

Mr. Timothy Shown
Phelps Dodge Magnet Wire Company
2131 S. Coliseum Blvd.
Fort Wayne, IN 46803

Re: Minor Source Modification No:
003-11803-00013

Dear Mr. Shown:

Phelps Dodge Magnet Wire Company applied for a Part 70 operating permit on October 15, 1996 for a magnet wire coating facility. An application to modify the source was received on January 25, 2000. Pursuant to 326 IAC 2-7-10.5 the following emission unit is approved for construction and operation at the source:

- (a) One (1) MAG-VZ/5 oven with a maximum capacity of 1,146 pounds magnet wire per hour, consisting of three (3) nine (9) line machines, equipped with two (2) catalytic oxidizers for VOC control, exhausted through stacks 398, 399, and 400, as well as cooling stacks 401, 402 and 403.

The proposed Minor Source Modification approval will be incorporated into the pending Part 70 permit application pursuant to 326 IAC 2-7-10.5(l)(3). If there are no changes to the proposed construction of the emission units, the source may begin operating on the date that IDEM receives an affidavit of construction pursuant to 326 IAC 2-7-10.5(h). If there are any changes to the proposed construction the source can not operate until an Operation Permit Validation Letter is issued.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter call (800) 451-6027, press 0 and ask for Rachel Meredith or extension (3-5691), or dial (317) 233-5691.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

Attachments

RLM

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

PART 70 MINOR SOURCE MODIFICATION OFFICE OF AIR MANAGEMENT

**Phelps Dodge Magnet Wire Company
2131 S. Coliseum Blvd.
Fort Wayne, Indiana 46803**

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this approval.

This approval is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Source Modification No.: 003-11803-00013	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

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SECTION A

SOURCE SUMMARY

This approval is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the emission units contained in conditions A.1 through A.2 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 approval pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a steel mill.

Responsible Official: David C. Booher, Vice President
Source Address: 2131 S. Coliseum Blvd., Fort Wayne, Indiana 46803
Mailing Address: 2131 S. Coliseum Blvd., Fort Wayne, Indiana 46803
Phone Number: (219) 421-5711
SIC Code: 3357
County Location: Allen
County Status: Attainment for all criteria pollutants
Source Status: Part 70 Permit Program
Major Source, under PSD Rules
Major, Section 112 of the Clean Air Act

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

This stationary source is approved to construct and operate the following emission units and pollution control devices:

- a) One (1) MAG-VZ/5 oven with a maximum capacity of 1,146 pounds magnet wire per hour, consisting of three (3) nine (9) line machines, equipped with two (2) catalytic oxidizers for VOC control, exhausted through stacks 398, 399, and 400, as well as cooling stacks 401, 402 and 403.

A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

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

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

SECTION B GENERAL CONSTRUCTION CONDITIONS

B.1 Permit No Defense [IC 13]

This approval to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

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

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

B.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

B.4 Revocation of Permits [326 IAC 2-1.1-9(5)][326 IAC 2-7-10.5(i)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

SECTION C GENERAL OPERATION CONDITIONS

- C.1 Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]
- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted under this permit shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
 - (b) One (1) certification shall be included, on the attached Certification Form, with each submittal.
 - (c) A responsible official is defined at 326 IAC 2-7-1(34).
- C.2 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]
-
- (a) If required by specific condition(s) in Section D of this approval, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) within ninety (90) days after issuance of this approval, 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;
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- If due to circumstances beyond its control, the PMP cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:
- Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
- (b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.
 - (c) PMP-s shall be submitted to IDEM, OAM, upon request and shall be subject to review and approval by IDEM, OAM. IDEM, OAM, may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.
- C.3 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]
-
- (a) The Permittee must comply with the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this approval.
 - (b) Any application requesting an amendment or modification of this approval shall be submitted to:

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

Any such application should be certified by the responsible official as defined by 326 IAC 2-7-1(34) only if a certification is required by the terms of the applicable rule

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

C.4 Opacity [326 IAC 5-1]

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

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

Except as otherwise provided in this permit, all air pollution control equipment listed in this approval and used to comply with an applicable requirement shall be operated at all times that the emission units vented to the control equipment are in operation.

