissions from the thermal spraying process and transports the emissions to a water curtain, fabric filter, or HEPA filter, according to paragraphs (f)(1)(i) and (ii) of this section.

(i) You must operate all capture and control devices according to the manufacturer's specifications and instructions.

(ii) You must keep the manufacturer's operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(2) For new permanent thermal spraying operations, you must operate a capture system that collects PM emissions from the thermal spraying process and transports the emissions to a fabric or HEPA filter, according to paragraphs (f)(2)(i) and (ii) of this section.

(i) You must operate all capture and control devices according to the manufacturer's specifications and instructions.

(ii) You must keep the manufacturer's operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(3) For temporary thermal spraying operations, as defined in §63.11511 "What definitions apply to this subpart?", you must meet the applicable requirements specified in paragraphs (f)(3)(i) and (ii) of this section.

(i) You must document the amount of time the thermal spraying occurs each day, and where it is conducted.

(ii) You must implement the applicable management practices specified in paragraph (g) of this section, as practicable.

(g) If you own or operate an affected new or existing plating and polishing process unit that contains, applies, or emits one or more of the plating and polishing metal HAP, you must implement the applicable management practices in paragraphs (g)(1) through (12) of this section, as practicable.

(1) Minimize bath agitation when removing any parts processed in the tank, as practicable except when necessary to meet part quality requirements.

(2) Maximize the draining of bath solution back into the tank, as practicable, by extending drip time when removing parts from the tank; using drain boards (also known as drip shields); or withdrawing parts slowly from the tank, as practicable.

(3) Optimize the design of barrels, racks, and parts to minimize dragout of bath solution (such as by using slotted barrels and tilted racks, or by designing parts with flow-through holes to allow the tank solution to drip back into the tank), as practicable.

(4) Use tank covers, if already owned and available at the facility, whenever practicable.

(5) Minimize or reduce heating of process tanks, as practicable (e.g., when doing so would not interrupt production or adversely affect part quality).

(6) Perform regular repair, maintenance, and preventive maintenance of racks, barrels, and other equipment associated with affected sources, as practicable.

(7) Minimize bath contamination, such as through the prevention or quick recovery of dropped parts, use of distilled/de-ionized water, water filtration, pre-cleaning of parts to be plated, and thorough rinsing of pre-treated parts to be plated, as practicable.

(8) Maintain quality control of chemicals, and chemical and other bath ingredient concentrations in the tanks, as practicable.

(9) Perform general good housekeeping, such as regular sweeping or vacuuming, if needed, and periodic washdowns, as practicable.

(10) Minimize spills and overflow of tanks, as practicable.

(11) Use squeegee rolls in continuous or reel-to-reel plating tanks, as practicable.

(12) Perform regular inspections to identify leaks and other opportunities for pollution prevention.

§ 63.11508 What are my compliance requirements?

(a) If you own or operate an affected source, you must submit a Notification of Compliance Status in accordance with §63.11509(b) of "What are my notification, reporting, and recordkeeping requirements?"

(b) You must be in compliance with the applicable management practices and equipment standards in this subpart at all times.

(c) To demonstrate initial compliance, you must satisfy the requirements specified in paragraphs (c)(1) through (11) of this section.

(1) If you own or operate an affected electroplating, electroforming, or electropolishing tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(a), "What are my standards and management practices?", and you use a wetting agent/fume suppressant to comply with this subpart, you must demonstrate initial compliance according to paragraphs (c)(1)(i) through (iv) of this section.

(i) You must add wetting agent/fume suppressant to the bath of each affected tank according to manufacturer's specifications and instructions.

(ii) You must state in your Notification of Compliance Status that you add wetting agent/fume suppressant to the bath according to manufacturer's specifications and instructions.

(iii) You must implement the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(iv) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(2) If you own or operate an affected electroplating, electroforming, or electropolishing tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(a), "What are my standards and management practices?", and you use a control system, as defined in §63.11511, "What definitions apply to this subpart?", to comply with this subpart, you must demonstrate initial compliance according to paragraphs (c)(2)(i) through (v) of this section.

(i) You must install a control system designed to capture emissions from the affected tank and exhaust them to a composite mesh pad, packed bed scrubber, or mesh pad mist eliminator.

(ii) You must state in your Notification of Compliance Status that you have installed the control system according to the manufacturer's specifications and instructions.

(iii) You must implement the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(iv) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(v) You must follow the manufacturer's specifications and operating instructions for the control systems at all times.

(3) If you own or operate an affected batch electrolytic process tank, as defined in §63.11511, "What definitions apply to this subpart?", that contains one or more of the plating and polishing metal HAP and which is subject to the requirements in §63.11507(a), "What are my standards and management practices?", and you use a tank cover, as defined in §63.11511, to comply with this subpart, you must demonstrate initial compliance according to paragraphs (c)(3)(i) through (iv) of this section.

(i) You must install a tank cover on the affected tank.

(ii) You must state in your Notification of Compliance Status that you operate the tank with the cover in place at least 95 percent of the electrolytic process operating time.

(iii) You must implement the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(iv) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(4) If you own or operate an affected continuous electrolytic process tank, as defined in §63.11511, "What definitions apply to this subpart?", that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(a), "What are my standards and management practices?", and you cover the tank surface to comply with this subpart, you must demonstrate initial compliance according to paragraphs (c)(4)(i) through (iv) of this section.

(i) You must cover at least 75 percent of the surface area of the affected tank.

(ii) You must state in your Notification of Compliance Status that you operate the tank with the surface cover in place whenever the continuous electrolytic process is in operation.

(iii) You must implement the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(iv) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(5) If you own or operate an affected flash or short-term electroplating tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(b), "What are my standards and management practices?", and you comply with this subpart by limiting the plating time of the affected tank, you must demonstrate initial compliance according to paragraphs (c)(5)(i) through (iii) of this section.

(i) You must state in your Notification of Compliance Status that you limit short-term or flash electroplating to no more than 1 cumulative hour per day, or 3 cumulative minutes per hour of plating time.

(ii) You must implement the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(iii) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(6) If you own or operate an affected flash or short-term electroplating tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(b), "What are my standards and management practices?", and you comply by operating the affected tank with a cover, you must demonstrate initial compliance according to paragraphs (c)(6)(i) through (iv) of this section.

(i) You must install a tank cover on the affected tank.

(ii) You must state in your Notification of Compliance Status that you operate the tank with the cover in place at least 95 percent of the plating time.

(iii) You must implement the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(iv) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(7) If you own or operate an affected tank that contains one or more of the plating and polishing metal HAP, uses cyanide in the bath, and is subject to the management practices specified in §63.11507(d), "What are my standards and management practices?", you must demonstrate initial compliance according to paragraphs (c)(7)(i) through (iii) of this section.

(i) You must report in your Notification of Compliance Status the pH of the bath solution that was measured at start-up, according to the requirements of §63.11507(d)(1).

(ii) You must implement the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(iii) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in §63.11490(g), "What are my standards and management practices?", as practicable.

(8) If you own or operate an affected dry mechanical polishing operation that emits one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(e), "What are my standards and management practices?", you must demonstrate initial compliance according to paragraphs (c)(8)(i) through (iii) of this section.

(i) You must install a control system that is designed to capture PM emissions from the polishing operation and exhaust them to a cartridge, fabric, or HEPA filter.

(ii) You must state in your Notification of Compliance Status that you have installed the control system according to the manufacturer's specifications and instructions.

(iii) You must keep the manufacturer's operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(9) If you own or operate an existing affected permanent thermal spraying operation that applies one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(f)(1), "What are my standards and management practices?", you must demonstrate initial compliance according to paragraphs (c)(9)(i) through (iii) of this section.

(i) You must install a control system that is designed to capture PM emissions from the thermal spraying operation and exhaust them to a water curtain, fabric filter, or HEPA filter.

(ii) You must state in your Notification of Compliance Status that you have installed and are operating the control system according to the manufacturer's specifications and instructions.

(iii) You must keep the manufacturer's operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(10) If you own or operate a new affected permanent thermal spraying operation that applies one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(f)(2), "What are my standards and management practices?", you must demonstrate initial compliance according to paragraphs (c)(10)(i) through (iii) of this section.

(i) You must install and operate a control system that is designed to capture PM emissions from the thermal spraying operation and exhaust them to a fabric or HEPA filter.

(ii) You must state in your Notification of Compliance Status that you have installed and operate the control system according to the manufacturer's specifications and instructions.

(iii) You must keep the manufacturer's operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(11) If you own or operate an affected temporary thermal spraying operation that applies one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(f)(3), "What are my standards and management practices?", you must demonstrate initial compliance according to paragraphs (c)(11)(i) and (ii) of this section.

(i) You must implement the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(ii) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in §63.11507(g), "What are my standards and management practices?", as practicable.

(d) To demonstrate continuous compliance with the applicable management practices and equipment standards specified in this subpart, you must satisfy the requirements specified in paragraphs (d)(1) through (8) of this section.

(1) You must always operate and maintain your affected source, including air pollution control equipment.

(2) You must prepare an annual compliance certification according to the requirements specified in §63.11509(c), "Notification, Reporting, and Recordkeeping," and keep it in a readily-accessible location for inspector review.

(3) If you own or operate an affected electroplating, electroforming, or electropolishing tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(a), "What are my standards and management practices?", and you use a wetting agent/fume suppressant to comply with this subpart, you must demonstrate continuous compliance according to paragraphs (d)(3)(i) through (iii) of this section.

(i) You must record that you have added the wetting agent/fume suppressant to the tank bath in the original make-up of the tank.

(ii) For tanks where the wetting agent/fume suppressant is a separate purchased ingredient from the other tank additives, you must demonstrate continuous compliance according to paragraphs (d)(3)(ii) (A) and (B) this section.

(A) You must add wetting agent/fume suppressant in proportion to the other bath chemistry ingredients that are added to replenish the tank bath, as in the original make-up of the tank.

(B) You must record each addition of wetting agent/fume suppressant to the tank bath.

(iii) You must state in your annual compliance certification that you have added wetting agent/fume suppressant to the bath according to the manufacturer's specifications and instructions.

(4) If you own or operate an affected electroplating, electroforming, or electropolishing tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(a), "What are my standards and management practices?", and you use a control system to comply with this subpart; an affected dry mechanical

polishing operation that is subject to §63.11507(e); or an affected thermal spraying operation that is subject to §63.11507(f)(1) or (2), you must demonstrate continuous compliance according to paragraphs (d)(4)(i) through (v) of this section.

