



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
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TO: Interested Parties / Applicant

DATE: March 5, 2008

RE: Univertical Corporation and Chemical Company / 151-23662-00047

FROM: Matthew Stuckey, Deputy 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



Mitchell E. Daniels, Jr.
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FEDERALLY ENFORCEABLE STATE OPERATING PERMIT RENEWAL OFFICE OF AIR QUALITY

**Univertical Corporation and Univertical Chemical Company
203 Weatherhead Street
Angola, Indiana 46703**

(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.: F151-23662-00047	
Issued by: Original Signed By: Matthew Stuckey, Deputy Branch Chief Permits Branch Office of Air Quality	Issuance Date: March 5, 2008 Expiration Date: March 5, 2018

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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 copper, tin, and solder die casting and chemical reaction process plant.

Source Address:	203 Weatherhead Street, Angola, Indiana 46703
Mailing Address:	203 Weatherhead Street, Angola, Indiana 46703
General Source Phone Number:	260-665-7832
SIC Code:	3351, 2819
County Location:	Steuben
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD Rules Minor Source, Section 112 of the Clean Air Act 1 of 28 Source Categories

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

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

- (a) One (1) copper bar finishing line, constructed in 1997, with a maximum process rate of 3,000 pounds of copper bars per hour, including the following:
 - (1) One (1) Wheelabrator abrasive blasting machine (Shotblast), with a maximum process rate of 2,000 pounds of copper shot per hour, controlled by a baghouse, and exhausting through stack #DC-1.
 - (2) One natural gas-fired washing machine, identified as Washer #1, with a maximum capacity of 3,000 pounds per hour of copper bars and maximum heat input capacity of 0.6 MMBtu/hr, using a nontoxic alkaline soap, and exhausting through stack #BW-1;
 - (3) One (1) cold cut-off saw, identified as Saw #2, with a maximum capacity of 3,000 pounds per hour of copper bars, and exhausting to building ventilation; and
 - (4) One (1) end drill and tap machine, identified as EDT, with a maximum capacity of 3,000 pounds per hour of copper bars, and exhausting to building ventilation.
- (b) One (1) copper anode process line, constructed in 1997, with a maximum capacity of 4,000 pounds of pure copper per hour, including the following:
 - (1) One (1) natural gas-fired shaft melter furnace, identified as Melter #1, with a maximum capacity of 4000 lbs/hr of pure copper and maximum heat input of 8 MMBtu/hr, and exhausting through stack #SM1.

- (2) One (1) natural gas-fired tumbler, identified as Tumbler #1, with a maximum capacity of 4,000 lbs/hr of pure copper and maximum heat input of 0.35 MMBtu/hr, and exhausting to building ventilation.
 - (3) One (1) electric induction reheat furnace (Reheat), with a maximum capacity of 4,000 lbs/hr of pure copper, and exhausting to building ventilation.
 - (4) One (1) electric induction holding furnace (Holder), with a maximum capacity of 4,000 lbs/hr of pure copper, and exhausting to building ventilation.
 - (5) One (1) three inch billet continuous casting machine (Caster), with a maximum capacity of 4,000 lbs/hr of pure copper, and exhausting to building ventilation.
 - (6) One (1) cold cut-off saw, identified as Saw #1, with a maximum capacity of 4,000 lbs/hr of pure copper, and exhausting to building ventilation.
 - (7) One (1) continuous rolling machine (Roller), with a maximum capacity of 4,000 lbs/hr of pure copper, and exhausting to building ventilation.
- (c) One (1) nickel sulfate dryer equipped with an integral cyclone, constructed in 1997, with a maximum input capacity of 3,050 lbs/hr of wet nickel sulfate crystal and a maximum heat input of 0.1 MMBtu/hr, using a scrubber as control, and exhausting through stack #10.
 - (d) One (1) sodium cyanide granulator, constructed in 1997, with a maximum capacity of 4,000 lbs/hr of sodium cyanide brick, using a water spray scrubber as control, and exhausting through stack #9.
 - (e) One (1) hydrochloric acid storage tank, constructed in 1997, identified as Tank 201, with a maximum capacity of 6,100 gallons and a maximum throughput rate of 160 lbs/hr or 67.5 gal/hr of hydrochloric acid, using an acid scrubber as control, and exhausting through stack/vent ID #201.

A.3 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) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million Btu per hour:
 - (1) One (1) natural gas-fired boiler, identified as Boiler #1, constructed in 1946, with a maximum heat capacity of 4.2 MMBtu/hr, and exhausting through stack #B1. [326 IAC 6-2]
 - (2) One (1) natural gas-fired boiler, identified as Boiler #2, constructed in 1979, with a maximum heat capacity of 4.2 MMBtu/hr, and exhausting through stack #B1. [326 IAC 6-2]
 - (3) One (1) natural gas-fired boiler, identified as Chem-Boiler 3, constructed in 1999, with a maximum heat capacity of 1.1 MMBtu/hr, and exhausting through stack B3. [326 IAC 6-2]
 - (4) One (1) natural gas-fired boiler, identified as Boiler #4, constructed in 2006, with a maximum heat input capacity of 2.10 MMBtu per hour. [326 IAC 6-2]
- (b) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons:

- (1) One (1) diesel fuel storage tank, with a maximum capacity of 550 gallons and maximum annual throughput of 100 gallons, exhausting through a tank vent.
- (2) One (1) gasoline storage tank, with a maximum capacity of 500 gallons and maximum annual throughput of 2000 gallons, exhausting through a tank vent.
- (c) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment.
- (d) Other emission units, not regulated by a NESHAP, with PM10 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, lead emissions less than six-tenths (0.6) tons per year or three and twenty-nine (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) tons per year of any combination of HAPs:
 - (1) One (1) batch reaction tank, identified as Tank 22, producing nickel acetate at a maximum rate of 375 lbs/hr, and exhausting through stack/vent ID #22.
 - (2) Three (3) batch reaction tanks, identified as Tank 70, Tank 71, and Tank 72 producing nickel sulfamate at a maximum rate of 300 lbs/hr, and exhausting through stack/vent ID #70.
 - (3) One (1) batch reaction tank, identified as Tank 118, producing nickel bromide at a maximum rate of 1,800 lbs/hr, and exhausting through stack/vent ID #118.
 - (4) One (1) batch reaction tank, identified as Tank 13, producing cuprous chloride at a maximum rate of 7,000 lbs/hr, and exhausting through stack/vent ID #13.
 - (5) One (1) batch reaction tank, identified as Tank 14, producing cuprous cyanide at a maximum rate of 750 lbs/hr, and exhausting through stack/vent ID #13.
 - (6) One (1) batch reaction tank, identified as Tank 17, producing sodium zinc cyanide at a maximum rate of 5,000 lbs/hr, and exhausting through stack/vent ID #17.
 - (7) Two (2) batch reaction tanks, identified as Tanks 16 and 19, producing sodium copper cyanide at a maximum rate of 32,000 lbs/hr, and exhausting through stack/vent ID #16 and 19, respectively.
 - (8) One (1) batch reaction tank, identified as Tank 20, producing sodium cyanide at a maximum rate of 100 lbs/hr, and exhausting through stack/vent ID #20.
 - (9) One (1) batch reaction tank, identified as Tank 5, producing wet nickel sulfate crystal at a maximum rate of 700 lbs/hr, and exhausting through stack/vent ID #5.
 - (10) Forty (40) miscellaneous storage tanks, storing non-volatile, non-hazardous liquids and powders.
- (e) One (1) die casting process line, constructed in 1997, with a maximum capacity of 1,000 lbs/hr of pure tin or solder, containing the following equipment:

- (1) One (1) natural gas-fired melting pot furnace (Tin Pot), with a maximum capacity of 500 lbs/hr of pure tin and maximum heat input of 0.35 MMBtu/hr, and exhausting to building ventilation.
- (2) One natural gas-fired melting pot furnace (Solder Pot), with a maximum capacity of 500 lbs/hr of pure solder and maximum heat input of 0.35 MMBtu/hr, and exhausting to building ventilation.
- (3) One (1) natural gas fired die casting machine, identified as DC #1, with a maximum capacity of 500 lbs/hr of pure solder or tin and maximum heat input of 0.475 MMBtu/hr, and exhausting to building ventilation.
- (4) Two (2) natural gas-fired die casting machines, identified as DC #2 and DC #3, each with a maximum capacity of 500 lbs/hr of pure solder or tin and a maximum heat input of 0.2 MMBtu/hr, and exhausting to building ventilation.

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

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air 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, F151-23662-00047, 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]

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 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 Section), or
Telephone Number: 317-233-0178 (ask for Compliance Section)
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 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 F151-23662-00047 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 Data Section, 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
Permits Branch, 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
Permits Branch, 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
Permits Branch, 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 and 326 IAC 2-8-11.1.

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
Permits Branch, 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) The 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. This limitation shall make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

(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 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted.

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

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
 - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
 - (2) If there is a change in the following:
 - (A) Asbestos removal or demolition start date;
 - (B) Removal or demolition contractor; or
 - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Quality
100 North Senate Avenue
MC 61-52 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 Accredited Asbestos Inspector**
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

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

C.9 Performance Testing [326 IAC 3-6]

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

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

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
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.10 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.11 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. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
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.12 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.13 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.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.