C.6 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 by using good engineering practices (GEP) pursuant to 326 IAC 1-7-3.

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

C.7 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, OAM.

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

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

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

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

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

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

C.8 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

Compliance with applicable requirements shall be documented as required by this permit. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.9 Maintenance of Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

- (a) In the event that a breakdown of the monitoring equipment occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem. To the extent practicable, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less frequent than required in Section D of this approval until such time as the monitoring equipment is back in operation. In the case of continuous monitoring, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less than one (1) hour until such time as the continuous monitor is back in operation.
- (b) The Permittee shall install, calibrate, quality assure, maintain, and operate all necessary monitors and related equipment. In addition, prompt corrective action shall be initiated whenever indicated.

C.10 Pressure Gauge Specifications

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

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

C.11 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5][326 IAC 2-7-6] [326 IAC 1-6]

- (a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:
- (1) This condition;
 - (2) The Compliance Determination Requirements in Section D of this approval;
 - (3) The Compliance Monitoring Requirements in Section D of this approval;
 - (4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this approval; and
 - (5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this approval. CRP-s shall be submitted to IDEM, OAM upon request and shall be

subject to review and approval by IDEM, OAM. The CRP shall be prepared within ninety (90) days after issuance of this approval by the Permittee and maintained on site, and is comprised of:

- (A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this approval; and
 - (B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.
- (b) For each compliance monitoring condition of this approval, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall constitute a violation of the approval unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.
- (c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:
- (1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the approval conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the approval, and such request has not been denied or;
 - (3) An automatic measurement was taken when the process was not operating; or
 - (4) The process has already returned to operating within normal parameters and no response steps are required.
- (d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

C.12 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this approval exceed the level specified in any condition of this approval, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAM, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected facility while the corrective actions are being implemented. IDEM, OAM shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAM within thirty (30) days of receipt of the notice of deficiency. IDEM, OAM reserves the authority to use enforcement activities to resolve noncompliant stack tests.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAM that

retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAM may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate approval conditions may be grounds for immediate revocation of the approval to operate the affected facility.

The documents submitted pursuant to this condition do not require the certification by the responsible official as defined by 326 IAC 2-7-1(34).

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

C.13 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAM, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.14 Monitoring Data Availability [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)]

- (a) With the exception of performance tests conducted in accordance with Section C- Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this approval shall be performed at all times the equipment is operating at normal representative conditions.
- (b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this approval is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this approval.
- (c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.
- (d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.
- (e) At its discretion, IDEM, may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.

- (f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.15 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

- (a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAM, representative. 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 written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Records of required monitoring information shall include, where applicable:
 - (1) The date, place, and time of sampling or measurements;
 - (2) The dates analyses were performed;
 - (3) The company or entity performing the analyses;
 - (4) The analytic techniques or methods used;
 - (5) The results of such analyses; and
 - (6) The operating conditions existing at the time of sampling or measurement.
- (c) Support information shall include, where applicable:
 - (1) Copies of all reports required by this approval;
 - (2) All original strip chart recordings for continuous monitoring instrumentation;
 - (3) All calibration and maintenance records;
 - (4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator-s standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.
- (d) All record keeping requirements not already legally required shall be implemented within ninety (90) days of approval issuance.

C.16 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

- (a) The reports required by conditions in Section D of this approval shall be submitted to:

Indiana Department of Environmental Management

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

- (b) Unless otherwise specified in this approval, any notice, report, or other submission required by this approval shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.
- (c) Unless otherwise specified in this approval, any quarterly report shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by the responsible official as defined by 326 IAC 2-7-1(34).
- (d) The first report shall cover the period commencing on the date of issuance of this approval and ending on the last day of the reporting period.