- (i) You must operate and maintain the control system according to the manufacturer's specifications and instructions.
- (ii) Following any malfunction or failure of the capture or control devices to operate properly, you must take immediate corrective action to return the equipment to normal operation according to the manufacturer's specifications and operating instructions.
- (iii) You must state in your annual certification that you have operated and maintained the control system according to the manufacturer's specifications and instructions.
- (iv) You must record the results of all control system inspections, deviations from proper operation, and any corrective action taken.
- (v) You must keep the manufacturer's operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(5) If you own or operate an affected flash or short-term electroplating tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(b), "What are my standards and management practices?", and you comply with this subpart by limiting the plating time for the affected tank, you must demonstrate continuous compliance according to paragraphs (d)(5)(i) through (iii) of this section.

- (i) You must limit short-term or flash electroplating to no more than 1 cumulative hour per day or 3 cumulative minutes per hour of plating time.
- (ii) You must record the times that the affected tank is operated each day.
- (iii) You must state in your annual compliance certification that you have limited short-term or flash electroplating to no more than 1 cumulative hour per day or 3 cumulative minutes per hour of plating time.

(6) If you own or operate an affected batch electrolytic process tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements of §63.11507(a), "What are my standards and management practices?", or a flash or short-term electroplating tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(b), and you comply by operating the affected tank with a cover, you must demonstrate continuous compliance according to paragraphs (d)(6)(i) through (iii) of this section.

- (i) You must operate the tank with the cover in place at least 95 percent of the electrolytic process operating time.
- (ii) You must record the times that the tank is operated and the times that the tank is covered on a daily basis.
- (iii) You must state in your annual certification that you have operated the tank with the cover in place at least 95 percent of the electrolytic process time.

(7) If you own or operate an affected continuous electrolytic process tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in §63.11507(a), "What are my standards and management practices?", and you cover your tanks to comply with this subpart, you must demonstrate continuous compliance according to paragraphs (d)(7)(i) and (ii) of this section.

- (i) You must operate the tank with at least 75 percent of the surface covered during all periods of electrolytic process operation.
- (ii) You must state in your annual certification that you have operated the tank with 75 percent of the surface covered during all periods of electrolytic process operation.

(8) If you own or operate an affected tank or other operation that is subject to the management practices specified in §63.11507(g), "What are my standards and management practices?", you must demonstrate continuous compliance according to paragraphs (d)(8)(i) and (ii) of this section.

(i) You must implement the applicable management practices during all times that the affected tank or process is in operation.

(ii) You must state in your annual compliance certification that you have implemented the applicable management practices, as practicable.

§ 63.11509 What are my notification, reporting, and recordkeeping requirements?

(a) If you own or operate an affected source, as defined in §63.11505(a), "What parts of my plant does this subpart cover?", you must submit an Initial Notification in accordance with paragraphs (a)(1) through (4) of this section by the dates specified.

(1) The Initial Notification must include the information specified in §63.9(b)(2)(i) through (iv) of the General Provisions of this part.

(2) The Initial Notification must include a description of the compliance method (e.g. , use of wetting agent/fume suppressant) for each affected source.

(3) If you start up your affected source on or before July 1, 2008, you must submit an Initial Notification not later than 120 calendar days after July 1, 2008.

(4) If you start up your new affected source after July 1, 2008, you must submit an Initial Notification not later than 120 calendar days after you become subject to this subpart.

(b) If you own or operate an affected source, you must submit a Notification of Compliance Status in accordance with paragraphs (b)(1) and (2) of this section.

(1) The Notification of Compliance Status must be submitted before the close of business on the compliance date specified in §63.11506, "What are my compliance dates?"

(2) The Notification of Compliance Status must include the items specified in paragraphs (b)(2)(i) through (iv) of this section.

(i) List of affected sources and the plating and polishing metal HAP used in, or emitted by, those sources.

(ii) Methods used to comply with the applicable management practices and equipment standards.

(iii) Description of the capture and emission control systems used to comply with the applicable equipment standards.

(iv) Statement by the owner or operator of the affected source as to whether the source is in compliance with the applicable standards or other requirements.

(c) If you own or operate an affected source, you must prepare an annual certification of compliance report according to paragraphs (c)(1) through (7) of this section. These reports do not need to be submitted unless a deviation from the requirements of this subpart has occurred during the reporting year, in which case, the annual compliance report must be submitted along with the deviation report.

(1) If you own or operate an affected electroplating, electroforming, or electropolishing tank that is subject to the requirements in §63.11507(a)(1), "What are my standards and management practices?", you must state in your annual compliance certification that you have added wetting agent/fume suppressant to the bath according to the manufacturer's specifications and instructions.

(2) If you own or operate any one of the affected sources listed in paragraphs (c)(2)(i) through (iii) of this section, you must state in your annual certification that you have operated and maintained the control system according to the manufacturer's specifications and instructions.

(i) Electroplating, electroforming, or electropolishing tank that is subject to the requirements in §63.11507(a), "What are my standards and management practices?", and you use a control system to comply with this subpart;

(ii) Dry mechanical polishing operation that is subject to §63.11507(e); or

(iii) Permanent thermal spraying operation that is subject to §63.11507(f)(1) or (2).

(3) If you own or operate an affected flash or short-term electroplating tank that is subject to the requirements in §63.11507(b), "What are my standards and management practices?", and you comply with this subpart by limiting the plating time of the affected tank, you must state in your annual compliance certification that you have limited short-term or flash electroplating to no more than 1 cumulative hour per day or 3 cumulative minutes per hour of plating time.

(4) If you own or operate an affected batch electrolytic process tank that is subject to the requirements of §63.11507(a) or a flash or short-term electroplating tank that is subject to the requirements in §63.11507(b), "What are my standards and management practices?", and you comply by operating the affected tank with a cover, you must state in your annual certification that you have operated the tank with the cover in place at least 95 percent of the electrolytic process time.

(5) If you own or operate an affected continuous electrolytic process tank that is subject to the requirements of §63.11507(a), "What are my standards and management practices?", and you comply by operating the affected tank with a cover, you must state in your annual certification that you have covered at least 75 percent of the surface area of the tank during all periods of electrolytic process operation.

(6) If you own or operate an affected tank that is subject to the management practices specified in §63.11507(g), "What are my standards and management practices?", you must state in your annual compliance certification that you have implemented the applicable management practices, as practicable.

(7) Each annual compliance report must be prepared no later than January 31 of the year immediately following the reporting period and kept in a readily-accessible location for inspector review. If a deviation has occurred during the year, each annual compliance report must be submitted along with the deviation report, and postmarked or delivered no later than January 31 of the year immediately following the reporting period.

(d) If you own or operate an affected source, and any deviations from the compliance requirements specified in this subpart occurred during the year, you must report the deviations, along with the corrective action taken, and submit this report to the delegated authority.

(e) You must keep the records specified in paragraphs (e)(1) through (3) of this section.

(1) A copy of any Initial Notification and Notification of Compliance Status that you submitted and all documentation supporting those notifications.

(2) The records specified in §63.10(b)(2)(i) through (iii) and (xiv) of the General Provisions of this part.

(3) The records required to show continuous compliance with each management practice and equipment standard that applies to you, as specified in §63.11508(d), "What are my compliance requirements?"

(f) You must keep each record for a minimum of 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. You must keep each record onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1) of the General Provisions to part 63. You may keep the records offsite for the remaining 3 years.

Other Requirements and Information

§ 63.11510 What General Provisions apply to this subpart?

If you own or operate a new or existing affected source, you must comply with the requirements of the General Provisions (40 CFR part 63, subpart A) according to Table 1 of this subpart.

§ 63.11511 What definitions apply to this subpart?

Terms used in this subpart are defined in this section.

Batch electrolytic process tank means a tank used for an electrolytic process in which a part or group of parts, typically mounted on racks or placed in barrels, is placed in the tank and immersed in an electrolytic process solution as a single unit (i.e., as a batch) for a predetermined period of time, during which none of the parts are removed from the tank and no other parts are added to the tank, and after which the part or parts are removed from the tank as a unit.

Bath means the liquid contents of a tank that is used for electroplating, electroforming, electropolishing, or other metal coating processes at a plating and polishing facility.

Capture system means the collection of components used to capture gases and fumes released from one or more emissions points and then convey the captured gas stream to a control device, as part of a complete control system. A capture system may include, but is not limited to, the following components as applicable to a given capture system design: duct intake devices, hoods, enclosures, ductwork, dampers, manifolds, plenums, and fans.

Cartridge filter means a type of control device that uses perforated metal cartridges containing a pleated paper or non-woven fibrous filter media to remove PM from a gas stream by sieving and other mechanisms. Cartridge filters can be designed with single use cartridges, which are removed and disposed after reaching capacity, or continuous use cartridges, which typically are cleaned by means of a pulse-jet mechanism.

Composite mesh pad means a type of control device similar to a mesh pad mist eliminator except that the device is designed with multiple pads in series that are woven with layers of material with varying fiber diameters, which produce a coalescing effect on the droplets or PM that impinge upon the pads.

Continuous electrolytic process tank means a tank that uses an electrolytic process and in which a continuous metal strip or other type of continuous substrate is fed into and removed from the tank continuously. This process is also called reel-to-reel electrolytic plating.

Control device means equipment that is part of a control system that collects and/or reduces the quantity of a pollutant that is emitted to the air. The control device receives emissions that are transported from the process by the capture system.

Control system means the combination of a capture system and a control device. The capture system is designed to collect and transport air emissions from the affected source to the control device. The overall control efficiency of any control system is a combination of the ability of the system to capture the air emissions (i.e., the capture efficiency) and the control device efficiency. Consequently, it is important to achieve good capture to ensure good overall control efficiency. Capture devices that are known to provide high capture efficiencies include hoods, enclosures, or any other duct intake devices with ductwork, dampers, manifolds, plenums, or fans.

Cyanide plating means plating processes performed in tanks that use cyanide as a major bath ingredient and that operate at pH of 12 or more, and use or emit any of the plating and polishing metal HAP, as defined in this section. Electroplating and electroforming are performed with or without cyanide. The cyanide in the bath works to dissolve the HAP metal added as a cyanide compound (e.g., cadmium cyanide) and creates free cyanide in solution, which helps to corrode the anode. These tanks are self-regulating to a pH of 12 due to the caustic nature of the cyanide bath chemistry. The cyanide in the bath is a major bath constituent and not an additive; however, the self-regulating chemistry of the bath causes the bath to act as if wetting agents/fume suppressants are being used and to ensure an optimum plating process. All cyanide plating baths at pH greater than or equal to 12 have cyanide-metal complexes in solution. The metal HAP to be plated is not emitted because it is either bound in the metal-cyanide complex or reduced at the cathode to elemental metal, and plated onto the immersed parts. Cyanide baths are not intentionally operated at pH less than 12 since unfavorable plating conditions would occur in the tank, among other negative effects.