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 Data Section, 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) copper bar finishing line, constructed in 1997, with a maximum process rate of 3,000 pounds of copper bars per hour, including the following:
 - (1) One (1) Wheelabrator abrasive blasting machine (Shotblast), with a maximum process rate of 2,000 pounds of copper shot per hour, controlled by a baghouse, and exhausting through stack #DC-1.
 - (2) One natural gas-fired washing machine, identified as Washer #1, with a maximum capacity of 3,000 pounds per hour of copper bars and maximum heat input capacity of 0.6 MMBtu/hr, using a nontoxic alkaline soap, and exhausting through stack #BW-1;
 - (3) One (1) cold cut-off saw, identified as Saw #2, with a maximum capacity of 3,000 pounds per hour of copper bars, and exhausting to building ventilation; and
 - (4) One (1) end drill and tap machine, identified as EDT, with a maximum capacity of 3,000 pounds per hour of copper bars, and exhausting to building ventilation.
- (b) One (1) copper anode process line, constructed in 1997, with a maximum capacity of 4,000 pounds of pure copper per hour, including the following:
 - (1) One (1) natural gas-fired shaft melter furnace, identified as Melter #1, with a maximum capacity of 4000 lbs/hr of pure copper and maximum heat input of 8 MMBtu/hr, and exhausting through stack #SM1.
 - (2) One (1) natural gas-fired tumbler, identified as Tumbler #1, with a maximum capacity of 4,000 lbs/hr of pure copper and maximum heat input of 0.35 MMBtu/hr, and exhausting to building ventilation.
 - (3) One (1) electric induction reheat furnace (Reheat), with a maximum capacity of 4,000 lbs/hr of pure copper, and exhausting to building ventilation.
 - (4) One (1) electric induction holding furnace (Holder), with a maximum capacity of 4,000 lbs/hr of pure copper, and exhausting to building ventilation.
 - (5) One (1) three inch billet continuous casting machine (Caster), with a maximum capacity of 4,000 lbs/hr of pure copper, and exhausting to building ventilation.
 - (6) One (1) cold cut-off saw, identified as Saw #1, with a maximum capacity of 4,000 lbs/hr of pure copper, and exhausting to building ventilation.
 - (7) One (1) continuous rolling machine (Roller), with a maximum capacity of 4,000 lbs/hr of pure copper, and exhausting to building ventilation.

(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 Matter (PM) [326 IAC 2-2]

- (a) In order to render the requirements of 326 IAC 2-2 not applicable, the PM emissions from the copper bar finishing line shall not exceed 5.38 pounds per hour.
- (b) In order to render the requirements of 326 IAC 2-2 not applicable, the PM emissions from the copper anode process line shall not exceed 0.2 pounds per hour.

Compliance with these limits, combined with the limits contained in Conditions D.2.2, D.3.2, D.4.2 and the PM emissions from other emission units at this source, will limit source-wide PM emissions to less than 100 tons per year and render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

D.1.2 Particulate Emissions [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emissions from the copper bar finishing line shall not exceed 5.38 pounds per hour when operating at a process weight rate of 3,000 pounds per hour. The pounds per hour limitation was calculated with the following equation:

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

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

D.1.3 Preventive 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 their control devices.

Compliance Determination Requirements

D.1.4 Particulate Control

- (a) In order to comply with Conditions D.1.1(a) and D.1.2, the baghouse for particulate control shall be in operation and control emissions from the abrasive blasting machine at all times that the abrasive blasting machine 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.

D.1.5 Testing Requirements [326 IAC 2-1.1-11]

In order to demonstrate compliance with Condition D.1.1, the Permittee shall perform PM testing for the blasting machine utilizing methods as approved by the Commissioner before July 14, 2009. This test shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

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

D.1.6 Visible Emissions Notations

- (a) Daily visible emission notations of the baghouse stack exhaust shall be performed during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) 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.1.7 Parametric Monitoring

The Permittee shall record the pressure drop across the baghouse used in conjunction with the abrasive blasting machine at least once per day when the abrasive blasting machine is 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.

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.1.8 Broken or Failed Bag Detection

- (a) For a single compartment baghouses 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, the feed to the process shall be shut down immediately until the failed unit have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. 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 Requirements [326 IAC 2-8-4(3)]

D.1.9 Record Keeping Requirement

- (a) To document compliance with Condition D.1.6, the Permittee shall maintain records of daily visible emission notations of the baghouse stack exhaust. 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.1.7, the Permittee shall maintain daily records 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:

- (c) One (1) nickel sulfate dryer equipped with an integral cyclone, constructed in 1997, with a maximum input capacity of 3,050 lbs/hr of wet nickel sulfate crystal and a maximum heat input of 0.1 MMBtu/hr, using a scrubber as control, and exhausting through stack #10.

(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.2.1 Hazardous Air Pollutants (HAP) [326 IAC 2-8]

Pursuant to 326 IAC 2-8, the nickel sulfate emissions from this dryer shall not exceed 2.05 pounds per hour.

Compliance with this limit, combined with the limits in Conditions D.3.1 and D.4.1 and the HAP emissions from other emission units at this source, will limit emissions of any single HAP from the entire source to less than ten (10) tons per year and emissions of any combination of HAPs from the entire source to less than twenty-five (25) tons per year, and will render the requirements of 326 IAC 2-7 (Part 70 Permit Program) not applicable.

D.2.2 Particulate Matter (PM) [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 not applicable, the PM emissions from the nickel sulfate dryer shall not exceed 2.05 pounds per hour.

Compliance with this limit, combined with the limits in Conditions D.1.1, D.3.2, and D.4.2 and the PM emissions from other emission units at this source, will limit PM emissions from the entire source to less than one hundred (100) tons per year, and will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

D.2.3 Particulate Emissions [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the nickel sulfate dryer shall not exceed 5.44 pounds per hour when operating at a process weight rate of 3,050 pounds per hour. The pounds per hour limitation was calculated with the following equation:

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

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

D.2.4 Preventive 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 this facility and its control devices.

Compliance Determination Requirements

D.2.5 Particulate and HAP Control

In order to comply with Conditions D.2.1, D.2.2 and D.2.3, the cyclone and the scrubber shall be in operation and control emissions from the nickel sulfate dryer at all times that the nickel sulfate dryer is in operation.

D.2.6 Testing Requirements [326 IAC 2-1.1-11]

In order to demonstrate compliance with Condition D.2.1, the Permittee shall perform HAP testing for the nickel sulfate dryer utilizing methods as approved by the Commissioner no later than 180 days after issuance of this FESOP Renewal 151-23662-00047. This test shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

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

D.2.7 Visible Emissions Notations

- (a) Daily visible emission notations of the scrubber stack exhaust shall be performed during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) 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.2.8 Parametric Monitoring

The Permittee shall monitor and record the pressure drop and flow rate of the scrubber, at least once per day when the nickel sulfate dryer is in operation. When for any one reading, the pressure drop across the scrubber is outside the normal range of 0.5 and 2.0 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. When for any one reading, the flow rate of the scrubber is less than the normal minimum of 5.0 gallons per minute, or a minimum 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 or a flow rate that is below the above mentioned minimum, 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.

The instruments used for determining the pressure and flow rate 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.2.9 Scrubber Failure Detection

In the event that a scrubber malfunction has been observed:

Failed units and the associated process will be shut down immediately until the failed units have 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).

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

D.2.10 Record Keeping Requirement

- (a) To document compliance with Condition D.2.7, the Permittee shall maintain records of daily visible emission notations of the scrubber stack exhaust. 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.2.8, the Permittee shall maintain records of the following operational parameters for each scrubber once per day during normal operation:
 - (1) pressure drop; and
 - (2) flow rate.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million Btu per hour:
- (1) One (1) natural gas-fired boiler, identified as Boiler #1, constructed in 1946, with a maximum heat capacity of 4.2 MMBtu/hr, and exhausting through stack #B1. [326 IAC 6-2]
 - (2) One (1) natural gas-fired boiler, identified as Boiler #2, constructed in 1979, with a maximum heat capacity of 4.2 MMBtu/hr, and exhausting through stack #B1. [326 IAC 6-2]
 - (3) One (1) natural gas-fired boiler, identified as Chem-Boiler 3, constructed in 1999, with a maximum heat capacity of 1.1 MMBtu/hr, and exhausting through stack B3. [326 IAC 6-2]
 - (4) One (1) natural gas-fired boiler, identified as Boiler #4, constructed in 2006, with a maximum heat input capacity of 2.10 MMBtu per hour. [326 IAC 6-2]

(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.3.1 Particulate Matter (PM) [326 IAC 6-2-3]

-
- (a) Pursuant to 326 IAC 6-2-3(d), particulate matter emissions from Boiler #1 shall be less than 0.8 lb per MMBtu heat input.
 - (b) Pursuant to 326 IAC 6-2-3(e), particulate matter emissions from Boiler #2 shall be less than 0.6 lb per MMBtu heat input.
 - (c) Pursuant to 326 IAC 6-2-4(a), particulate matter emissions from Chem-Boiler 3 shall be less than 0.6 lb per MMBtu heat input.
 - (d) Pursuant to 326 IAC 6-2-4(a), particulate matter emissions from Boiler #4 shall be less than 0.58 lb per MMBtu heat input.