SECTION D.1 FACILITY OPERATION CONDITIONS

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

- a) One (1) MAG-VZ/5 oven with a maximum capacity of 1,146 pounds magnet wire per hour, consisting of three (3) nine (9) line machines, equipped with two (2) catalytic oxidizers for VOC control, exhausted through stacks 398, 399, and 400, as well as cooling stacks 401, 402 and 403.

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

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

D.1.1 Volatile Organic Compounds [326 IAC 8-2-8]

- (a) Pursuant to 326 IAC 8-2-8 (Magnet Wire Coating Operations), the volatile organic compound (VOC) content of electrically insulating varnishes or enamel applied to aluminum or copper wire for use in electrical machinery shall be limited to 1.7 pounds VOC per gallon of coating less water delivered to the applicator.
- (c) This limit includes the evaporation of thinners being added to coatings to adjust viscosity, therefore, it is necessary to keep coating and solvent containers covered at all times to prevent solvent evaporation.

D.1.2 Catalytic Oxidizer Operation

The integral catalytic oxidizer shall operate at all times that MAG-VZ/5 oven is in operation. When operating, the catalytic oxidizer shall maintain a minimum operating temperature of 932 degrees Fahrenheit or a temperature, fan amperage and duct velocity determined in the compliance testing to maintain a minimum 92.3 percent destruction of the volatile organic compound (VOC) captured.

D.1.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the annealing furnaces.

Compliance Determination Requirements

D.1.4 Volatile Organic Compounds (VOCs) [326 IAC 8-1-2]

- (a) The integral catalytic oxidizers associated with the MAG-VZ/5 shall operate with an overall efficiency of not less than 92.3% at all times when the wire MAG-VZ/5 is in operation.
- (b) The 92.3% overall efficiency for each oven is necessary to ensure compliance with 326 IAC 8-2-8 and that 326 IAC 2-2 and 40 CFR 52.21 do not apply.
- (c) The integral catalytic oxidizer shall be operated at or above 932° F or a temperature determined during compliance tests to maintain a minimum 92.3% overall efficiency.
- (d) The basecoat VOC content of electrically insulating varnishes or enamel applied to aluminum or copper wire for use in electrical machinery shall not exceed 5.4 pounds VOC per gallon of coating less water. This is equivalent to a VOC content of 1.7 pounds VOC per gallon of coating less water after the effect of the internal catalytic oxidizers.
- (e) The topcoat VOC content of electrically insulating varnishes or enamel applied to aluminum or copper wire for use in electrical machinery shall not exceed 6.1 pounds VOC per gallon of coating less water. This is equivalent to a VOC content of 1.7 pounds VOC per gallon of

coating less water after the effect of the internal catalytic oxidizers.

D.1.5 Volatile Organic Compounds (VOCs) [326 IAC 8-1-2][326 IAC 8-1-4]

Compliance with the VOC content limitations contained in Condition D.1.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAM reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.1.6 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

- (a) Within 60 days after achieving maximum rate, but no less than 180 days after initial start-up, the Permittee shall perform VOC testing utilizing Methods 25 (40 CFR 60, Appendix A) for VOC, or other methods as approved by the Commissioner.
- (b) Additionally, if a higher VOC content coating is used or if the temperature falls below the 932° F required minimum temperature it will be considered a violation unless the Permittee performs VOC testing utilizing Method 25 (40 CFR 60, Appendix A) for VOC, or other methods as approved by the Commissioner to ensure compliance with the 92.3% overall efficiency.

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

D.1.7 Monitoring

- (a) Compliance with the 932° F minimum temperature will be monitored by computer collected data generated continuously.
- (b) Eight-hour average temperatures will be made available to IDEM upon request and one-hour temperature records will be made available within five business days from request.
- (c) The temperatures will be reported based on an eight-hour average.
- (d) The MAG-VZ/5 shall operate with a five (5) degree buffer such that if the eight-hour average temperature falls within five (5) degrees of the minimum required temperature, corrective action shall be performed and one-hour temperatures shall be investigated to determine if any temperature fell below the actual minimum temperature.
- (e) If during specific hours the temperature is less than the established minimum temperature, this will be considered noncompliance.