Deviation means any instance in which an affected source or an owner or operator of such an affected source:

- (1) Fails to meet any requirement or obligation established by this rule including, but not limited to, any equipment standard (including emissions and operating limits), management practice, or operation and maintenance requirement;
- (2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this rule and that is included in the operating permit for any affected facility required to obtain such a permit; or
- (3) Fails to meet any equipment standard (including emission and operating limits), management standard, or operation and maintenance requirement in this rule during startup, shutdown, or malfunction.

Dry mechanical polishing means a process used for removing defects from and smoothing the surface of finished metals and formed products after plating with any of the plating and polishing metal HAP, as defined in this section, using hard-faced abrasive wheels or belts and where no liquids or fluids are used to trap the removed metal particles.

Electroforming means an electrolytic process using or emitting any of the plating and polishing metal HAP, as defined in this section, that is used for fabricating metal parts. This process is essentially the same as electroplating except that the plated substrate (mandrel) is removed, leaving only the metal plate. In electroforming, the metal plate is self-supporting and generally thicker than in electroplating.

Electroless plating means a non-electrolytic process that uses or emits any of the plating and polishing metal HAP, as defined in this section, in which metallic ions in a plating bath or solution are reduced to form a metal coating at the surface of a catalytic substrate without the use of external electrical energy. Electroless plating is also called non-electrolytic plating. Examples include, but are not limited to, chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating.

Electrolytic plating processes means electroplating and electroforming that use or emit any of the plating and polishing metal HAP, as defined in this section, where metallic ions in a plating bath or solution are reduced to form a metal coating on the surface of parts and products using electrical energy.

Electroplating means an electrolytic process that uses or emits any of the plating and polishing metal HAP, as defined in this section, in which metal ions in solution are reduced onto the surface of the work piece (the cathode) via an electrical current. The metal ions in the solution are usually replenished by the dissolution of metal from solid metal anodes fabricated of the same metal being plated, or by direct replenishment of the solution with metal salts or oxides; electroplating is also called electrolytic plating.

Electropolishing means an electrolytic process that uses or emits any of the plating and polishing metal HAP, as defined in this section, in which a work piece is attached to an anode immersed in a bath, and the metal substrate is dissolved electrolytically, thereby removing the surface contaminant; electropolishing is also called electrolytic polishing.

Fabric filter means a type of control device used for collecting PM by filtering a process exhaust stream through a filter or filter media. A fabric filter is also known as a baghouse.

Flash electroplating means an electrolytic process that uses or emits any of the plating and polishing metal HAP, as defined in this section, and that is used no more than 3 cumulative minutes per hour or no more than 1 cumulative hour per day.

General Provisions of this part (40 CFR part 63, subpart A) means the section of the Code of Federal Regulations (CFR) that addresses air pollution rules that apply to all HAP sources addressed in part 63, which includes the National Emission Standards for Hazardous Air Pollutants (NESHAP).

HAP means hazardous air pollutant as defined from the list of 188 chemicals and compounds specified in the CAA Amendments of 1990; HAP are also called "air toxics." The five plating and polishing metal HAP, as defined in this section, are on this list of 188 chemicals.

High efficiency particulate air (HEPA) filter means a type of control device that uses a filter composed of a mat of randomly arranged fibers and is designed to remove at least 99.97 percent of airborne particles that are 0.3 micrometers or larger in diameter.

Mesh pad mist eliminator means a type of control device, consisting of layers of interlocked filaments densely packed between two supporting grids that remove liquid droplets and PM from the gas stream through inertial impaction and direct interception.

Metal coating operation means any process performed either in a tank that contains liquids or as part of a spraying operation that applies one or more plating and polishing metal HAP, as defined in this section, to parts and products used in manufacturing. These processes include but are not limited to: Non-chromium electroplating; electroforming; electropolishing; other non-electrolytic metal coating processes, such as chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating; and thermal spraying.

New source means any affected source for which you commenced construction or reconstruction after March 14, 2008.

Non-cyanide electrolytic plating and electropolishing processes means electroplating, electroforming, and electropolishing that uses or emits any of the plating and polishing metal HAP, as defined in this section, performed without cyanide in the tank. These processes do not use cyanide in the tank and operate at pH values less than 12. These processes use electricity and add or remove metals such as metal HAP from parts and products used in manufacturing. Both electroplating and electroforming can be performed with cyanide as well.

Non-electrolytic plating means a process that uses or emits any of the plating and polishing metal HAP, as defined in this section, in which metallic ions in a plating bath or solution are reduced to form a metal coating at the surface of a catalytic substrate without the use of external electrical energy. Non-electrolytic plating is also called electroless plating. Examples include chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating.

Packed-bed scrubber means a type of control device that includes a single or double packed bed that contains packing media on which PM and droplets impinge and are removed from the gas stream. The packed-bed section of the scrubber is followed by a mist eliminator to remove any water entrained from the packed-bed section.

Plating and polishing facility means a facility engaged in one or more of the following processes that uses or emits any of the plating and polishing metal HAP, as defined in this section: Electroplating processes other than chromium electroplating (i.e., non-chromium electroplating); electroless plating; other non-electrolytic metal coating processes, such as chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating; thermal spraying; and the dry mechanical polishing of finished metals and formed products after plating.

Plating and polishing metal HAP means any compound of any of the following metals: cadmium, chromium, lead, manganese, and nickel, or any of these metals in the elemental form, with the exception of lead. Any material that does not contain cadmium, chromium, lead, or nickel in amounts greater than or equal to 0.1 percent by weight, and does not contain manganese in amounts greater than or equal to 1.0 percent by weight, as reported on the Material Safety Data Sheet for the material, is not considered to be a plating and polishing metal HAP.

Plating and polishing process tanks means any tank in which a process is performed at an affected plating and polishing facility that uses or has the potential to emit any of the plating and polishing metal HAP, as defined in this section. The processes performed in plating and polishing tanks include the following: Electroplating processes other than chromium electroplating (i.e., non-chromium electroplating) performed in a tank; electroless plating; and non-electrolytic metal coating processes, such as chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating; and electropolishing. This term does not include tanks containing solutions that are used to rinse or wash parts prior to placing the parts in a plating and polishing process tank, or subsequent to removing the parts from a plating and polishing process tank. This term also does not include thermal spraying or dry polishing with machines.

PM means solid or particulate matter that is emitted into the air.

Research and development process unit means any process unit that is used for conducting research and development for new processes and products and is not used to manufacture products for commercial sale, except in a *de minimis* manner.

Short-term plating means an electroplating process that uses or emits any of the plating and polishing metal HAP, as defined in this section, and that is used no more than 3 cumulative minutes per hour or 1 hour cumulative per day.

Tank cover for batch process units means a solid structure made of an impervious material that is designed to cover the entire open surface of a tank or process unit that is used for plating or other metal coating processes.

Tank cover for continuous process units, means a solid structure or combination of structures, made of an impervious material that is designed to cover at least 75 percent of the open surface of the tank or process unit that is used for continuous plating or other continuous metal coating processes.

Temporary thermal spraying means a thermal spraying operation that uses or emits any of the plating and polishing metal HAP, as defined in this section, and that lasts no more than 1 hour in duration during any one day and is conducted in situ. Thermal spraying that is conducted in a dedicated thermal spray booth or structure is not considered to be temporary thermal spraying.

Thermal spraying (also referred to as metal spraying or flame spraying) is a process that uses or emits any of the plating and polishing metal HAP, as defined in this section, in which a metallic coating is applied by projecting molten or semi-molten metal particles onto a substrate. Commonly-used thermal spraying methods include high velocity oxy-fuel (HVOF) spraying, flame spraying, electric arc spraying, plasma arc spraying, and detonation gun spraying.

Water curtain means a type of control device that draws the exhaust stream through a continuous curtain of moving water to scrub out suspended PM.

Wetting agent/fume suppressant means any chemical agent that reduces or suppresses fumes or mists from a plating and polishing tank by reducing the surface tension of the tank bath.

§ 63.11512 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by EPA or a delegated authority such as your State, local, or tribal agency. If the EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency, in addition to EPA, has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the EPA Administrator and are not transferred to the State, local, or tribal agency.

(c) The authorities that cannot be delegated to State, local, or tribal agencies are specified in paragraphs (c)(1) through (5) of this section.

(1) Approval of an alternative non-opacity emissions standard under 40 CFR 63.6(g), of the General Provisions of this part.

(2) Approval of an alternative opacity emissions standard under §63.6(h)(9), of the General Provisions of this part.

(3) Approval of a major change to test methods under §63.7(e)(2)(ii) and (f), of the General Provisions of this part. A "major change to test method" is defined in §63.90.

(4) Approval of a major change to monitoring under §63.8(f), of the General Provisions of this part. A "major change to monitoring" is defined in §63.90.

(5) Approval of a major change to recordkeeping and reporting under §63.10(f), of the General Provisions of this part. A "major change to recordkeeping/reporting" is defined in §63.90.

§ 63.11513 [Reserved]

Table 1 to Subpart WWWW of Part 63. Applicability of General Provisions to Plating and Polishing Area Sources

As required in §63.11510, "What General Provisions apply to this subpart?", you must meet each requirement in the following table that applies to you.

Citation	Subject
63.1	Applicability.
63.2	Definitions.
63.3	Units and abbreviations.
63.4	Prohibited activities.
63.6(a), (b)(1)–(b)(5), (c)(1), (c)(2), (c)(5), (j)	Compliance with standards and maintenance requirements.
63.10(a), (b)(1), (b)(2)(i)–(iii),(xiv), (b)(3), (d)(1), (f)	Recordkeeping and reporting.
63.12	State authority and delegations.
63.13	Addresses of State air pollution control agencies and EPA regional offices.
63.14	Incorporation by reference.
63.15	Availability of information and confidentiality.

¹Section 63.11505(e), "What parts of my plant does this subpart cover?", exempts affected sources from the obligation to obtain title V operating permits.

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

**Addendum to the Technical Support Document (ATSD) for a
Federally Enforceable State Operating Permit (FESOP) Renewal**

Source Background and Description

Source Name:	Zimmer, Inc.
Source Location:	1800 West Center Street, Warsaw, IN 46580
County:	Kosciusko
SIC Code:	3842
Operation Permit No.:	F085-24888-00064
Permit Reviewer:	Christine L. Filutze

On March 10, 2009, the Office of Air Quality (OAQ) had a notice published in The Times Union, Warsaw, Indiana, stating that Zimmer, Inc. had applied for a Federally Enforceable State Operating Permit (FESOP) Renewal to its operating permit, FESOP number F085-12778-00064, which was issued on March 11, 2003. The notice also stated that the OAQ proposed to issue a Federally Enforceable State Operating Permit (FESOP) Renewal for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Comments and Responses

On April 13, 2009, Zimmer, Inc. submitted comments to IDEM, OAQ on the draft Federally Enforceable State Operating Permit (FESOP) Renewal to its operating permit.