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

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

Source Name: Univertical Corporation and Univertical Chemical Company
Source Address: 203 Weatherhead Street, Angola, Indiana 46703
Mailing Address: 203 Weatherhead Street, Angola, Indiana 46703
FESOP Permit No.: F151-23662-00047

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

Please check what document is being certified:

- Annual Compliance Certification Letter
- Test Result (specify)_____
- Report (specify)_____
- Notification (specify)_____
- Affidavit (specify)_____
- Other (specify)_____

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

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH
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: Univertical Corporation and Univertical Chemical Company
Source Address: 203 Weatherhead Street, Angola, Indiana 46703
Mailing Address: 203 Weatherhead Street, Angola, Indiana 46703
FESOP Permit No.: F151-23662-00047

This form consists of 2 pages

Page 1 of 2

- | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12) <ul style="list-style-type: none">• 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 DATA SECTION
 FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
 QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Univertical Corporation and Univertical Chemical Company
 Source Address: 203 Weatherhead Street, Angola, Indiana 46703
 Mailing Address: 203 Weatherhead Street, Angola, Indiana 46703
 FESOP Permit No.: F151-23662-00047

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

<p>This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. 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 ANo deviations occurred this reporting period@.</p>	
<input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
<input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
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:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

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

Source Background and Description

Source Name:	Univertical Corporation and Univertical Chemical Company
Source Location:	203 Weatherhead Street, Angola, Indiana 46703
County:	Steuben
SIC Code:	3351 and 2819
Operation Permit No.:	F151-15240-00047
Operation Permit Issuance Date:	June 20, 2002
Permit Renewal No.:	F151-23662-00047
Permit Reviewer:	ERG/SE

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Univertical Corporation and Univertical Chemical Company (Univertical) relating to the operation of a copper, tin, and solder die casting and chemical reaction process plant.

History

On September 18, 2006, Univertical submitted an application to the OAQ requesting the renewal of its operating permit. Univertical was previously issued a FESOP Renewal 151-15240-00047 on June 20, 2002.

Permitted Emission Units and Pollution Control Equipment

- (a) One (1) copper bar finishing line, constructed in 1997, with a maximum process rate of 3,000 pounds of copper bars per hour, including the following:
 - (1) One (1) Wheelabrator abrasive blasting machine (Shotblast), with a maximum process rate of 2,000 pounds of copper shot per hour, controlled by a baghouse, and exhausting through stack #DC-1.
 - (2) One natural gas-fired washing machine, identified as Washer #1, with a maximum capacity of 3,000 pounds per hour of copper bars and maximum heat input capacity of 0.6 MMBtu/hr, using a nontoxic alkaline soap, and exhausting through stack #BW-1;
 - (3) One (1) cold cut-off saw, identified as Saw #2, with a maximum capacity of 3,000 pounds per hour of copper bars, and exhausting to building ventilation; and
 - (4) One (1) end drill and tap machine, identified as EDT, with a maximum capacity of 3,000 pounds per hour of copper bars, and exhausting to building ventilation.

- (b) One (1) copper anode process line, constructed in 1997, with a maximum capacity of 4,000 pounds of pure copper per hour, including the following:
 - (1) One (1) natural gas-fired shaft melter furnace, identified as Melter #1, with a maximum capacity of 4000 lbs/hr of pure copper and maximum heat input of 8 MMBtu/hr, and exhausting through stack #SM1.

- (2) One (1) natural gas-fired tumbler, identified as Tumbler #1, with a maximum capacity of 4,000 lbs/hr of pure copper and maximum heat input of 0.35 MMBtu/hr, and exhausting to building ventilation.
 - (3) One (1) electric induction reheat furnace (Reheat), with a maximum capacity of 4,000 lbs/hr of pure copper, and exhausting to building ventilation.
 - (4) One (1) electric induction holding furnace (Holder), with a maximum capacity of 4,000 lbs/hr of pure copper, and exhausting to building ventilation.
 - (5) One (1) three inch billet continuous casting machine (Caster), with a maximum capacity of 4,000 lbs/hr of pure copper, and exhausting to building ventilation.
 - (6) One (1) cold cut-off saw, identified as Saw #1, with a maximum capacity of 4,000 lbs/hr of pure copper, and exhausting to building ventilation.
 - (7) One (1) continuous rolling machine (Roller), with a maximum capacity of 4,000 lbs/hr of pure copper, and exhausting to building ventilation.
- (c) One (1) nickel sulfate dryer equipped with an integral cyclone, constructed in 1997, with a maximum input capacity of 3,050 lbs/hr of wet nickel sulfate crystal and a maximum heat input of 0.1 MMBtu/hr, using a scrubber as control, and exhausting through stack #10.
- (d) One (1) sodium cyanide granulator, constructed in 1997, with a maximum capacity of 4,000 lbs/hr of sodium cyanide brick, using a water spray scrubber as control, and exhausting through stack #9.
- (e) One (1) hydrochloric acid storage tank, constructed in 1997, identified as Tank 201, with a maximum capacity of 6,100 gallons and a maximum throughput rate of 160 lbs/hr or 67.5 gal/hr of hydrochloric acid, using an acid scrubber as control, and exhausting through stack/vent ID #201.

Insignificant Activities

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

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million Btu per hour:
- (1) One (1) natural gas-fired boiler, identified as Boiler #1, constructed in 1946, with a maximum heat capacity of 4.2 MMBtu/hr, and exhausting through stack #B1. [326 IAC 6-2]
 - (2) One (1) natural gas-fired boiler, identified as Boiler #2, constructed in 1979, with a maximum heat capacity of 4.2 MMBtu/hr, and exhausting through stack #B1. [326 IAC 6-2]
 - (3) One (1) natural gas-fired boiler, identified as Chem-Boiler 3, constructed in 1999, with a maximum heat capacity of 1.1 MMBtu/hr, and exhausting through stack B3. [326 IAC 6-2]
 - (4) One (1) natural gas-fired boiler, identified as Boiler #4, constructed in 2006, with a maximum heat input capacity of 2.10 MMBtu per hour. [326 IAC 6-2]

- (b) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons:
 - (1) One (1) diesel fuel storage tank, with a maximum capacity of 550 gallons and maximum annual throughput of 100 gallons, exhausting through a tank vent.
 - (2) One (1) gasoline storage tank, with a maximum capacity of 500 gallons and maximum annual throughput of 2000 gallons, exhausting through a tank vent.
- (c) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment.
- (d) Other emission units, not regulated by a NESHAP, with PM10 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, lead emissions less than six-tenths (0.6) tons per year or three and twenty-nine (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) tons per year of any combination of HAPs:
 - (1) One (1) batch reaction tank, identified as Tank 22, producing nickel acetate at a maximum rate of 375 lbs/hr, and exhausting through stack/vent ID #22.
 - (2) Three (3) batch reaction tanks, identified as Tank 70, Tank 71, and Tank 72 producing nickel sulfamate at a maximum rate of 300 lbs/hr, and exhausting through stack/vent ID #70.
 - (3) One (1) batch reaction tank, identified as Tank 118, producing nickel bromide at a maximum rate of 1,800 lbs/hr, and exhausting through stack/vent ID #118.
 - (4) One (1) batch reaction tank, identified as Tank 13, producing cuprous chloride at a maximum rate of 7,000 lbs/hr, and exhausting through stack/vent ID #13.
 - (5) One (1) batch reaction tank, identified as Tank 14, producing cuprous cyanide at a maximum rate of 750 lbs/hr, and exhausting through stack/vent ID #13.
 - (6) One (1) batch reaction tank, identified as Tank 17, producing sodium zinc cyanide at a maximum rate of 5,000 lbs/hr, and exhausting through stack/vent ID #17.
 - (7) Two (2) batch reaction tanks, identified as Tanks 16 and 19, producing sodium copper cyanide at a maximum rate of 32,000 lbs/hr, and exhausting through stack/vent ID #16 and 19, respectively.
 - (8) One (1) batch reaction tank, identified as Tank 20, producing sodium cyanide at a maximum rate of 100 lbs/hr, and exhausting through stack/vent ID #20.
 - (9) One (1) batch reaction tank, identified as Tank 5, producing wet nickel sulfate crystal at a maximum rate of 700 lbs/hr, and exhausting through stack/vent ID #5.
 - (10) Forty (40) miscellaneous storage tanks, storing non-volatile, non-hazardous liquids and powders.
- (e) One (1) die casting process line, constructed in 1997, with a maximum capacity of 1,000 lbs/hr of pure tin or solder, containing the following equipment:

- (1) One (1) natural gas-fired melting pot furnace (Tin Pot), with a maximum capacity of 500 lbs/hr of pure tin and maximum heat input of 0.35 MMBtu/hr, and exhausting to building ventilation.
- (2) One natural gas-fired melting pot furnace (Solder Pot), with a maximum capacity of 500 lbs/hr of pure solder and maximum heat input of 0.35 MMBtu/hr, and exhausting to building ventilation.
- (3) One (1) natural gas fired die casting machine, identified as DC #1, with a maximum capacity of 500 lbs/hr of pure solder or tin and maximum heat input of 0.475 MMBtu/hr, and exhausting to building ventilation.
- (4) Two (2) natural gas-fired die casting machines, identified as DC #2 and DC #3, each with a maximum capacity of 500 lbs/hr of pure solder or tin and a maximum heat input of 0.2 MMBtu/hr, and exhausting to building ventilation.

Existing Approvals

Since the issuance of the FESOP 151-15240-00047 on June 20, 2002, the source has not been operating under any subsequent approvals.

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 permits are superseded by this permit.

The following terms and conditions from previous approvals have been determined no longer applicable; therefore, were not incorporated into this FESOP Renewal:

- (a) PM emission limits pursuant to 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) for the copper anode and die casting process lines, sodium cyanide granulator, and the hydrochloric acid storage tank.

Reason not incorporated: The copper anode and die casting process lines, sodium cyanide granulator, and the hydrochloric acid storage tank have potential particulate emissions less than five hundred fifty-one thousandths (0.551) pound per hour. Therefore, pursuant to 326 IAC 6-3-1(b)(14), these process lines are not subject to the requirements of 326 IAC 6-3.