D.1.8 Visible Emissions Notations

- (a) Visible emission notations of the MAG-VZ5 stack exhaust shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

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

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

D.1.9 Record Keeping Requirements

- (a) To document compliance with Condition D.1.1, the Permittee shall maintain records of material safety data sheets (MSDS) to verify the VOC content of each coating material and solvent used.
- (b) To document compliance with Condition D.1.7, the Permittee shall maintain records of the computer collected data.
- (c) To document compliance with Condition D.1.8, the Permittee shall maintain records of daily visible emission notations of the MAG-VZ/5 stack exhaust.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

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

**PART 70 SOURCE MODIFICATION
CERTIFICATION**

Source Name: Phelps Dodge Magnet Wire Company
Source Address: 2131 S. Coliseum Blvd., Fort Wayne, Indiana 47803
Mailing Address: 2131 S. Coliseum Blvd., Fort Wayne, Indiana 47803
Source Modification No.: 003-11803-00013

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

Please check what document is being certified:

- 9 Test Result (specify) _____
- 9 Report (specify) _____
- 9 Notification (specify) _____
- 9 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:

MALFUNCTION REPORT

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
FAX NUMBER - 317 233-5967**

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?_____, 25 TONS/YEAR SULFUR DIOXIDE ?_____, 25 TONS/YEAR NITROGEN OXIDES ?_____, 25 TONS/YEAR VOC ?_____, 25 TONS/YEAR HYDROGEN SULFIDE ?_____, 25 TONS/YEAR TOTAL REDUCED SULFUR ?_____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?_____, 25 TONS/YEAR FLUORIDES ?_____, 100 TONS/YEAR CARBON MONOXIDE ?_____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?_____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?_____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?_____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?_____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF MALFUNCTION=AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: Phelps Dodge Magnet Wire Company PHONE NO. : 219-421-5711
LOCATION: (CITY AND COUNTY) Fort Wayne, Indiana Allen County

PERMIT NO. 003-11803 AFS PLANT ID: 003-00013 AFS POINT ID: _____ INSP: _____
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____

DATE/TIME MALFUNCTION STARTED: _____/_____/20____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE _____/_____/20____ _____ AM / PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____

INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

*SEE PAGE 2

Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 Malfunction^o definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

* **Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for a Part 70 Minor Source Modification

Source Background and Description

Source Name:	Phelps Dodge Magnet Wire Company
Source Location:	2131 S. Coliseum Blvd., Fort Wayne, IN 46803
County:	Allen
SIC Code:	3357
Minor Source Modification No.:	003-11803-00013
Permit Reviewer:	Rachel Meredith

The Office of Air Management (OAM) has reviewed a minor source modification application from Phelps Dodge relating to the construction of the following emission unit and pollution control devices:

One (1) MAG-VZ/5 oven with a maximum capacity of 1,146 pounds magnet wire per hour, consisting of three (3) nine (9) line machines, equipped with two (2) catalytic oxidizers for VOC control, exhausted through stacks 398, 399, and 400, as well as cooling stacks 401, 402 and 403.

History

On January 25, 2000, Phelps Dodge submitted an application to the OAM requesting approval to add the above equipment to their existing plant. An application for a Part 70 permit (T 003-6925-00013) for the existing source was received on October 15, 1996, and is currently being reviewed by IDEM, OAM.

Enforcement Issue

There are no enforcement actions pending against Phelps Dodge at this time.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
398	MAG-VZ/5 Oven	79	0.46	279	1,171
399	MAG-VZ/5 Oven	79	0.46	279	1,171
400	MAG-VZ/5 Oven	79	0.46	279	1,171
401	MAG-VZ/5 Wire Cooler	71	0.57	643	205
402	MAG-VZ/5 Wire Cooler	71	0.57	643	205
403	MAG-VZ/5 Wire Cooler	71	0.57	643	205

Recommendation

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

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

An application for the purposes of this review was received on January 25, 2000.