The Technical Support Document (TSD) is used by IDEM, OAQ for historical purposes. IDEM, OAQ does not make any changes to the original TSD, but the Permit will have the updated changes. The comments and revised permit language are provided below with deleted language as ~~strikeouts~~ and new language **bolded**.

Comment 1:

The general description of the plant contained in Condition A.1 is "a stationary prosthetic device manufacturing (casting, cutting, grinding, polishing, and abrasive blasting to produce medical and surgical instruments, and orthopedic and prosthetic appliances)." Zimmer suggests that the words "medical and surgical instruments and" be removed from this description, as Zimmer does not produce medical or surgical instruments at this facility.

Response to Comment 1:

IDEM agrees with the recommended changes, since Zimmer does not produce medical or surgical instruments at this facility. The permit has been revised as follows:

A.1... a stationary prosthetic device manufacturing **company** (casting, cutting, grinding, polishing, and abrasive blasting to produce ~~medical and surgical instruments, and~~ orthopedic and prosthetic appliances). This change has also been incorporated into Section E.1.2 of the permit.

Comment 2:

Zimmer constructed several insignificant natural gas-fired units which are described in Condition A.4(d). This includes four (4) small boilers in Building 19. Zimmer believes that these units should be added to Section D.2 of the permit, which addresses applicable requirements for fuel-fired combustion sources.

Response to Comment 2:

IDEM agrees with the recommended changes that the four (4) insignificant boilers, constructed in 2008, should be added to Section D.2 of the permit. The permit has been revised as follows:

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Insignificant Activities

- (d) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour:
 - (1) Two (2) natural gas boilers (identified as B1 and B2) installed in 1991 and 1995, respectively, each having a maximum capacity of 500,000 BTU per hour [326 IAC 6-2-4];
 - (2) One (1) natural gas boiler (identified as B3) installed in 2000, having a maximum capacity of 1 million BTU per hour [326 IAC 6-2-4];
 - (7) Four (4) boilers in Building 19, constructed in 2008, with maximum heat input capacity of 0.50 MMBtu/hr, each.

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

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

D.2.1 Particulate Emission Limitations [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4(a), the particulate emissions from B1, B2, ~~and B3~~, **and the four (4) boilers in Building 19** shall in no case exceed 0.6 pounds each per million British thermal unit heat input.

Comment 3:

New area source Generally Available Control Technology (GACT) requirements (Subpart WWWWWW) have been incorporated into Section E.1 of the permit. Subpart WWWWWW applies to 'dry mechanical polishing' operations at Zimmer which contain certain HAPs.

Response to Comment 3:

IDEM does not agree with the recommended change to state that Subpart WWWWWW applies to 'dry mechanical polishing' operations at Zimmer which contain certain HAPs. However, IDEM does agree that Subpart WWWWWW does not apply to all emission units listed in section E.1 and has removed the emission units from Section E.1 for which Subpart WWWWWW does not apply. The permit has been revised as follows:

SECTION E.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) hip and stem production line (identified as Hip), with a maximum capacity of 99 pounds per hour, constructed in 1972, comprised of the following processes:
 - (1) Collar polishing using a wet dust collector (stack ID Z2) as particulate control with no external exhaust.
 - (2) Stem polishing using three (3) dry dust collectors (stack ID Z8, Z10, and Z12) as particulate control with no external exhaust.
- (b) One (1) knee production line (identified as Knee), with a maximum capacity of 99 pounds per hour, constructed in 1972, comprised of the following processes:
 - ~~(1) Tumbleblasting using steel shot media with dry dust collectors (stack ID ZA1 and ZA2) as particulate control with external exhaust.~~
 - ~~(2) Grinding using a wet dust collector (stack ID Z1) as particulate control with no external exhaust.~~
 - (3) Buffing using dry dust collectors (stack ID Z3, Z5, Z7, Z9, Z11) as particulate control with no external exhaust.
- ~~(c) One (1) casting process line (identified as casting), with a maximum capacity of 99 pounds per hour, constructed in 1972, comprised of the following processes:
 - ~~(1) Shell formation with two (2) fluidized bed sand units (stack ID ZA1) as particulate control with external exhaust.~~
 - ~~(2) One (1) shotblast unit with stainless steel shot media and a dry dust collector (stack ID ZA1) as particulate control with external exhaust.~~
 - ~~(3) One (1) tumbleblast unit with stainless steel shot media and a dry dust collector (stack ID ZA1) as particulate control with external exhaust.~~
 - ~~(4) Grinding using a dry dust collector (stack ID ZA1) as particulate control with external exhaust.~~
 - ~~(5) Deburring with dry dust collectors (stack ID ZA1 and ZA2) as particulate control with external exhaust.~~~~
- (d) One (1) prosthetic device manufacturing process, constructed in 2004, with a maximum capacity of 99 pounds per hour, with a blast room, blast/buff room, Weldon Grinder, and a polishing robot controlled by two wet dust collectors (identified as Z13 with a maximum flow rate of 15,000 scfm, and Z14 with a maximum flow rate of 30,000 scfm), each exhausting into the building.
- (e) One (1) knee production line, with a maximum capacity of 99 pounds per hour, constructed in 2005, comprised of wet grinding operations with no controls and polishing operations using a wet dust collector (stack ID Z16) as particulate control with a maximum flow rate of 30,000 scfm and no external exhaust.

- (f) One (1) prosthetic knee manufacturing process, with a maximum capacity of 99 pounds per hour, constructed in 2007, with ~~tumble blast, grinding, and~~ polishing operations controlled using a fabric filter collector (stack ID Z17) as particulate control with a maximum air flow rate of 20,000 scfm and no external exhaust.
- (g) One (1) prosthetic knee manufacturing process, with a maximum capacity of 99 pounds per hour, constructed in 2007, with ~~tumble blast, grinding, and~~ polishing operations controlled using a fabric filter collector (stack ID Z18) as particulate control with a maximum air flow rate of 35,000 scfm and no external exhaust.
- ~~(h) One (1) investment casting process, with a maximum capacity of 99 pounds per hour, constructed in 2007, with shot blast, tumble blast, grinding, and deburring operations controlled using a fabric filter collector (stack ID Z19) as particulate control with a maximum air flow rate of 20,000 scfm and no external exhaust.~~
- ~~(i) One (1) investment casting process located in Building 19, with a maximum capacity of ninety-nine (99) pounds per hour throughput, constructed in 2008, with shot blast, tumble blast, grinding, and deburring operations controlled using a fabric filter collector (stack ID Z20) as particulate control with a maximum flow rate of 20,000 cfm and no external exhaust.~~
- ~~(j) One (1) casting process line located in Building 19, with a maximum capacity of 99 pounds per hour, constructed in 2008, with shell formation, shot blast, tumble blast, grinding, and deburring operations controlled using two (2) fabric filter collectors (stack IDs Z21 and Z22) as particulate control with a maximum air flow rate of 10,000 scfm per collector, and no external exhaust.~~

Insignificant Activities:

- (b) 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 [326 IAC 6-3-2]:
 - (1) Stem polishing using a dry cyclone with secondary cloth filtration as particulate control with no external exhaust.
 - ~~(2) Burr grinding using a dry cyclone with secondary cloth filtration as particulate control with no external exhaust.~~
 - (3) Stem polishing using cartridge filtration as particulate control with no external exhaust.
 - ~~(4) Abrasive blast cabinets using aluminum oxide or glass bead media with fabric filters as particulate control with no external exhaust.~~
 - (5) Buffing using a dry cyclone with secondary cloth filtration as particulate control with no external exhaust.
 - ~~(6) Burr grinding using a dry cyclone with secondary cloth filtration as particulate control with no external exhaust.~~
 - ~~(7) Grinding using an oil mist collector with electrostatic precipitation as particulate control with no external exhaust.~~

(8) Deburring with a dry cyclone as particulate control with external exhaust.
(9) Machining of polypropylene parts controlled by cloth filters (stack ID Z139 through Z141) with no external exhaust.
(c) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring, buffing, and polishing, abrasive blasting, pneumatic conveying, an woodworking operations [326 IAC 6-3-2];
(1) Stem polishing using a Trimer Wet Cyclone (stack ID Z101) as particulate control with external exhaust.
(2) Machine rasping using a Trimer Wet Cyclone (stack ID Z102) as particulate control with external exhaust.
(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Additional Changes

IDEM, OAQ has decided to make additional revisions to the permit as described below, with deleted language as ~~strikeouts~~ and new language **bolded**.

- (a) Table of Contents
 - D.2.1 Particulate Emission Limitations [326 IAC 6-2-3(d) **4(a)**]
 - .
 - .
 - Certification Form **3736**
 - Emergency Occurrence Form **3837**
 - Quarterly Deviation and Compliance Monitoring Report Form..... **4039**
- (b) A.4(d)(7)
Four (4) boilers in Building 19, **constructed in 2008**, with maximum heat input capacity of 0.50 MMBtu/hr, each.
- (c) D.2.1 Particulate Emission Limitations [326 IAC ~~6-2-3(d)~~ **6-2-4**]
Pursuant to 326 IAC ~~6-3-2(d)~~ **6-2-4(a)**, the particulate emissions from B1, B2, and B3 shall in no case exceed 0.6 pounds each per million British thermal unit heat input.
- (d) E.1.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants
(NESHAP) for Source Categories [326 IAC 20] [40 CFR Part 63, Subpart A]
The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 20, apply to the ~~facility~~ **facilities** described in this section except when otherwise specified in 40 CFR Part 63, Subpart WWWWWW.

IDEM Contact

- (a) Questions regarding this proposed Federally Enforceable State Operating Permit (FESOP) Renewal can be directed to Christine L. Filutze at the Indiana Department Environmental

Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN
1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 233-8397 or toll free at
1-800-451-6027 extension 3-8397.

- (b) A copy of the permit is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Federally Enforceable State Operating Permit (FESOP) Renewal

Source Background and Description

Source Name:	Zimmer, Inc.
Source Location:	1800 West Center Street, Warsaw, IN 46580
County:	Kosciusko
SIC Code:	3842
Permit Renewal No.:	F085-24888-00064
Permit Reviewer:	Christine L. Filutze

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application for FESOP (F085-12778-00064) issued on March 11, 2003, from Zimmer, Inc. relating to the operation of prosthetic device manufacturing company (casting, cutting, grinding, polishing, and abrasive blasting to produce medical and surgical instruments, and orthopedic and prosthetic appliances).

History

On June 7, 2007, Zimmer, Inc. submitted an application to the OAQ requesting to renew its operating permit. Zimmer, Inc. was issued a FESOP (F085-12778-00064) on March 11, 2003.