- (b) Opacity limit pursuant to 326 IAC 2-8 for the batch reaction tanks.

Reason not incorporated: There are no opacity requirements under 326 IAC 2-8; therefore, this limit should not have been included in the permit.

- (c) PM10 stack testing and emission limits pursuant to 326 IAC 2-8 and 326 IAC 2-2 and HAP emission limits from the sodium cyanide granulator and hydrochloric acid storage tank pursuant to 326 IAC 2-8.

Reason not incorporated: The emission calculations were revised using more accurate emission factors. Based on the revised calculations, the potential to emit PM10 from the entire source is less than 100 tons per year. Therefore, PM10 stack testing and emission limits pursuant to 326 IAC 2-8 and 326 IAC 2-2 are not necessary and have been removed from the permit. The HAP emission limits for the sodium cyanide granulator and the hydrochloric acid storage tank are not necessary to keep total HAP emissions from the source to less than 10 tons per year of a single HAP and 25 tons per year of a combination of HAPs; therefore, these limits have been removed from the permit.

Air Pollution Control Justification as an Integral Part of the Process

As part of their FESOP application submitted in 1997, the company submitted the following justification such that the cyclone equipped with the nickel sulfate dryer be considered as an integral part of the nickel sulfate drying process:

The cyclone is positioned above the dryer to act as a collection device and final drying step for the nickel sulfate. An additional scrubber is installed with the nickel sulfate dryer as the particulate control device.

During the review of FESOP 151-7295-00047, issued on June 17, 1997, IDEM, OAQ evaluated this justification and agreed that this cyclone is considered as an integral part of the nickel sulfate dryer. Therefore, the permitting level was determined using the potential to emit after the cyclone but before the scrubber. Operating conditions in the proposed permit will specify that this cyclone shall operate at all times when the nickel sulfate dryer is in operation.

Enforcement Issue

There are no enforcement actions pending.

Emission Calculations

See Appendix A of this document for detailed emission calculations (pages 1 through 11).

County Attainment Status

The source is located in Steuben County

Pollutant	Status
PM ₁₀	Attainment
PM _{2.5}	Attainment
SO ₂	Attainment
NO _x	Attainment
8-hour Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Steuben County has been classified as unclassifiable or attainment for PM_{2.5}. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM_{2.5} emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for PM_{2.5} emissions, it has directed states to regulate PM₁₀ emissions as a surrogate for PM_{2.5} emissions. See the State Rule Applicability – Entire Source section.
- (b) 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 emissions and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Steuben County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.
- (c) Steuben 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. See the State Rule Applicability – Entire Source section.

- (d) 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.
- (e) Fugitive Emissions
Since this type of operation is in one of the twenty-eight (28) listed source categories under 326 IAC 2-2, fugitive emissions are counted toward the determination of PSD applicability.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

Pollutant	tons/year
PM	200
PM-10	99.9
SO ₂	0.06
VOC	0.69
CO	8.03
NO _x	9.56

HAPs	tons/year
Nickel Sulfate	39.4
Other HAPs	3.40
Total	42.8

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all criteria pollutants is less than 100 tons per year.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is greater than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is greater than twenty-five (25) tons per year. However, the source has agreed to limit its single HAP emissions and total HAP emissions below Title V limits. Therefore, the source will be issued a FESOP
- (c) Since this type of operation is one of the twenty-eight (28) listed source categories under 326 IAC 2-7, fugitive emissions are counted toward the determination of Part 70 applicability.

Actual Emissions

No previous emission data has been received from the source.

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)							Single HAP (Nickel Sulfate)
	PM	PM10	SO ₂	VOC	CO	NO _x	Total HAPs	
Copper Bar Finishing Line ⁽¹⁾	23.6	11.2	1.55E-03	1.42E-02	2.16E-01	2.58E-01	4.87E-03	Negligible
Copper Anode Line ⁽¹⁾	0.88	45.1	0.02	0.20	3.01	3.59	0.07	Negligible
Die Casting Line	0.17	0.21	4.14E-03	0.04	0.58	0.69	1.30E-02	—
Nickel Sulfate Dryer ⁽¹⁾⁽²⁾	8.98	39.4	2.58E-04	2.36E-03	3.61E-02	4.29E-02	8.98	8.98
Sodium Cyanide Granulator	1.75	1.75	—	—	—	—	1.75	—
Hydrochloric Acid Tank ⁽¹⁾⁽²⁾	1.43	1.43	—	—	—	—	1.43	—
Boilers	0.09	0.38	0.03	0.27	4.18	4.98	0.09	Negligible
Storage Tanks ⁽³⁾	—	—	—	0.16	—	—	Negligible	Negligible
Welding Operation	0.40	0.40	—	—	—	—	0.01	Negligible
Batch Reaction Tanks	Negligible	Negligible		Negligible			Negligible	Negligible
Total Emissions	37.3	99.9	0.06	0.69	8.03	9.56	12.3	8.98

⁽¹⁾The PM emissions from these units have been limited pursuant to 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-8 (FESOP).

⁽²⁾The HAP emissions from these units have been limited pursuant to 326 IAC 2-8 (FESOP).

⁽³⁾The emissions from the fuel storage tanks are from TANKS version 3.0 and were provided for the original FESOP 151-7295-00047.

- (a) This existing stationary source is not major for PSD because the emissions of each attainment pollutant are less than one hundred (<100) tons per year, and it is one of the twenty-eight (28) listed source categories.
- (b) Fugitive Emissions
 Since this type of operation is in one of the twenty-eight (28) listed source categories under 326 IAC 2-2, fugitive emissions are counted toward the determination of PSD applicability.

Federal Rule Applicability

- (a) The requirements of 40 CFR 60, Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units) are not included in this permit for this source because the boilers each have a maximum heat input capacity less than 10 million Btu per hour.
- (b) The requirements of 40 CFR 60, Subpart K (Standards of Performance for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced After June 11, 1973 and Prior to May 19, 1978) are not included in this permit for this source because each storage tank has a capacity that is less than 40,000 gallons and/or is not used to store petroleum liquids.
- (c) The requirements of 40 CFR 60, Subpart Ka (Standards of Performance for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced After May 18, 1978 and Prior to July 23, 1984) are not included in this

permit for this source because each storage tank has a capacity that is less than 40,000 gallons and/or is not used to store petroleum liquids.

- (d) Each storage tank has a capacity that is less than 19,812 gallons and/or stores non-organic liquids. Therefore, the requirements of 40 CFR Part 60, Subpart Kb (New Source Performance Standards for Volatile organic liquid Storage Vessels) are not included in this permit for this source.
- (e) The requirements of 40 CFR 60, Subpart P (Standards of Performance for Primary Copper Smelters) and 40 CFR 61, Subpart O (National Emission Standards for Hazardous Air Pollutants for Inorganic Arsenic Emissions from Primary Copper Smelters) are not included in this permit for this source, because this source is not a primary copper smelter as defined in 40 CFR 60.161(a) and 40 CFR 61.171.
- (f) The requirements of 40 CFR 60, Subpart VV (Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry) are not included in this permit for this source, because this source is not in the synthetic organic chemicals manufacturing industry as defined in 40 CFR 60.481 (i.e., it does not produce as intermediates or final products any of the chemicals listed in §60.489).
- (g) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit for this source.
- (h) The requirements of 40 CFR 63, Subpart F (National Emission Standards for Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry), Subpart G, and Subpart H are not included in this permit for this source, because this source is not a major source of HAPs and does not manufacture any of the chemicals listed in Subpart F.
- (i) The source does not perform any hydrochloric acid regeneration process and the hydrochloric acid is used for pH adjustment for the chemical reactions. Therefore, requirements of 40 CFR 63, Subpart CCC (National Emission Standards for Hazardous Air Pollutants for Steel Pickling - HCl Process Facilities and Hydrochloric Acid Generation Plants) are not included in this permit for this source.
- (j) The requirements of 40 CFR 63, Subpart QQQ (National Emission Standards for Hazardous Air Pollutants for Primary Copper Smelting) are not included in this permit for this source, because this source is not a primary copper smelter as defined in 40 CFR 63.1459 and is not a major source of HAPs.
- (k) The requirements of 40 CFR 63, Subpart FFFF (National Emission Standards for Hazardous Air Pollutants for Miscellaneous Organic Chemical Manufacturing) are not included in this permit for this source, because the source does not operate miscellaneous organic chemical manufacturing process units (MCPU) and is not a major source of HAPs.
- (l) The requirements of 40 CFR 63, Subpart EEEEE (National Emission Standards for Hazardous Air Pollutants for Primary Copper Smelting Area Sources) are not included in this permit for this source, because this source is not a primary copper smelter as defined in 40 CFR 63.11151.
- (m) The requirements of 40 CFR 63, Subpart FFFFFF (National Emission Standards for Hazardous Air Pollutants for Secondary Copper Smelting Area Sources) are not included in this permit for this source, because this source is not a secondary copper smelter as defined in 40 CFR 63.11158.