Air Pollution Control Justification as an Integral Part of the Process

The company has submitted the following justification such that the VOC internal catalytic oxidizers be considered as an integral part of the wire coating process:

The VOCs will be oxidized using only the process heat supplied by the curing ovens.

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

Potential To Emit of Modification

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

Based on the justification for air pollution equipment above, this table reflects the PTE of the modification after the internal catalytic oxidizers.

Pollutant	Potential To Emit (tons/year)
PM	0.0
PM-10	0.0
SO ₂	0.0
VOC	11.76
CO	0.0
NO _x	0.0

HAP-s	Potential To Emit (tons/year)
Cresol	2.985
Phenol	3.696
TOTAL	6.681

Emission Calculations

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

Justification for Modification

The Part 70 Operating permit is being modified through a Part 70 Minor Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(d)(4)(C), a modification with a potential to emit greater than five (5) tons per year or less than twenty-five (25) tons per year of volatile organic compounds (VOCs) that require the use of air pollution control equipment to comply with the applicable provisions of 326 IAC 8. Because the source's Part 70 Operating Permit has not yet been issued, this approval will allow the source to construct and operate pursuant to 326 IAC 2-7-10.5(h).

County Attainment Status

The source is located in Allen County.

Pollutant	Status
PM-10	Attainment
SO ₂	Attainment
NO _x	Attainment
Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Allen County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Allen County has been classified as attainment or unclassifiable for all criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

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

Pollutant	Emissions (tons/year)
PM	Less than 250
PM-10	Less than 250
SO ₂	Less than 250
VOC	Greater than 250
CO	Less than 250
NO _x	Less than 250

- (1) This existing source is a major stationary source because one or more regulated pollutants are emitted at a rate of 250 tons per year or more.

- (2) These emissions are based upon the Annual Air Emission Inventory and Emission Statement for 1998.

Potential to Emit of Modification After Issuance

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

Process/facility	Potential to Emit (tons/year)						
	PM	PM-10	SO ₂	VOC	CO	NO _x	HAPs
MAG-VZ/5 Oven	0.0	0.0	0.0	11.76	0.0	0.0	6.681
PSD Significant Levels	25.0	15.0	40.0	40.0	100.0	40.0	*See Below
Subject to PSD Review	No	No	No	No	No	No	No

This modification to an existing major stationary source is minor because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

*The PSD significant level varies for HAPs (326 IAC 2-2-1(w)). HAPs emissions from this modification do not exceed any of the applicable HAP thresholds in 26 IAC 2-2-1(w).

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification. 40 CFR 60, Subpart TT, Standards of Performance for Metal Coil Surface Coating and 40 CFR 60, Subpart VVV, Standards of Performance for Polymeric Coating of Supporting Substrates Facilities, do not apply because magnet wire coating does not fall within the definition of metal coil surface coating or within the definition of polymeric coating of supporting substrates.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14 and 40 CFR Part 63) applicable to this proposed modification.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration)

The limited potential to emit from this modification does not exceed the threshold for a major PSD modification. Therefore, the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) do not apply to this source modification. Compliance with the limited potential to emit will be by the use of catalytic oxidizers with the MAG-VZ/5 oven.

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than one hundred (100) tons per year of VOC and NOx. Pursuant to this rule, the Permittee must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Visible Emissions Limitations)

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

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

State Rule Applicability – MAG-VZ/5

326 IAC 8-2-8 Magnet Wire Coating Operations

Pursuant to 326 IAC 8-2-8 (Magnet Wire Coating Operations), the volatile organic compound (VOC) content of electrically insulating varnishes or enamel applied to aluminum or copper wire for use in electrical machinery shall be limited to 1.7 pounds VOC per gallon of coating less water delivered to the applicator.

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

The MAG-VZ-5 oven must operate with an overall efficiency of not less than 92.3% at all times when the wire enameling ovens are in operation. This overall efficiency is necessary to ensure compliance with 326 IAC 8-2-8.