Source Definition

This prosthetic device manufacturing company (casting, cutting, grinding, polishing, and abrasive blasting to produce medical and surgical instruments, and orthopedic and prosthetic appliances) consists of three (3) plants:

- (a) Building 5 is located at 1800 West Center Street, Warsaw, Indiana 46580;
- (b) Building 4 is located at 1777 West Center Street, Warsaw, Indiana, 46580;
- (c) Building 19 is located at 1535 West Center Street, Warsaw, Indiana, 46580.

These plants are located on one or more contiguous or adjacent properties, belong to the same industrial grouping, and are under common control. Therefore they will be considered one (1) major source, as defined by 326 IAC 2-7-1(22).

Permitted Emission Units and Pollution Control Equipment

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

- (a) One (1) hip and stem production line (identified as Hip), with a maximum capacity of 99 pounds per hour, constructed in 1972, comprised of the following processes:
 - (1) Collar polishing using a wet dust collector (stack ID Z2) as particulate control with no external exhaust.
 - (2) Stem polishing using three (3) dry dust collectors (stack ID Z8, Z10, and Z12) as particulate control with no external exhaust.

- (b) One (1) knee production line (identified as Knee), with a maximum capacity of 99 pounds per hour, constructed in 1972, comprised of the following processes:
 - (1) Tumbleblasting using steel shot media with dry dust collectors (stack ID ZA1 and ZA2) as particulate control with external exhaust.
 - (2) Grinding using a wet dust collector (stack ID Z1) as particulate control with no external exhaust.
 - (3) Buffing using dry dust collectors (stack ID Z3, Z5, Z7, Z9, Z11) as particulate control with no external exhaust.
- (c) One (1) casting process line (identified as casting), with a maximum capacity of 99 pounds per hour, constructed in 1972, comprised of the following processes:
 - (1) Shell formation with two (2) fluidized bed sand units (stack ID ZA1) as particulate control with external exhaust.
 - (2) One (1) shotblast unit with stainless steel shot media and a dry dust collector (stack ID ZA1) as particulate control with external exhaust.
 - (3) One (1) tumbleblast unit with stainless steel shot media and a dry dust collector (stack ID ZA1) as particulate control with external exhaust.
 - (4) Grinding using a dry dust collector (stack ID ZA1) as particulate control with external exhaust.
 - (5) Deburring with dry dust collectors (stack ID ZA1 and ZA2) as particulate control with external exhaust.
- (d) One (1) prosthetic device manufacturing process, constructed in 2004, with a maximum capacity of 99 pounds per hour, with a blast room, blast/buff room, Weldon Grinder, and a polishing robot controlled by two wet dust collectors (identified as Z13 with a maximum flow rate of 15,000 scfm, and Z14 with a maximum flow rate of 30,000 scfm), each exhausting into the building.
- (e) One (1) knee production line, with a maximum capacity of 99 pounds per hour, constructed in 2005, comprised of wet grinding operations with no controls and polishing operations using a wet dust collector (stack ID Z16) as particulate control with a maximum flow rate of 30,000 scfm and no external exhaust.
- (f) One (1) prosthetic knee manufacturing process, with a maximum capacity of 99 pounds per hour, constructed in 2007, with tumble blast, grinding, and polishing operations controlled using a fabric filter collector (stack ID Z17) as particulate control with a maximum air flow rate of 20,000 scfm and no external exhaust.
- (g) One (1) prosthetic knee manufacturing process, with a maximum capacity of 99 pounds per hour, constructed in 2007, with tumble blast, grinding, and polishing operations controlled using a fabric filter collector (stack ID Z18) as particulate control with a maximum air flow rate of 35,000 scfm and no external exhaust.
- (h) One (1) investment casting process, with a maximum capacity of 99 pounds per hour, constructed in 2007, with shot blast, tumble blast, grinding, and deburring operations controlled using a fabric filter collector (stack ID Z19) as particulate control with a maximum air flow rate of 20,000 scfm and no external exhaust.

New Emission Units and Pollution Control Equipment

- (a) One (1) investment casting process located in Building 19, with a maximum capacity of ninety-nine (99) pounds per hour throughput, constructed in 2008, with shot blast, tumble blast, grinding, and deburring operations controlled using a fabric filter collector (stack ID Z20) as particulate control with a maximum flow rate of 20,000 cfm and no external exhaust.
- (b) One (1) casting process line located in Building 19, with a maximum capacity of 99 pounds per hour, constructed in 2008, with shell formation, shot blast, tumble blast, grinding, and deburring operations controlled using two (2) fabric filter collectors (stack IDs Z21 and Z22) as particulate control with a maximum air flow rate of 10,000 scfm per collector, and no external exhaust.

Insignificant Activities

This stationary source also includes 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) 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 [326 IAC 6-3-2]:
 - (1) Stem polishing using a dry cyclone with secondary cloth filtration as particulate control with no external exhaust.
 - (2) Burr grinding using a dry cyclone with secondary cloth filtration as particulate control with no external exhaust.
 - (3) Stem polishing using cartridge filtration as particulate control with no external exhaust.
 - (4) Abrasive blast cabinets using aluminum oxide or glass bead media with fabric filters as particulate control with no external exhaust.
 - (5) Buffing using a dry cyclone with secondary cloth filtration as particulate control with no external exhaust.
 - (6) Burr grinding using a dry cyclone with secondary cloth filtration as particulate control with no external exhaust.
 - (7) Grinding using an oil mist collector with electrostatic precipitation as particulate control with no external exhaust.
 - (8) Deburring with a dry cyclone as particulate control with external exhaust.
 - (9) Machining of polypropylene parts controlled by cloth filters (stack ID Z139 through Z141) with no external exhaust.
- (c) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring, buffing, polishing, abrasive blasting, pneumatic conveying, an woodworking operations [326 IAC 6-3-2]:

- (1) Stem polishing using a Trimer Wet Cyclone (stack ID Z101) as particulate control with external exhaust.
 - (2) Machine rasping using a Trimer Wet Cyclone (stack ID Z102) as particulate control with external exhaust.
- (d) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour:
- (1) Two (2) natural gas boilers (identified as B1 and B2) installed in 1991 and 1995, respectively, each having a maximum capacity of 500,000 BTU per hour [326 IAC 6-2-4];
 - (2) One (1) natural gas boiler (identified as B3) installed in 2000, having a maximum capacity of 1 million BTU per hour [326 IAC 6-2-4];
 - (3) Three (3) natural gas ceramic shell preheat furnaces, identified as WB1, installed in 1981, each having a maximum capacity of 2.8 million BTU per hour;
 - (4) Sixty-one (61) natural gas space heaters (identified as SH1), installed in 1972, each having a maximum capacity of 0.3 million BTU per hour; and
 - (5) Three (3) electric induction furnaces (identified as IF1), installed in 1972.
 - (6) Nine (9) rooftop heaters, with maximum heat input capacity of 0.85 MMBtu/hr each.
 - (7) Four (4) boilers in Building 19, with maximum heat input capacity of 0.50 MMBtu/hr each.
 - (8) Two (2) Pusher Ovens, with maximum heat input capacity of 4.0 MMBtu/hr each.
- (e) Machining where an aqueous cutting coolant continuously floods the machining interface.
- (f) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- (g) Mold release agents using low volatile products (vapor pressure less than or equal to 2 kilopascals measured at 38 degrees C).
- (h) A laboratory as defined in 326 IAC 2-7-1(21) (D).
- (i) Other emission units, not regulated by a NESHAP, with PM₁₀, NO_x, and SO₂ emissions less than five (5) pounds per hour or twenty-five (25) pounds per day, CO emissions less than twenty-five (25) pounds per day, VOC emissions less than three (3) pounds per hour or fifteen (15) pounds per day, lead emissions less than six-tenths (0.6) tons per year or three and twenty-nine hundredths (3.29) pounds per day, and emitting greater than one (1) pound per day but less than five (5) pounds per day or one (1) ton per year of a single HAP, or emitting greater than one (1) pound per day but less than twelve and five tenths (12.5) pounds per day or two and five tenths (2.5) ton per year of any combination of HAPs:
- (1) One (1) pickling process, constructed in 2004, including a nitric acid (less than 80%) bath and a hydrofluoric acid (HF) bath.

- (2) One (1) sintering process, constructed in 2004, with a maximum solvent (ethyl alcohol) usage of 55 gallons per year.
- (j) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6, including one (1) cleaning process, constructed in 2004, using isopropyl alcohol as the solvent. [326 IAC 8-3-2] [326 IAC 8-3-5]

Existing Approvals

Since the issuance of the FESOP F085-12778-00064 on March 11, 2003, the source has constructed or has been operating under the following approvals as well:

- (a) First Administrative Amendment F085-18978-00064, issued on June 4, 2004;
- (b) Second Administrative Amendment F085-21205-00064, issued on May 31, 2005; and
- (c) Third Administrative Amendment F085-25337-00064, issued on October 11, 2007;

All terms and conditions of 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.

Enforcement Issue

The new processes are of the same type and capacity and will comply with the same applicable requirements, permit terms, and conditions as the permitted prosthetic device manufacturing and investment casting processes contained in FESOP No. 085-12778-00064. The new equipment will not cause the source's potential to emit to be greater than the threshold levels specified in 326 IAC 2-2 or 326 IAC 2-3. These changes to the permit are considered a change by administrative amendment pursuant to 326 IAC 2-8-10(a)(14). Therefore, there are no enforcement actions pending.

Emission Calculations

See Appendix A of this document for detailed emission calculations.

County Attainment Status

The source is located in Kosciusko County

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Unclassifiable or attainment as of June 15, 2004, for the 8-hour ozone standard. ¹
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.
¹ Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005. Unclassifiable or attainment effective April 5, 2005, for PM2.5.	

- (a) Ozone Standards
- (1) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.
 - (2) On September 6, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Allen, Clark, Elkhart, Floyd, LaPorte, and St. Joseph as attainment for the 8-hour ozone standard.
 - (3) On November 9, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Boone, Clark, Elkhart, Floyd, LaPorte, Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan, Shelby, and St. Joseph as attainment for the 8-hour ozone standard.
 - (4) Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Kosciusko County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) PM_{2.5}
Kosciusko County has been classified as attainment for PM_{2.5}. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM_{2.5} emissions, and the effective date of these rules was July 15th, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM₁₀ emissions as a surrogate for PM_{2.5} emissions until 326 IAC 2-2 is revised.
- (c) Other Criteria Pollutants
Kosciusko County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (d) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, fugitive emissions are not counted toward the determination of PSD and Emission Offset applicability.

Unrestricted Potential Emissions

Appendix A of this TSD reflects the unrestricted potential emissions of the source.