- (n) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP) (326 IAC 14, 326 IAC 20, 40 CFR Part 61, and 40 CFR Part 63) included in this permit for this source.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration)

This source is a chemical process plant, which is one of the 28 source categories listed under 326 IAC 2-2 (PSD). This source was constructed in Steuben County in 1997 and has the potential to emit PM greater than 100 tons per year. The initial FESOP 151-7295-00047, issued June 17, 1997, limited all regulated pollutants to less than 100 tons per year. The first renewal FESOP 151-15240-00047, issued June 20, 2002, limited PM emissions to less than 250 tons per year. However, the renewal FESOP 151-15240-00047 required the use of the baghouse to control particulate emissions from the abrasive blasting machine on the copper bar finishing line, and it required the use of the cyclone and scrubber to control particulate emissions from the nickel sulfate dryer. The potential to emit of these units after the control devices combined with the unlimited potential to emit PM from all other units at the source is less than 100 tons per year. Therefore, the source has not triggered PSD. The following requirements are included in this permit renewal to limit PM emissions to less than 100 tons per year:

- (a) The PM emissions from the copper bar finishing line shall not exceed 5.38 pounds per hour.
- (b) The PM emissions from the copper anode process line shall not exceed 0.2 pounds per hour.
- (c) The PM emissions from the nickel sulfate dryer shall not exceed 2.05 pounds per hour.

Compliance with these limits combined with the potential PM emissions from the other emission units at this source will limit source-wide PM emissions to less than 100 tons per year and render 326 IAC 2-2 not applicable.

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

The source was constructed prior to July 27, 1997 and elected to limit its HAP emissions from the entire source to less than the major source thresholds. Therefore, the requirements of 326 IAC 2-4.1 do not apply.

326 IAC 2-6 (Emission Reporting)

This source is located in Steuben County, is not required to operate under a Part 70 permit, and has potential lead emissions less than five (5) tons per year. Therefore, pursuant to 326 IAC 2-6-1(b), the source is only subject to additional information requests as provided in 326 IAC 2-6-5.

326 IAC 2-8 (FESOP)

Pursuant to 326 IAC 2-8, HAP emissions shall be limited as follows:

The nickel sulfate emissions from the nickel sulfate dryer shall not exceed 2.05 pounds per hour. The particulate emissions from this process consist of nickel sulfate particles, which are considered a hazardous air pollutant.

Compliance with this limit will limit single HAP emissions to less than ten (10) tons per year and combined HAP emissions to less than 25 tons per year and will render 326 IAC 2-7 (Part 70 Permit Program) 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 in the 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.

State Rule Applicability – Copper Bar Finishing Line

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

The allowable particulate emission rate from the copper bar finishing line shall be limited to 5.38 lbs/hr when operating at a process weight rate of 3,000 lbs/hr. The pounds per hour limitation was calculated with the following equation:

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

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

The Permittee will use the baghouse to control particulate emissions from the shot blast machine on the copper bar finishing line at all times that the shot blast machine is in operation.

State Rule Applicability – Copper Anode Process and Die Casting Process Lines

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

Pursuant to 326 IAC 6-3-1(b)(14), the copper anode process and the die casting process lines are not subject to the requirements of 326 IAC 6-3 because the lines each have potential particulate emissions less than five hundred fifty-one thousandths (0.551) pound per hour.

State Rule Applicability – Nickel Sulfate Dryer

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

The allowable particulate emission rate from the nickel sulfate dryer shall be limited to 5.44 lbs/hr when operating at a process weight rate of 3,050 lbs/hr. The pounds per hour limitation was calculated with the following equation:

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

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

The Permittee will use the cyclone and scrubber to control particulate emissions from the nickel sulfate dryer at all times that the dryer is in operation.

State Rule Applicability – Sodium Cyanide Granulator

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

Pursuant to 326 IAC 6-3-1(b)(14), the sodium cyanide granulator is not subject to the requirements of 326 IAC 6-3 because it has potential particulate emissions less than five hundred fifty-one thousandths (0.551) pound per hour.

State Rule Applicability – Hydrochloric Acid Storage Tank

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

Pursuant to 326 IAC 6-3-1(b)(14), the copper anode process and the die casting process lines are not subject to the requirements of 326 IAC 6-3 because the lines each have potential particulate emissions less than five hundred fifty-one thousandths (0.551) pound per hour.

State Rule Applicability – Natural Gas-fired Boilers

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

- (a) Boiler #1 was constructed in 1946 in Steuben County. Pursuant to 326 IAC 6-2-1(c), Boiler #1 is subject to the requirements of 326 IAC 6-2-3. Pursuant to 326 IAC 6-2-3(a), particulate emissions from this boiler shall be limited by the following equation:

$$Pt = \frac{C \times a \times h}{76.5 \times Q^{0.75} \times N^{0.25}}$$

Where:

C = Maximum ground level concentration with respect to distance from the point source at the "critical" wind speed for level terrain. This shall equal 50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) for a period not to exceed a sixty (60) minute time period.

Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu).

Q = Total source operating capacity (1 boiler with a heat input of 4.2 MMBtu/hour).

N = Number of stacks in fuel burning operation.

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 mmBtu/hr heat input.

h = Stack height in feet.

$$Pt = \frac{50 \times 0.67 \times 42}{76.5 \times (4.2)^{0.75} \times (1.0)^{0.25}}$$

Pt = 6.27 lb/MMBtu

Pursuant to 326 IAC 6-2-3(d), particulate emissions from all facilities used for indirect heating purposes which were existing and in operation on or before June 8, 1972, shall in no case exceed 0.8 lb/mmBtu heat input. Therefore, Boiler #1 must comply with a PM limit of 0.8 lb per MMBtu heat input.

- (b) Boiler #2 was constructed in 1979 in Steuben County. Pursuant to 326 IAC 6-2-1(c), Boiler #2 is subject to the requirements of 326 IAC 6-2-3. Pursuant to 326 IAC 6-2-3(a), particulate emissions from this boiler shall be limited by the following equation:

$$Pt = \frac{C \times a \times h}{76.5 \times Q^{0.75} \times N^{0.25}}$$

Where:

C = Maximum ground level concentration with respect to distance from the point source at the "critical" wind speed for level terrain. This shall equal 50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) for a period not to exceed a sixty (60) minute time period.

Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu).

Q = Total source operating capacity (2 boilers with a heat input of 4.2 MMBtu/hour, each = 8.4 MMBtu/hour).

N = Number of stacks in fuel burning operation.

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 mmBtu/hr heat input.

h = Stack height in feet.

$$Pt = \frac{50 \times 0.67 \times 42}{76.5 \times (8.4)^{0.75} \times (1.0)^{0.25}}$$

$$Pt = 3.73 \text{ lb/MMBtu}$$

Pursuant to 326 IAC 6-2-3(e), particulate emissions from any facility used for indirect heating purposes which has 250 mmBtu/hr heat input or less and which began operation after June 8, 1972, shall in no case exceed 0.6 lb/mmBtu heat input. Therefore, Boiler #2 must comply with a PM limit of 0.6 lb per MMBtu heat input.

- (c) Chem-Boiler 3 was constructed in 1999 in Steuben County. Pursuant to 326 IAC 6-2-1(d), Chem-Boiler 3 is subject to the requirements of 326 IAC 6-2-4. Pursuant to 326 IAC 6-2-4(a), particulate emissions from this boiler shall be limited by the following equation:

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

Where:

Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu).

Q = Total source operating capacity (3 boilers with heat inputs of 4.2, 4.2, and 1.1 MMBtu/hour = 9.5 MMBtu/hour).

$$Pt = \frac{1.09}{9.5^{0.26}}$$

$$Pt = 0.61 \text{ lb/MMBtu}$$

Pursuant to 326 IAC 6-2-4(a), for Q less than 10 mmBtu/hr, Pt shall not exceed 0.6 mmBtu/hr. Therefore, Chem-Boiler 3 must comply with a PM limit of 0.6 lb per MMBtu heat input.

- (d) Boiler #4 was constructed in 2006 in Steuben County. Pursuant to 326 IAC 6-2-1(d), Boiler #4 is subject to the requirements of 326 IAC 6-2-4. Pursuant to 326 IAC 6-2-4(a), particulate emissions from this boiler shall be limited by the following equation:

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

Where:

Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu).

Q = Total source operating capacity (4 boilers with heat inputs of 4.2, 4.2, 1.1, and 2.10 MMBtu/hour = 11.6 MMBtu/hour).

$$Pt = \frac{1.09}{11.6^{0.26}}$$

Pt = 0.58 lb/MMBtu

Boiler #4 must comply with a PM limit of 0.58 lb per MMBtu heat input.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

The boilers are not subject to the requirements of 326 IAC 7-1.1, because they do not have the potential to emit twenty-five (25) tons per year or ten (10) pounds per hour of sulfur dioxide.

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

The boilers do not have the potential to emit twenty-five (25) tons or more per year of VOC. Therefore, the boilers are not subject to the requirements of 326 IAC 8-1-6.

326 IAC 10-1 (Nitrogen Oxides Control in Clark and Floyd Counties)

This source is not located in Clark or Floyd Counties; therefore, the boilers are not subject to the requirements of 326 IAC 10-1.

State Rule Applicability – Petroleum Storage Tanks

326 IAC 8-4-3 (Petroleum Liquid Storage Facilities)

The gasoline and diesel storage tanks have capacities less than 39,000 gallons. Therefore, 326 IAC 8-4-3 does not apply to these tanks.

326 IAC 8-4-6 (Gasoline Dispensing Facilities)

This source is not a gasoline dispensing facility as defined in 326 IAC 8-4-6(a)(8); therefore, the requirements of 326 IAC 8-4-6 do not apply to the gasoline storage tank.

326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)

Pursuant to 326 IAC 8-9-1(a), the petroleum storage tanks are not subject to the requirements of 326 IAC 8-9, because this source is located in Steuben County.

State Rule Applicability – Welding

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

Pursuant to 326 IAC 6-3-1(b)(9), the welding operations are not subject to the requirements of 326 IAC 6-3 because less than six hundred twenty-five (625) pounds of rod or wire is consumed per day.

State Rule Applicability – Batch Reaction Tanks and Miscellaneous Storage Tanks

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

Pursuant to 326 IAC 6-3-1(b)(14), the batch reaction tanks are not subject to the requirements of 326 IAC 6-3 because they have potential particulate emissions less than five hundred fifty-one thousandths (0.551) pound per hour.

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

The batch reaction tanks and miscellaneous storage tanks do not have the potential to emit twenty-five (25) tons or more per year of VOC. Therefore, the batch reaction tanks are not subject to the requirements of 326 IAC 8-1-6.

326 IAC 8-5-3 (Synthesized Pharmaceutical Manufacturing Operations)

The batch reaction tanks are not subject to the requirements of 326 IAC 8-5-3, because they are not used for the manufacture of pharmaceutical products and do not have the potential to emit fifteen (15) pounds per day or more of VOC.

326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)

Pursuant to 326 IAC 8-9-1(a), the requirements of 326 IAC 8-9 are not applicable to the batch reaction tanks and miscellaneous storage tanks because this source is located in Steuben County.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also 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 determination requirements applicable to this source are as follows:

Emission Unit	Control Device	Timeframe for Testing	Pollutant	Frequency of Testing	Limit or Requirement
Abrasive Blasting Machine (Shotblast)	Baghouse	Before July 14, 2009	PM	Once every 5 years	Less than 5.38 lbs/hr PM
Nickel Sulfate Dryer	Scrubber	Not later than 180 days after issuance of this FESOP Renewal	Nickel (HAP)	Once every 5 years	Less than 2.05 lbs/hr

This testing is necessary for the abrasive blasting machine because it is the primary source of PM emissions for this source and the baghouse must operate properly to ensure compliance with the PSD Minor limit (326 IAC 2-2), and 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes). The abrasive blasting machine is part of the copper bar finishing line and is controlled by a baghouse. The PM emissions from the copper bar finishing line are limited to 5.38 pounds per hour. The other emission units on the copper bar finishing line have negligible PM emissions. Therefore, the abrasive blasting machine is limited to less than 5.38 lbs/hr of PM.

This testing is necessary for the nickel sulfate dryer because it is the primary source of HAP emissions for this source and the scrubber must operate properly to ensure compliance with 326 IAC 2-8 (FESOP).

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

Control	Parameter	Frequency	Range	Excursions and Exceedances
Baghouse (for the abrasive blasting machine)	Water Pressure Drop	Daily	3 to 6 inches	Response Steps
	Visible Emissions		Normal-Abnormal	
Scrubber (for the nickel sulfate dryer)	Water Pressure Drop	Daily	0.5 to 2 inches	Response Steps
	Flow Rate		Minimum 5.0 gallons/min	
	Visible Emissions		Normal-Abnormal	

These monitoring conditions are necessary because the baghouse used in conjunction with the abrasive blasting machine and the scrubber used in conjunction with the nickel sulfate dryer must operate properly to ensure compliance with 326 IAC 2-2 (Prevention of Significant Deterioration), 326 IAC 2-8 (FESOP), and 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes).

Recommendation

The staff recommends to the Commissioner that the FESOP Renewal 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 September 18, 2006. Additional information was received on April 2, 2007 and June 15, 2007.

Conclusion

The operation of this copper, tin, and solder die casting and chemical reaction process plant shall be subject to the conditions of the attached FESOP Renewal No. F151-23662-00047.

Appendix A: Emission Calculations
Emissions from the Copper Finishing Process Line

Company Name: Univertical Corporation and Univertical Chemical Corporation
Address: 203 Weatherhead Street, Angola, IN 46703
FESOP: 151-23662-00047
Reviewer: ERG/SE
Date: December 21, 2007

Emissions from the copper finishing process line are mainly from the abrasive blasting machine.

1. Potential emissions from the abrasive blasting machine:

Copper Throughput (tons/hour)	Pollutant	Emission Factor (lbs/ton of metal processed)	Control Efficiency %	PTE Before Controls (tons/year)	PTE After Controls* (tons/year)
1.50	PM	17.0	99.5%	112	0.56
1.50	PM10	1.70	99.5%	11.2	0.06

Emission Factors are from WebFIRE, SCC 3-04-003-40 [12/05]

This abrasive blasting machine uses copper shot.

*Control is by baghouse and the control efficiency is reported by the source.

Methodology

PTE of PM/PM10 Before Controls (tons/year) = Copper Throughput (tons/hour) x Emission Factor (lbs/ton of metal processed) x 8,760 hours/year x 1 ton/2,000 lbs

PTE of PM/PM10 After Controls (tons/year) = PTE Before Controls (tons/year) x (1-Control Efficiency (%))

2. Combustion emissions from the natural gas-fired washing machine:

Heat Input Capacity (MMBtu/hr)	Potential Throughput (MMSCF/yr)						
0.60	5.15						
	Pollutant						
Emission Factor (lb/MMSCF)	PM*	PM10*	SO ₂	NO _x **	VOC	CO	HAPs
	1.9	7.6	0.6	100	5.5	84.0	1.89
Potential to Emit (tons/yr)	4.90E-03	0.02	1.55E-03	0.26	1.42E-02	0.22	4.87E-03

*PM emission factor is for filterable PM. PM10 emission factor is for condensable and filterable PM combined.

**Emission Factor for NO_x: Uncontrolled = 100

Emission Factors from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3 (7/98)

All Emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMSCF = 1,000,000 Standard Cubic Feet of Gas

Methodology

Potential Throughput (MMSCF/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMSCF/1,020 MMBtu

Potential to Emit (tons/yr) = Potential Throughput (MMSCF/yr) x Emission Factor (lb/MMSCF) x 1 ton/2,000 lbs

Appendix A: Emission Calculations
Emissions from the Copper Anode Process Line

Company Name: Univertical Corporation and Univertical Chemical Corporation
Address: 203 Weatherhead Street, Angola, IN 46703
FESOP: 151-23662-00047
Reviewer: ERG/SE
Date: December 21, 2007

1. From Shaft Melter:

Copper Input (lbs/hr)	Potential Throughput (tons/yr)					
4,000	17,520					
	Pollutant					
Emission Factor (lb/ton)	PM*	PM10*	SO ₂	NO _x	VOC	CO
	5.1	5.1	NA	NA	NA	NA
Potential to Emit (tons/yr)	44.7	44.7	-	-	-	-

* Assume PM = PM10.
 Emission Factor is from AP-42, Chapter 12.9, Table 12.9-2, SCC #3-04-002-14 (reverberatory furnace for copper, 11/94).

Methodology

Potential Throughput (tons/yr) = Copper Input (lbs/hr) x 8,760 hrs/yr x 1 ton/2,000 lbs
 Potential to Emit (tons/yr) = Potential Throughput (tons/yr) x Emission Factor (lb/ton) x 1 lb/2,000 tons

2. From Shaft Melter Combustion (8.0 MMBtu/hr) and Tumbler Combustion (0.35 MMBtu/hr)

Heat Input Capacity (MMBtu/hr)	Potential Throughput (MMSCF/yr)						
8.35	71.7						
	Pollutant						
Emission Factor (lb/MMSCF)	PM*	PM10*	SO ₂	NO _x	VOC	CO	HAPs
	1.9	7.6	0.6	100	5.5	84.0	1.89
Potential to Emit (tons/yr)	0.07	0.27	2.2E-02	3.59	0.20	3.01	0.07

*PM emission factor is for filterable PM. PM10 emission factor is for condensable and filterable PM combined.

**Emission Factor for NO_x: Uncontrolled = 100

Emission Factors from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3 (7/98)

All Emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMSCF = 1,000,000 Standard Cubic Feet of Gas

Methodology

Potential Throughput (MMSCF/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMSCF/1,020 MMBt
 Potential to Emit (tons/yr) = Potential Throughput (MMSCF/yr) x Emission Factor (lb/MMSCF) x 1 ton/2,000 lb

3. From Continuous Casting:

Copper Input (lbs/hr)	Potential Throughput (tons/yr)					
4,000	17,520					
	Pollutant					
Emission Factor (lb/ton)	PM*	PM10*	SO ₂	NO _x	VOC	CO
	0.015	0.015	NA	NA	NA	NA
Potential to Emit (tons/yr)	0.13	0.13	-	-	-	-

* Assume PM = PM10.

Emission factors are from FIRE Version 6.25, SCC 3-04-002-39 (Copper Casting Operation).

Methodology

Potential Throughput (tons/yr) = Copper Input (lbs/hr) x 8,760 hrs/yr x 1 ton/2,000 lbs
 Potential to Emit (tons/yr) = Potential Throughput (tons/yr) x Emission Factor (lb/ton) x 1 ton/2,000 lbs

4. Total Potential to Emit from the Copper Anode Process Line:

Pollutant	PM	PM10	SO ₂	NO _x	VOC	CO	HAPs
Total Potential to Emit (tons/yr)	44.88	45.08	0.02	3.59	0.20	3.01	0.07

Appendix A: Emission Calculations
Emissions from the Die Casting Process Line (Insignificant)

Company Name: Univertical Corporation and Univertical Chemical Corporation
Address: 203 Weatherhead Street, Angola, IN 46703
FESOP: 151-23662-00047
Reviewer: ERG/SE
Date: December 21, 2007

1. From Tin Melting Pot Furnace:

Tin Input (tons/hr)	Potential Throughput (tons/yr)					
0.25	2,190					
	Pollutant					
Emission Factor (lb/ton)	PM*	PM10*	SO ₂	NOx	VOC	CO
	0.03	0.03	NA	NA	NA	NA
Potential to Emit (tons/yr)	0.03	0.03	-	-	-	-

* Assume PM = PM10.
 Emission factor is from AP-42, Table 12.11-2, SCC #3-04-004-26 (kettle refining for lead, 01/95).
 This is the only available emission factor for melting of refined (pure) metal process in AP-42.