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM₁₀ and PM_{2.5} is equal to or greater than 100 tons per year. The source is subject to the provisions of 326 IAC 2-7. However, the source has agreed to limit PM₁₀ and PM_{2.5} emissions to less than Title V levels, therefore the source will be issued a FESOP.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of CO, NO_x, SO₂, and VOC is less than 100 tons per year.
- (c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is equal to or greater than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year. However, the

source has agreed to limit their single HAP emissions and total HAP emissions below Title V limits. Therefore, the source will be issued a FESOP

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-7, fugitive emissions are not counted toward the determination of Part 70 applicability.

Potential to Emit After Issuance

The source has opted to remain a FESOP source. The table below summarizes the potential to emit, reflecting all limits of the emission units. Any control equipment is considered enforceable only after issuance of this FESOP and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/ Emission Unit	Potential To Emit (tons/year) After Issuance								Single Highest HAP
	PM	PM ₁₀	PM _{2.5}	SO ₂	VOC	CO	NO _x	Total HAPs	
Knee Production	20.07	20.07	20.07	-	-	-	-	1.81	2.71 (Cobalt)
Hip Production	19.27	19.27	19.27	-	-	-	-	1.99	
Investment Castings	24.80	24.80	24.80	-	-	-	-	1.81	
Fuel Combustion	1.37	1.37	1.37	0.11	0.99	15.09	17.97	0.34	
Total Emissions	65.50	65.50	65.50	0.11	0.99	15.09	17.97	< 25	< 10

- (a) This existing stationary source is not major for PSD because the emissions of each criteria pollutant are less than two hundred fifty (<250) tons per year, and it is not one of the twenty-eight (28) listed source categories.
- (b) Fugitive Emissions
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, fugitive emissions are not counted toward the determination of PSD and Emission Offset applicability.

Federal Rule Applicability

New Source Performance Standards (NSPS)

- (a) 40 CFR 60, Subpart Dc
 The boilers are not subject to the requirements of the New Source Performance Standard 40 CFR 60, Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (236 IAC 12), because each boiler has a maximum heat input capacity of less than 10 MMBtu/hour and were constructed after June 9, 1989.
- (b) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in this permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (b) 40 CFR 63, Subpart T
 The requirements of the National Emission Standards for Halogenated Solvent Cleaning (40 CFR 63, Subpart T) are not included in this permit because no halogenated solvents are used in the degreasing or cleaning at the plant.
- (c) 40 CFR 63, Subpart WWWW
 The requirements of the National Emission Standards for Area Source Standards for Plating and Polishing Operations are included in this permit because this source is an

area source that has polishing activities.

Nonapplicable portions of the NESHAP will not be included in the permit. The existing affected source associated with the production of prosthetic devices (casting, cutting, grinding, polishing, and abrasive blasting to produce medical and surgical instruments, and orthopedic and prosthetic appliances) is subject to the following portions of 40 CFR 63, Subpart WWWWWW:

- (1) 63.11504(a), (a)(1), (a)(1)(iv), (a)(2), (a)(3)
- (2) 63.11505(a), (a)(3), (b), (c), (d)(1-6), (e)
- (3) 63.11506
- (4) 63.11507(e), (e)(1), (e)(2)
- (5) 63.11508(a), (b), (c), (c)(8), (c)(8)(i-iii), (d), (d)(1), (d)(2)
- (6) 63.11509(a), (a)(1-4), (b), (b)(1), (b)(2), (b)(2)(i-iv), (c), (c)(2), (c)(2)(ii), (c)(7), (d), (e), (e)(1-3), (f)
- (7) 63.11510
- (8) 63.11511
- (9) 63.11512

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

- (d) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14 and 40 CFR Part 63) included in this permit.

Compliance Assurance Monitoring (CAM)

- (e) This source is not subject to the provisions of 40 CFR 64, Compliance Assurance Monitoring (CAM). In order for this rule to apply, a specific emissions unit must meet three criteria for a given pollutant: 1) the unit is subject to an 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 potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount required for a source to be classified as a major source. Additionally, the source has to receive a Part 70 permit. This source is receiving a FESOP and is therefore not subject to 40 CFR 64, CAM.

State Rule Applicability - Entire Source

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

The source has submitted a Preventive Maintenance Plan (PMP) on May 13, 1996. This PMP has been verified to fulfill the requirements of 326 IAC 1-6-3 (Preventive Maintenance Plan).

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

The source submitted an Emergency Reduction Plan (ERP) on May 13, 1996. The ERP has been verified to fulfill the requirements of 326 IAC 1-5-2 (Emergency Reduction Plans). However, the source is no longer subject to the requirements of 326 IAC 1-5-2 (ERP) because the source is limiting PM and PM10 to less than 100 tons/yr.

326 IAC 2-2 (Prevention of Significant Deterioration)

This existing stationary source is not major for PSD because the emissions of each criteria pollutant are limited to less than two hundred fifty (<250) tons per year, and it is not one of the twenty-eight (28) listed source categories. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

In order to render of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable, particulate matter (PM), particulate matter less than 10 microns in diameter (PM10) emissions, and particulate matter less than 2.5 microns in diameter (PM2.5) emissions from each individual emissions units shall not exceed 0.551 pounds per hour, each.

Compliance with these limits, combined with the potential PM, PM10, and PM2.5 emissions from all other emissions units at this source, shall limit the source-wide total potential to emit PM and PM2.5 to less than 250 tons per 12 consecutive month period, each, and render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

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

The unlimited potential to emit of HAPs is greater than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. However, the source shall limit the potential to emit of HAPs to less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs, which renders 326 IAC 2-7 (Part 70 permits) and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants) (HAP) not applicable.

326 IAC 2-6 (Emission Reporting)

This source is not subject to 326 IAC 2-6 (Emission Reporting) because it is limiting the potential to emit of PM10 to less than one hundred (100) tons per year and the source is located in Kosciusko County.

326 IAC 2-8 (Federally Enforceable State Operating Permit (FESOP))

- (a) Pursuant to 326 IAC 6-3-2(e), the PM10 emissions from the individual emission units shall not exceed 0.551 pounds per hour. This is equivalent to 65.50 tons per year of PM10. This limits total source-wide PM-10 emissions, which include PM10 emissions from insignificant activities, to less than 100 tons per year.
- (b) The HAP emissions from the knee production, hip production, and casting investment operations shall not exceed 0.551 pounds per hour. This is equivalent to 5.94 tons per year of total HAPs and 2.71 tons per year of the single highest HAP (Cobalt). Compliance with these limits, combined with the potential hazardous air pollutant (HAP) emissions from all other emission units at this source, shall also limit the source-wide total potential to emit HAPs to less than 10 tons per 12 consecutive month period for a single HAP and less than and twenty-five (25) tons per 12 consecutive month period of total HAPs.

Compliance with these limits will satisfy 326 IAC 2-8-4 and render the requirements of Part 70 (326 IAC 2-7) not applicable.

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:

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

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

This source is not subject to the requirements of 326 IAC 8-1-6 (New Facilities; General Reduction Requirements), because the source does not have the potential to emit twenty-five (25) tons of VOC per year.

326 IAC 8-6 (Organic Solvent Emission Limitations)

This source is not subject to the requirements of 326 IAC 8-6 (Organic Solvent Emission Limitations), because it was constructed prior to October 7, 1974 and it does not have the potential to emit one hundred (100) tons of VOC per year.

State Rule Applicability – Hip, Knee, and Casting Lines

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

Pursuant to 326 IAC 6-3-2(e)(2), the allowable particulate emissions rate from units Z1, Z2 Z3, Z5, Z7, Z8, Z9, Z10, Z11, Z12, Z13, Z14, Z16, Z17, Z18, Z19, Z20, Z22, Z101, Z102, ZA1, and ZA2, which each have a maximum process weight rate less than 100 pounds per hour, shall not exceed a particulate emission rate of 0.551 pounds per hour, each.

State Rule Applicability - Paved and Unpaved Roads and Parking Areas

326 IAC 6-4 (Fugitive Dust Emissions)

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 subject to the requirements of 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), because the source does not have fugitive emissions equal to or greater than twenty-five (25) tons per year.

State Rule Applicability - Insignificant Activities with PM and PM10 Emissions Less Than 5 TPY and Insignificant Deburring, Buffing, Polishing, Abrasive Blasting, Pneumatic Conveying

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

Pursuant to 326 IAC 6-3-2(e)(2), the allowable particulate emissions rate from each unit Z103 through Z141, which have a maximum process weight rate less than 100 pounds per hour, shall not exceed a particulate emission rate of 0.551 pounds per hour, each.

State Rule Applicability - Insignificant Boilers (B1, B2, B3)

326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)

Boilers B1, B2, and B3 are subject to the requirements of 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), because they were constructed after September 21, 1983. Pursuant to this rule, the particulate from the following units shall be limited as follows:

Year	Unit	Q (MMBtu/hr)	Pt (lb/MMBtu)	Emission Limit (lb/MMBtu)
1991	B1	0.5	1.31	0.6
1995	B2	0.5 + 0.5 = 1.0	1.09	0.6
2000	B3	0.5 + 0.5 + 1 = 2	0.91	0.6

The limitations for B1, B2, and B3 calculated using the equation below are each greater than 0.6 lb/MMBtu, therefore, pursuant to 326 IAC 6-2-4(a), particulate emissions from B1, B2, and B3 shall be limited to 0.6 lb/MMBtu.

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where P_t = pounds of particulate matter emitted per million Btu heat input (lb/MMBtu)
 Q = total source maximum operating capacity rating (MMBtu/hr)

State Rule Applicability - Insignificant Ceramic Shell Furnaces (WB1)

326 IAC 4-2 (Incinerator Requirements)

The ceramic shell furnaces (WB1) are not subject to the requirements of 326 IAC 4-2 (Incinerator Requirements), because they are not incinerators. These furnaces preheat ceramic molds used in the casting process.

State Rule Applicability - Degreasing Operations

326 IAC 8-3-2 (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; and
- (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 (VOC))

- (a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), for cold cleaner degreaser operations without remote solvent reservoirs and constructed after July 1, 1990, the Permittee shall ensure that the following control equipment 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 (38°C) (one hundred degrees Fahrenheit (100°F));
 - (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 (38°C) (one hundred degrees Fahrenheit (100°F)), 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 (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when 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.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in 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) Visible Emissions Notations
 - (a) Visible emission notations of the ZA1 and ZA2 stack exhausts shall be performed once per day during normal daylight operations when exhausting to the atmosphere. 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) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

- (2) Baghouse Parametric Monitoring
 - (a) The Permittee shall record the pressure drop across the baghouses associated with stacks ZA1 and ZA2, used in conjunction with the knee, hip, and casting operations at least once per day when the hip, knee, and casting production lines are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
 - (b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated at least once every six (6) months.

These monitoring conditions are necessary because the particulate control devices for the hip, knee, and casting production lines must operate properly to ensure compliance with 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) and 326 IAC 2-8 (FESOP).

Recommendation

The staff recommends to the Commissioner that the FESOP Renewal F085-24888-00064 be approved. This recommendation is based on the following facts and conditions:

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

An application for the purposes of this review was received on June 7, 2007. Additional information was received on November 18, 2008; December 3, 2008; December 9, 2008; February 9, 2009; February 16, 2009; and February 17, 2009.

Conclusion

The operation of this prosthetic device manufacturing company (casting, cutting, grinding, polishing, and abrasive blasting to produce medical and surgical instruments, and orthopedic and prosthetic appliances) shall be subject to the conditions of the attached FESOP Renewal No. F085-24888-00064.

Appendix A : Summary of Emissions

Company Name: Zimmer, Inc.
Address City IN Zip: 1800 West Center Street, Warsaw, IN 46580
Permit Number: 085-24888-00064
Permit Reviewer: Christine L. Filutze
Date: 01/28/09

PTE in tons/year (tpy)

Activity ID	PM	PM10	PM2.5	CO	NOx	SO2	VOC	Chromium	Cobalt	Nickel	Total HAPs	Single Highest HAP
Knee Total	155.09	155.09	155.09	0.00	0.00	0.00	0.00	4.64	5.61	1.35	11.60	11.81 (Cobalt)
Hip Total	100.61	100.61	100.61	0.00	0.00	0.00	0.00	3.01	3.64	0.88	7.53	
Investment Castings Total	70.52	70.52	70.52	0.00	0.00	0.00	0.00	2.11	2.55	0.61	5.27	
Fuel Combustion	1.37	1.37	1.37	15.09	17.97	0.11	0.99	2.52E-04	1.51E-05	3.77E-04	0.34	
Totals	327.58	327.58	327.58	15.09	17.97	0.11	0.99	9.75	11.81	2.84	24.74	11.81

Limited PTE in tons/year (tpy)

Activity ID	PM	PM10	PM2.5	CO	NOx	SO2	VOC	Chromium	Cobalt	Nickel	Total HAPs	Single Highest HAP
Knee Total	20.07	20.07	20.07	0.00	0.00	0.00	0.00	0.72	0.87	0.21	1.81	2.71 (Cobalt)
Hip Total	19.27	19.27	19.27	0.00	0.00	0.00	0.00	0.79	0.96	0.23	1.99	
Investment Castings Total	24.80	24.80	24.80	0.00	0.00	0.00	0.00	0.72	0.87	2.10E-01	1.81	
Fuel Combustion	1.37	1.37	1.37	15.09	17.97	0.11	0.99	2.52E-04	1.51E-05	3.77E-04	0.34	
Totals	65.50	65.50	65.50	15.09	17.97	0.11	0.99	2.24	2.71	0.65	< 25	< 10

Appendix A: Emission Calculations- Natural Gas Fuel Combustion Sources (<100 MMBTU/hr)

Company Name: Zimmer, Inc.
Address City IN Zip: 1800 West Center Street, Warsaw, IN 46580
Permit Number: 085-24888-00064
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Unit Description	Maximum Capacity (Btu/hr)
(new) 61 heaters @ 0.3 mmBtu/unit	18300000
(new) 9 roof top heaters @ 0.85 mmBtu/hr/unit	7650000
Boilers*	2000000
(new) Building 19 Boilers (4 @ 0.50 mmBtu/hr/unit)	2000000
Induction Furnace	300000
Ceramic Shell Furnaces**	2773677
(new) Pusher Ovens (2 @ 4.0 MMBtu/hr/unit)	8000000
Total MMBtu/hr max. =	41.02
Total MMft3/hr =	0.04

= 359.37 MMft3/yr (MMCF/YR)

* Boilers include two units @ 500,000 Btu/hr each and one unit @ 1,000,000 Btu/hr.

** 99.9% of wax is reclaimed from castings with steam induction - emissions from the wax are not included since they are negligible

Potential Emissions from Natural Gas Fuel Combustion Units

Natural Gas Combustion (<100 mmBtu/hr heat input)	CO	NOx	PM	PM10	PM2.5	SO2	VOC
Emission Factor (lb/MMcf)	84	100	7.6	7.6	7.6	0.6	5.5
(lb/hr)	3.45	4.10	0.31	0.31	0.31	0.02	0.23
(ton/yr)	15.09	17.97	1.37	1.37	1.37	0.11	0.99

Methodology

All Emission factors are based on normal firing. MMBTU = 1,000,000 Btu. MMCF = 1,000,000,000 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 from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (AP-42 Supplement D 3/98)

Emission (tons/yr) = Throughput (MMCF/hr) x Emission Factor (lb/MMCF)x 8760 hrs/yr x 1 ton/2000lb

Assumes PM is the sum of the filterable PM and condensable PM.

Assumes PM2.5 is equal to PM10 which is equal to PM.

See page 3 for HAPs emissions calculations.

Appendix A: Emission Calculations- Natural Gas Fuel Combustion Sources (<100 MMBTU/hr)

Company Name: Zimmer, Inc.
Address City IN Zip: 1800 West Center Street, Warsaw, IN 46580
Permit Number: 085-24888-00064
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	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	3.77E-04	2.16E-04	1.35E-02	0.32	6.11E-04

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	Cobalt
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	8.4E-05
Potential Emission in tons/yr	8.98E-05	1.98E-04	2.52E-04	6.83E-05	3.77E-04	1.51E-05

Methodology is the same as page 2.

The five highest organic and metal HAPs emission factors are provided above. Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Company Name: Zimmer, Inc.
Address City IN Zip: 1800 West Center Street, Warsaw, IN 46580
Permit Number: 085-24888-00064
Permit Reviewer: Christine L. Filutze
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* Assumes PM-2.5 is equal to PM-10 which is equal to PM.

** Based on metal concentrations in waste stream (2.99% Chromium, 3.62% Cobalt, 0.87% Nickel)

*** Includes 45 blast cabinets for Hip and Knee process. Emission estimates divided equally between Hip and Knee

Process	Description	Equipment ID	Internal or External Exhaust	Control Equipment Efficiency (%)	Maximum Process Weight Rate (lb/hr)	PM/PM10/PM2.5* Emission Factor (lb/ton processed)	Potential PM/PM10/PM2.5 Emissions (lb/hr)	Potential PM/PM10/PM2.5 Emissions (ton/yr)	326 IAC 6-3-2 Applicable?	Limited PTE PM/PM10/PM2.5 Emissions (lb/hr)	Limited PTE PM/PM10/PM2.5 Emissions (tons/yr)	Controlled PM/PM10/PM2.5 Emissions (lb/hr)	Controlled PM/PM10/PM2.5 Emissions (ton/yr)
Knee	Tumbleblast unit which uses steel shot	ZA1/ZA2	External	99.9	99	67.4	3.338	14.62	Yes	0.551	2.413	0.0033	0.01
Knee	Grinding wheels used to rough grind radius	Z1	Internal	98.7	99	107.8	5.334	23.36	Yes	0.551	2.413	0.0693	0.30
Knee	Buffing of parts; some robotic stations and some manual stations	Z3, Z5, Z7, Z9, Z11	Internal	99.0	99	191.0	9.455	41.41	Yes	0.551	2.413	0.0945	0.41
Knee	Wet Grinding	Z16	Internal	98.7	99	107.8	5.336	23.37	Yes	0.551	2.413	0.0694	0.30
Knee	Tumbleblast, grinding, and polishing	Z17	Internal	98.7	99	107.8	5.336	23.37	Yes	0.551	2.413	0.0694	0.30
Knee	Grinding and polishing	Z18	Internal	98.7	99	107.8	5.336	23.37	Yes	0.551	2.413	0.0694	0.30
Knee	Buffing of parts (Insignificant Activity)	Z110-Z120	Internal	99.0	99	128.4	0.578	2.53	No	0.578	2.530	0.0001	0.0004
Knee	Infrequent grinding to remove "burrs" (Insignificant Activity)	Z126-Z130	Internal	99.0	99	17.9	0.177	0.78	No	0.177	0.776	0.002	0.01
Knee	Grinding the finish radius (Insignificant Activity)	Z135-Z136	Internal	92.0	99	20.8	0.514	2.25	No	0.514	2.253	0.04	0.18
Knee	Dry Blast: apply glass bead or aluminum oxide blast (Insignificant Activity)	Z138***	Internal	0	99	5.0	0.006	0.03	No	0.006	0.026	0.01	0.03
KNEE TOTAL							35.409	155.09		4.58	20.07	0.4242	1.86

Hip	Polishing of collar on the part; some robotic, some manual	Z2	Internal	98.7	99	53.9	2.667	11.68	Yes	0.551	2.413	0.0347	0.15
Hip	Polishing of the stem of the part; some robotic, some manual	Z8, Z10, Z12	Internal	99.0	99	114.6	5.673	24.85	Yes	0.551	2.413	0.0567	0.25
Hip	Blast room, plast/buff room, Weldon grinder, polishing robot	Z13	Internal	98.7	99	107.8	5.336	23.37	Yes	0.551	2.413	0.0694	0.30
Hip	Blast room, plast/buff room, Weldon grinder, polishing robot	Z14	Internal	98.7	99	107.8	5.336	23.37	Yes	0.551	2.413	0.0694	0.30
Hip (Special Products)	Polishing the stem	Z101	External	98.0	15	191.0	1.432	6.27	Yes	0.551	2.413	0.03	0.13
Hip	Machine Rasp	Z102	External	98.0	20	143.2	1.432	6.27	Yes	0.551	2.413	0.03	0.13
Hip	Polishing the stem of the part (Insignificant Activity)	Z103-Z109	Internal	99.0	99	52.0	0.368	1.61	No	0.368	1.610	0.0001	0.0004
Hip	Infrequent grinding to remove "burrs"	Z121-Z125	Internal	99.0	99	17.9	0.177	0.78	No	0.177	0.776	0.002	0.01
Hip	Polishing the stem (Insignificant Activity)	Z131-Z134	Internal	99.0	99	23.9	0.295	1.29	No	0.295	1.294	0.003	0.01
Hip	Dry Blast: apply glass bead or aluminum oxide blast (Insignificant Activity)	Z138***	Internal	0	99	5.0	0.006	0.03	No	0.006	0.026	0.01	0.03
(new) Hip	Machining of polypropylene Parts (Building 19) (Insignificant Activity)	Z139-Z141	Internal	99.9	99	5.0	0.248	1.08	No	0.248	1.084	0.00	0.00
HIP TOTAL							22.971	100.61		4.40	19.27	0.2984	1.31