Methodology
 Potential Throughput (tons/yr) = Tin Input (tons/hr) x 8,760 hrs/yr
 Potential to Emit (tons/yr) = Potential Throughput (tons/yr) x Emission Factor (lb/ton) x 1 ton/2,000 lbs

2. From Solder Melting Pot Furnace:

Solder Input (tons/hr)	Potential Throughput (tons/yr)					
0.25	2,190					
	Pollutant					
Emission Factor (lb/ton)	PM*	PM10*	SO ₂	NOx	VOC	CO
	0.03	0.03	NA	NA	NA	NA
Potential to Emit (tons/yr)	0.03	0.03	-	-	-	-

* Assume PM = PM10.
 Emission factor is from AP-42, Table 12.11-2, SCC #3-04-004-26 (kettle refining for lead, 01/95).
 This is the only available emission factor for melting of refined (pure) metal process in AP-42.

Methodology
 Potential Throughput (tons/yr) = Solder Input (tons/hr) x 8,760 hrs/yr
 Potential to Emit (tons/yr) = Potential Throughput (tons/yr) x Emission Factor (lb/ton) x 1 ton/2,000 lbs

3. From Die Casting :

**Tin or Solder Input (tons/hr)	Potential Throughput (tons/yr)					
0.5	4,380					
	Pollutant					
Emission Factor (lb/ton)	PM*	PM10*	SO ₂	NOx	VOC	CO
	0.04	0.04	NA	NA	NA	NA
Potential Emission (tons/yr)	0.09	0.09	-	-	-	-

* Assume PM = PM10.
 ** The die casting process is bottlenecked by the tin and solder melting processes which have a combined throughput of 0.5 tons/hr.
 Emission factors is from AP-42, Table 12.11-2, SCC #3-04-004-09 (lead casting, 01/95)
 These emission factors were used due to a lack of emission factors for tin or solder casting.

Methodology
 Potential Throughput (tons/yr) = Tin or Solder Input (tons/hr) x 8,760 hrs/yr
 Potential to Emit (tons/yr) = Potential Throughput (tons/yr) x Emission Factor (lb/ton) x 1 ton/2,000 lbs

Appendix A: Emission Calculations
Emissions from the Die Casting Process Line (continued)

Company Name: Univertical Corporation and Univertical Chemical Corporation
Address: 203 Weatherhead Street, Angola, IN 46703
FESOP: 151-23662-00047
Reviewer: ERG/SE
Date: December 21, 2007

4. From Natural Gas Combustion:

- (a) Tin Melting Pot Furnace (0.35 MMBtu/hr)
- (b) Solder Melting Pot Furnace (0.35 MMBtu/hr)
- (c) Die Casting Combustion (0.875 MMBtu/hr)

Heat Input Capacity
(MMBtu/hr)

1.58

Potential Throughput
(MMSCF/yr)

13.8

	Pollutant						
	PM*	PM10*	SO ₂	**NOx	VOC	CO	HAPs
Emission Factor in lb/MMCF	1.9	7.6	0.6	100	5.5	84.0	1.89
Potential Emission in tons/yr	0.01	0.05	4.14E-03	0.69	0.04	0.58	0.01

*PM emission factor is for filterable PM. PM10 emission factor is for condensable and filterable PM combined.

**Emission Factor for NO_x: Uncontrolled = 100

Emission Factors from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3 (7/98)

All Emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMSCF = 1,000,000 Standard Cubic Feet of Gas

Methodology

Potential Throughput (MMSCF/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMSCF/1,020 MMBtu

Potential to Emit (tons/yr) = Potential Throughput (MMSCF/yr) x Emission Factor (lb/MMSCF) x 1 ton/2,000 lbs

5. Total Emissions from the Die Casting Process Line:

Pollutant	PM	PM10	SO ₂	NOx	VOC	CO	HAPs
Total Potential Emission (tons/yr)	0.17	0.21	4.14E-03	0.69	0.04	0.58	0.01

**Appendix A: Emission Calculations
Emissions from the Nickel Sulfate Drying Process**

**Company Name: Univertical Corporation and Univertical Chemical Corporation
Address: 203 Weatherhead Street, Angola, IN 46703
FESOP: 151-23662-00047
Reviewer: ERG/SE
Date: December 21, 2007**

1. Emissions from the Dryer (according to the mass balance of this process):

Wet Nickel Sulfate Input: 3050 lbs/hr
 Evaporated Water: 50 lbs/hr
 *PM/PM10 % passes the cyclone: 0.30% (The cyclone is an integral control device used to collect the NiSO₄. According to mass balance, only 0.30% of NiSO₄ is released to the scrubber.)
 Scrubber Control Efficiency: 99.0% (The scrubber is used to control particulate emissions.)

Potential to Emit PM/PM10 (lbs/hr) = (3050 lbs/hr - 50 lbs/hr) x 0.30% = 9.00 lbs/hr
 Potential to Emit PM/PM10 (tons/yr) = 9.00 lbs/hr x 8760 hrs/yr x 1 ton/2000 lbs = 39.4 tons/yr

Potential to Emit (after control):
 PM/PM10 (lbs/hr) = 9.00 lbs/hr x (1-99.0%) = 0.09 lbs/hr
 PM/PM10 (tons/yr) = 39.4 tons/yr x (1-99.0%) = 0.39 tons/yr

* Assume PM = PM10 and Nickel sulfate is considered a hazardous air pollutant.

2. Emissions from Combustion

Heat Input Capacity (MMBtu/hr)	Potential Throughput (MMSCF/yr)						
0.1							
	Pollutant						
Emission Factor (lb/MMSCF)	PM*	PM10*	SO ₂	NO _x **	VOC	CO	HAPs
	1.9	7.6	0.6	100	5.5	84.0	1.89
Potential to Emit (tons/yr)	8.2E-04	3.3E-03	2.6E-04	0.04	2.4E-03	0.04	8.12E-04

Emission factors are 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 (7/98)

*PM emission factor is for filterable PM. PM10 emission factor is for condensable and filterable PM combined.

**Emission Factor for NO_x: Uncontrolled = 100

All Emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Standard Cubic Feet of Gas

Methodology

Potential Throughput (MMSCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMSCF/1,020 MMBtu

Potential to Emit (tons/yr) = Potential Throughput (MMSCF/yr) x Emission Factor (lb/MMSCF) x 1 ton/2,000 lbs

3. Total Emissions from the Nickel Sulfate Drying Process:

Pollutant	PM	PM10	SO ₂	NO _x	VOC	CO
Total Potential to Emit (tons/yr)	39.4	39.4	2.6E-04	0.04	2.4E-03	0.04
Total Potential to Emit After Control (tons/yr)	0.40	0.40	2.6E-04	0.04	2.4E-03	0.04

Pollutant	Nickel Sulfate	Other HAPs
Total Potential to Emit (tons/yr)	39.4	8.12E-04
Total Potential to Emit After Control (tons/yr)	0.39	8.12E-04

**Appendix A: Emission Calculations
PM/PM10 and HAPs from the Sodium Cyanide Granulator**

**Company Name: Univertical Corporation and Univertical Chemical Corporation
Address: 203 Weatherhead Street, Angola, IN 46703
FESOP: 151-23662-00047
Reviewer: ERG/SE
Date: December 21, 2007**

1. Process Description:

Sodium Cyanide Input:	4,000 lbs/hr
*PM % Enters the Scrubber:	0.01% (**according to a mass balance analysis of this process)
Control Device:	Scrubber
Control Efficiency:	99.0%

* Assume PM = PM10. Sodium Cyanide is a hazardous air pollutant.

**The calculation is consistent with Univertical's past experience of packaging 99.99% of the sodium cyanide brick entering the granulator and the concentration of the solution formed in the scrubber.