Investment Castings	Ceramic slurry with fluidized bed sand system (2 units)	ZA1	External	99.9	99	8.3	0.410	1.80	No	0.551	2.413	0.0004	0.002
Investment Castings	Shotblast Unit w/ stainless steel shot	ZA1	External	99.9	99	8.3	0.410	1.80	No	0.551	2.413	0.0004	0.002
Investment Castings	Tumble blast w/ stainless steel shot	ZA1	External	99.9	99	8.3	0.410	1.80	No	0.551	2.413	0.0004	0.002
Investment Castings	Grinding operation	ZA1	External	99.9	99	8.3	0.410	1.80	No	0.551	2.413	0.0004	0.002
Investment Castings	Deburring operation (performed by hand)	ZA1, ZA2	External	99.9	99	67.4	3.338	14.62	Yes	0.551	2.413	0.0033	0.01
Investment Castings	Deburr parts as required (Insignificant Activities)	Z137	External	99.9	99	14.2	0.703	3.08	No	0.703	3.078	0.001	0.003
Investment Castings	Deburring Operation	Z19	Internal	98.7	99	67.4	3.336	14.61	Yes	0.551	2.413	0.043	0.146
(new) Investment Castings	Deburring Operation	Z20	Internal	98.7	99	67.4	3.336	14.61	Yes	0.551	2.413	0.043	0.146
(new) Investment Castings	Shell Room	Z21	External	99.9	99	8.3	0.411	1.80	No	0.551	2.413	0.000	0.018
(new) Investment Castings	Cut-off Saw	Z22	External	99.9	99	67.4	3.336	14.61	Yes	0.551	2.413	0.003	0.146
INVESTMENT CASTINGS TOTAL							16.099	70.515		5.662	24.798	0.0962	0.4813

Appendix A : Emissions from Hip, Knee, and Investment Casting Production Lines

HAP's

Company Name: Zimmer, Inc.
 Address City IN Zip: 1800 West Center Street, Warsaw, IN 46580
 Permit Number: 085-24888-00064
 Permit Reviewer: Christine L. Flutze
 Date: 01/28/09

* Assumes PM-2.5 is equal to PM-10 which is equal to PM.

** Based on metal concentrations in waste stream (2.99% Chromium, 3.62% Cobalt, 0.87% Nickel)

*** Includes 45 blast cabinets for Hip and Knee process. Emission estimates divided equally between Hip and Knee

Process	Description	Equipment ID	Internal or External Exhaust	Control Equipment Efficiency (%)	Maximum Process Weight Rate (lb/hr)	Potential Chromium Emissions (ton/yr)**	Limited PTE Chromium Emissions (lbs/hr)**	Limited PTE Chromium Emissions (tons/yr)**	Controlled Chromium Emission (ton/yr)**	Potential Cobalt Emissions (ton/yr)**	Limited PTE Cobalt Emissions (lbs/hr)**	Limited PTE Cobalt Emissions (ton/yr)**	Controlled Cobalt Emissions (ton/yr)**	Potential Nickel Emissions (ton/yr)**	Limited PTE Nickel Emissions (lbs/hr)**	Limited PTE Nickel Emissions (ton/yr)**	Controlled Nickel Emissions (ton/yr)**
Knee	Tumbleblast unit which uses steel shot	ZA1/ZA2	External	99.9	99	0.4371	0.0165	0.0722	2.9601	0.5292	0.0199	0.0874	3.5838	0.1272	0.0048	0.0210	0.8613
Knee	Grinding wheels used to rough grind radius	Z1	Internal	98.7	99	0.6985	0.0165	0.0722	2.9601	0.8457	0.0199	0.0874	3.5838	0.2032	0.0048	0.0210	0.8613
Knee	Buffing of parts; some robotic stations and some	Z3, Z5, Z7, Z9, Z11	Internal	99.0	99	1.2382	0.0165	0.0722	2.9601	1.4991	0.0199	0.0874	3.5838	0.3603	0.0048	0.0210	0.8613
Knee	Wet Grinding	Z16	Internal	98.7	99	0.6988	0.0165	0.0722	2.9601	0.8461	0.0199	0.0874	3.5838	0.2033	0.0048	0.0210	0.8613
Knee	Tumbleblast, grinding, and polishing	Z17	Internal	98.7	99	0.6988	0.0165	0.0722	2.9601	0.8461	0.0199	0.0874	3.5838	0.2033	0.0048	0.0210	0.8613
Knee	Grinding and polishing	Z18	Internal	98.7	99	0.6988	0.0165	0.0722	2.9601	0.8461	0.0199	0.0874	3.5838	0.2033	0.0048	0.0210	0.8613
Knee	Buffing of parts (Insignificant Activity)	Z110-Z120	Internal	99.0	99	0.0757	0.0165	0.0722	2.96010	0.0916	0.0199	0.0874	3.58380	0.0220	0.0048	0.0210	0.861300
Knee	Infrequent grinding to remove "burrs" (Insignificant Activity)	Z126-Z130	Internal	99.0	99	0.0232	0.0165	0.0722	2.9601	0.0281	0.0199	0.0874	3.5838	0.0068	0.0048	0.0210	0.8613
Knee	Grinding the finish radius (Insignificant Activity)	Z135-Z136	Internal	92.0	99	0.0674	0.0165	0.0722	2.9601	0.0815	0.0199	0.0874	3.5838	0.0196	0.0048	0.0210	0.8613
Knee	Dry Blast: apply glass bead or aluminum oxide blast (Insignificant Activity)	Z138***	Internal	0	99	0.0008	0.0165	0.0722	2.9601	0.0009	0.0199	0.0874	3.5838	0.0002	0.0048	0.0210	0.8613
KNEE TOTAL						4.6372	0.1647	0.7216	29.6010	5.6143	0.1995	0.8736	35.8380	1.3493	0.0479	0.2100	8.6130

Hip	Polishing of collar on the part; some robotic, some	Z2	Internal	98.7	99	0.3493	0.0165	0.0722	2.9601	0.4229	0.0199	0.0874	3.5838	0.1016	0.0048	0.0210	0.8613
Hip	Polishing of the stem of the part; some robotic,	Z8, Z10, Z12	Internal	99.0	99	0.7429	0.0165	0.0722	2.9601	0.8994	0.0199	0.0874	3.5838	0.2162	0.0048	0.0210	0.8613
Hip	Blast room, plast/buff room, Weldon grinder,	Z13	Internal	98.7	99	0.6988	0.0165	0.0722	2.9601	0.8461	0.0199	0.0874	3.5838	0.2033	0.0048	0.0210	0.8613
Hip	Blast room, plast/buff room, Weldon grinder,	Z14	Internal	98.7	99	0.6988	0.0165	0.0722	2.9601	0.8461	0.0199	0.0874	3.5838	0.2033	0.0048	0.0210	0.8613
Hip (Special Products)	Polishing the stem	Z101	External	98.0	15	0.1876	0.0165	0.0722	0.4485	0.2271	0.0199	0.0874	0.5430	0.0546	0.0048	0.0210	0.1305
Hip	Machine Rasp	Z102	External	98.0	20	0.1876	0.0165	0.0722	0.5980	0.2271	0.0199	0.0874	0.7240	0.0546	0.0048	0.0210	0.1740
Hip	Polishing the stem of the part	Z103-Z109	Internal	99.0	99	0.0481	0.0165	0.0722	2.96010	0.0583	0.0199	0.0874	3.58380	0.0140	0.0048	0.0210	0.861300
Hip	Infrequent grinding to remove "burrs"	Z121-Z125	Internal	99.0	99	0.0232	0.0165	0.0722	2.9601	0.0281	0.0199	0.0874	3.5838	0.0068	0.0048	0.0210	0.8613
Hip	Polishing the stem	Z131-Z134	Internal	99.0	99	0.0387	0.0165	0.0722	2.9601	0.0468	0.0199	0.0874	3.5838	0.0113	0.0048	0.0210	0.8613
Hip	Dry Blast: apply glass bead or aluminum oxide	Z138***	Internal	0	99	0.0008	0.0165	0.0722	2.9601	0.0009	0.0199	0.0874	3.5838	0.0002	0.0048	0.0210	0.8613
(new) Hip	Machining of polypropylene Parts (Building 19) (Insignificant Activity)	Z139-Z141	Internal	99.9	99	0.0324	0.0165	0.0722	2.9601	0.0392	0.0199	0.0874	3.5838	0.0094	0.0048	0.0210	0.8613
HIP TOTAL						3.0083	0.1812	0.7938	27.6874	3.6421	0.2194	0.9610	33.5212	0.8753	0.0527	0.2310	8.0562

Investment Castings	Ceramic slurry with fluidized bed sand system	ZA1	External	99.9	99	0.0537	0.0165	0.0722	2.9601	0.0650	0.0199	0.0874	3.5838	0.0156	0.0048	0.0210	0.86130
Investment Castings	Shotblast Unit w/ stainless steel shot	ZA1	External	99.9	99	0.0537	0.0165	0.0722	2.9601	0.0650	0.0199	0.0874	3.5838	0.0156	0.0048	0.0210	0.86130
Investment Castings	Tumble blast w/ stainless steel shot	ZA1	External	99.9	99	0.0537	0.0165	0.0722	2.9601	0.0650	0.0199	0.0874	3.5838	0.0156	0.0048	0.0210	0.86130
Investment Castings	Grinding operation	ZA1	External	99.9	99	0.0537	0.0165	0.0722	2.9601	0.0650	0.0199	0.0874	3.5838	0.0156	0.0048	0.0210	0.86130
Investment Castings	Deburring operation (performed by hand)	ZA1, ZA2	External	99.9	99	0.4371	0.0165	0.0722	2.9601	0.5292	0.0199	0.0874	3.5838	0.1272	0.0048	0.0210	0.8613
Investment Castings	Deburr part as required (Insignificant Activity)	Z137	External	99.9	99	0.0920	0.0165	0.0722	2.9601	0.1114	0.0199	0.0874	3.5838	0.0268	0.0048	0.0210	0.86130
Investment Castings	Deburring Operation	Z19	Internal	98.7	99	0.4369	0.0165	0.0722	2.9601	0.5290	0.0199	0.0874	3.5838	0.1271	0.0048	0.0210	0.86130
(new) Investment Castings	Deburring Operation	Z20	Internal	98.7	99	0.4369	0.0165	0.0722	2.9601	0.5290	0.0199	0.0874	3.5838	0.1271	0.0048	0.0210	0.86130
(new) Investment Castings	Shell Room	Z21	External	99.9	99	0.0538	0.0165	0.0722	2.9601	0.0651	0.0199	0.0874	3.5838	0.0157	0.0048	0.0210	0.86130
(new) Investment Castings	Cut-off Saw	Z22	External	99.9	99	0.4369	0.0165	0.0722	2.9601	0.5290	0.0199	0.0874	3.5838	0.1271	0.0048	0.0210	0.86130
INVESTMENT CASTINGS						2.1084	0.1647	0.7216	29.6010	2.5526	0.1995	0.8736	35.8380	0.6135	0.0479	0.2100	8.6130