2. Uncontrolled potential emissions from the granulator:

Potential to Emit PM/PM10 (lbs/hr) = 4,000 lbs/hr x 0.01% =	0.40 lbs/hr
Potential to Emit PM/PM10 (tons/yr) = 4,000 lbs/hr x 8760 hrs/yr x 0.01% x 1 ton/2000 lbs =	1.75 tons/yr
Potential to Emit HAP (Sodium Cyanide) (tons/yr) =	1.75 tons/yr

**Appendix A: Emission Calculations
PM and HAP Emissions
From the Hydrochloric Acid Storage Tank (Tank 201)**

**Company Name: Univertical Corporation and Univertical Chemical Corporation
Address: 203 Weatherhead Street, Angola, IN 46703
FESOP: 151-23662-00047
Reviewer: ERG/SE
Date: December 21, 2007**

1. Process Descriptions:

Tank Capacity:	6,100	gal
Max Throughput:	67.5	gal/hr
Max Throughput:	590,000	gal/yr
Control Device:	Acid Scrubber	
Control Efficiency:	90%	

2. Uncontrolled Potential Emissions

This is a closed tank vented only during loading operation. The exhaust is directed to an acid scrubber. The hydrochloric acid is emitted as a mist. Therefore, the OAQ considers this to be particulate matter emissions as well as HAP emissions. According to AP-42, Chapter 5.2, emission factor for splash loading of volatile liquids can be estimated using the following equation:

$$L = \frac{12.46 \times S \times P \times M}{T}$$

Where

- L = loading loss emission factor (lbs/kgal of liquid loaded)
- S = saturation factor = 1.45 for splash loading with dedicated normal service
- P = true vapor pressure of liquid loaded = 3.87 psia
- M = molecular weight of vapors = 36.5 lb/lb-mole
- T = temperature of bulk liquid loaded = 528 degrees Rankine

Therefore

$$L = \frac{12.46 \times 1.45 \times 3.87 \times 36.5}{528} = 4.83 \text{ lbs/ kgal of liquid loaded}$$

Potential to Emit PM/PM10/HAP (Hydrochloric Acid):

$$= 67.5 \text{ gal/hr} \times 1 \text{ kgal/1000 gal} \times 4.83 \text{ lbs/kgal} =$$

0.33 lbs/hr

$$= 67.5 \text{ gal/hr} \times 1 \text{ kgal/1000 gal} \times 4.83 \text{ lbs/kgal} \times 8760 \text{ hr/yr} \times 1 \text{ ton/2000 lb} =$$

1.43 tons/yr

**Appendix A: Emission Calculations
Natural Gas Combustion
(MMBtu/hr < 100)**

**Company Name: Univertical Corporation and Univertical Chemical Corporation
Address: 203 Weatherhead Street, Angola, IN 46703
FESOP: 151-23662-00047
Reviewer: ERG/SE
Date: December 21, 2007**

Heat Input Capacity
(MMBtu/hr)

11.6

Potential Throughput
(MMSCF/yr)

99.6

Emission Factor (lb/MMSCF)	Pollutant						
	PM*	PM10*	SO2	**NO _x	VOC	CO	HAPs
	1.9	7.6	0.6	100	5.5	84.0	1.89
Potential to Emit (tons/yr)	0.09	0.38	0.03	4.98	0.27	4.18	0.09

Emission factors are 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 (7/98)

*PM emission factor is for filterable PM. PM10 emission factor is for condensable and filterable PM combined.

**Emission Factor for NO_x: Uncontrolled = 100

All Emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Standard Cubic Feet of Gas

Methodology

Potential Throughput (MMSCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMSCF/1,020 MMBtu

Potential to Emit (tons/yr) = Potential Throughput (MMSCF/yr) x Emission Factor (lb/MMSCF) x 1 ton/2,000 lbs

**Appendix A: Emission Calculations
Emissions from the Chemical Reaction Tanks**

Company Name: Univertical Corporation and Univertical Chemical Corporation
Address: 203 Weatherhead Street, Angola, IN 46703
FESOP: 151-23662-00047
Reviewer: ERG/SE
Date: December 21, 2007

1. Tank # 22: Nickel Acetate Production

This reaction is performed with a stoichiometric excess of nickel oxide of about 65 lbs. The excess nickel oxide will be allowed to settle out of the solution so that Univertical can reuse it in the next batch. Since the tank is covered with only a vent to stabilize pressure, there are negligible emissions associated with this process.

2. Tanks # 70, 71, 72: Nickel Sulfamate Production

This reaction is performed with a stoichiometric excess of nickel of about 700 lbs. The excess nickel will be allowed to settle out of the solution so that Univertical can reuse it in the next batch. Since the tank is covered with only a vent to stabilize pressure, there are negligible emissions associated with this process.

3. Tank # 118: Nickel Bromide Production

This reaction is performed with a stoichiometric excess of nickel oxide of about 425 lbs. The excess nickel oxide will be allowed to settle out of the solution so that Univertical can reuse it in the next batch. Since the tank is covered with only a vent to stabilize pressure, there are negligible emissions associated with this process.

4. Tank # 13: Cuprous Chloride Production

This reaction is performed with a stoichiometric excess of copper of about 4600 lbs so that the reaction will proceed. The hydrochloric acid that is added will completely react such that the remaining products are cuprous chloride, sodium chloride, and water. Since none of these compounds are hazardous air pollutants (HAPs) or volatile organic compounds (VOC) and no particulate emissions are generated, there are no emissions associated with this process.

5. Tank # 14: Cuprous Cyanide Production

The cuprous chloride product from tank #4 is transferred to the cuprous cyanide production tanks and mixed with sodium cyanide. Neither of these is added in excess, with the reaction going to completion. The products are cuprous cyanide and sodium chloride. Since the cuprous cyanide forms a flock and is centrifuged, the emissions associated with this process are negligible.

6. Tank # 17: Sodium Zinc Cyanide Production

According to the maximum production rates and mass balance given by Univertical, there will be no emissions associated with this process. This process is not a reaction but a mixture of solutions with input equaling output.

7. Tanks # 16 and 19: Sodium Copper Cyanide Production

According to the maximum production rates and mass balance given by Univertical, there will be no emissions associated with this process. This process is not a reaction but a mixture of solutions with input equaling output.

8. Tank # 20: Sodium Cyanide Production

According to the maximum production rates and mass balance given by Univertical, there will be no emissions associated with this process. This process is not a reaction but a mixture of solutions with input equaling output.

9. Tank # 5: Nickel Sulfate Wet Crystal Production

According to the maximum production rates and mass balance given by Univertical, there will be no emissions associated with this process. This process is not a reaction but a mixture of solutions with input equaling output.

**Appendix A: Emission Calculations
Insignificant Emissions from Welding**

**Company Name: Univertical Corporation and Univertical Chemical Corporation
Address: 203 Weatherhead Street, Angola, IN 46703
FESOP: 151-23662-00047
Reviewer: ERG/SE
Date: December 21, 2007**

Welding Type	Number of Stations	Max. electrode consumption per station (lbs/hr)	Emission Factors (lb pollutant/lb electrode)				Potential to Emit (tons/yr)				Total HAPS (tons/yr)
			PM/PM10	Mn	Ni	Cr	PM/PM10	Mn	Ni	Cr	
Metal Inert Gas (MIG)(carbon steel)	3	3.00	5.50E-03	5.00E-04	N/A	N/A	0.22	0.020	N/A	N/A	N/A
Stick (E7018 electrode)	2	1.13	1.84E-02	1.03E-03	2.00E-06	6.00E-06	0.18	0.010	0.000	5.91E-05	0.01
						Total	0.40	0.03	1.97E-05	5.91E-05	0.01

Emission factors for MIG welding are default values for carbon steel.

Emission factors for Stick welding (E7018 electrode) are from AP-42, Chapter 12.19, Tables 12.19-1 and 12.19-2 (1/95)

Methodology

Potential to Emit (tons/yr) = Number of Stations x Max. Electrode Consumption per Station (lbs/hr) x Emission Factor (lb pollutant/lb electrode) x 8,760 hrs/yr x 1 ton/2,000 lbs

**Appendix A: Emission Calculations
Emission Summary**

**Company Name: Univertical Corporation and Univertical Chemical Corporation
Address: 203 Weatherhead Street, Angola, IN 46703
FESOP: 151-23662-00047
Reviewer: ERG/SE
Date: December 21, 2007**

Unlimited PTE (tons/yr)

	PM	PM10	SO ₂	NOx	VOC	CO	HAPs
Copper Finishing	112	11.2	1.55E-03	2.58E-01	1.42E-02	2.16E-01	4.87E-03
Copper Anode Line	44.9	45.1	0.02	3.59	0.20	3.01	0.07
Die Casting	0.17	0.21	4.14E-03	0.69	0.04	0.58	1.30E-02
Nickel Sulfate Dryer	39.4	39.4	2.58E-04	4.29E-02	2.36E-03	3.61E-02	39.4
Sodium Cyanide Granulator	1.75	1.75	--	--	--	--	1.75
Hydrochloric Acid Tank	1.43	1.43	--	--	--	--	1.43
Natural Gas-fired Boilers	0.09	0.38	0.03	4.98	0.27	4.18	0.09
Reaction Tanks	Negligible	Negligible	--	--	Negligible	--	Negligible
Welding	0.40	0.40	--	--	--	--	0.01
Storage Tanks*	--	--	--	--	0.16	--	--
Total	200	99.9	0.06	9.56	0.69	8.03	42.8

Limited PTE (tons/yr)

	PM	PM10	SO ₂	NOx	VOC	CO	HAPs
Copper Finishing	23.6	11.2	1.55E-03	2.58E-01	1.42E-02	2.16E-01	4.87E-03
Copper Anode Line	0.88	45.1	0.02	3.59	0.20	3.01	0.07
Die Casting	0.17	0.21	4.14E-03	0.69	0.04	0.58	1.30E-02
Nickel Sulfate Dryer	8.98	39.4	2.58E-04	4.29E-02	2.36E-03	3.61E-02	8.98
Sodium Cyanide Granulator	1.75	1.75	--	--	--	--	1.75
Hydrochloric Acid Tank	1.43	1.43	--	--	--	--	1.43
Natural Gas-fired Boilers	0.09	0.38	0.03	4.98	0.27	4.18	0.09
Reaction Tanks	Negligible	Negligible	--	--	Negligible	--	Negligible
Welding	0.40	0.40	--	--	--	--	0.01
Storage Tanks*	--	--	--	--	0.16	--	--
Total	37.3	99.9	0.06	9.56	0.69	8.03	12.4

*The emissions from the fuel storage tanks are from TANKS version 3.0 and were provided for the original FESOP 151-7295-00047.