Compliance Requirements

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

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

The compliance determination requirements applicable to this modification are as follows:

1. Volatile Organic Compounds
 - (a) The integral catalytic oxidizers associated with the MAG-VZ/5 shall operate with an overall efficiency of not less than 92.3% at all times when the wire MAG-VZ/5 is in operation.

- (b) The 92.3% overall efficiency for each oven is necessary to ensure that 326 IAC 2-2 and 40 CFR 52.21 do not apply.
 - (c) The integral catalytic oxidizer shall be operated at or above 932° F or a temperature determined during compliance tests to maintain a minimum 92.3% overall efficiency.
 - (d) The basecoat VOC content of electrically insulating varnishes or enamel applied to aluminum or copper wire for use in electrical machinery shall not exceed 5.4 pounds VOC per gallon of coating less water. This is equivalent to a VOC content of 1.7 pounds VOC per gallon of coating less water after the effect of the internal catalytic oxidizers.
 - (e) The topcoat VOC content of electrically insulating varnishes or enamel applied to aluminum or copper wire for use in electrical machinery shall not exceed 6.1 pounds VOC per gallon of coating less water. This is equivalent to a VOC content of 1.7 pounds VOC per gallon of coating less water after the effect of the internal catalytic oxidizers
2. Volatile Organic Compounds
Compliance with the VOC content limitations contained in Condition D.1.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAM reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.
3. Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]
- (a) Within 60 days after achieving maximum rate, but no less than 180 days after initial start-up, the Permittee shall perform VOC testing utilizing Methods 25 (40 CFR 60, Appendix A) for VOC, or other methods as approved by the Commissioner.
 - (b) Additionally, if a higher VOC content coating is used or if the temperature falls below the 932° F required minimum temperature it will be considered a violation unless the Permittee performs VOC testing utilizing Method 25 (40 CFR 60, Appendix A) for VOC, or other methods as approved by the Commissioner to ensure compliance with the 92.3% overall efficiency.

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

1. Monitoring
- (a) Compliance with the 932° F minimum temperature will be monitored by computer collected data generated continuously.
 - (b) Eight-hour average temperatures will be made available to IDEM upon request and one-hour temperature records will be made available within five business days from request.
 - (c) The temperatures will be reported based on an eight-hour average.
 - (d) The MAG-VZ/5 shall operate with a five (5) degree buffer such that if the eight-hour average temperature falls within five (5) degrees of the minimum required temperature, corrective action shall be performed and one-hour temperatures shall be investigated to determine if any temperature fell below the actual minimum temperature.
 - (e) If during specific hours the temperature is less than the established minimum temperature, this will be considered noncompliance.

2. Visible Emission Notations

- (a) Visible emission notations of the MAG-VZ-5 oven exhaust shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emission of the 187 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Part 70 Application Form GSD-08.

This source will emit levels of air toxics less than those that constitute major source applicability according to Section 112 of the 1990 Clean Air Act Amendments.

Conclusion

The construction of this proposed modification shall be subject to the conditions of the attached proposed **Part 70 Minor Source Modification No. 003-11803-00013**.

**Appendix A: Emission Calculations
VOC and Particulate
From Surface Coating Operations: MAG/VZ5**

Company Name: Phelps Dodge, Inc.
Address City IN Zip: 2131 S. Coliseum Blvd., Fort Wayne, Indiana 46803
Source Modification: 003-11803
Pit ID: 003-00013
Reviewer: Rachel Meredith
Date: 2/4/00

Potential Emissions (uncontrolled):																			
Material (as applied)	Process	Density (Lb/Gal)	Weight % Volatile (H2O&	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (solids)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential ton/yr	lb VOC /gal solids	Transfer Efficiency	VOC control required efficiency to comply with 8-2-8	
Polyester Basecoat	MAG/VZ5	9.44	56.80%	0.00%	56.80%	0.00%	31.70%	0.0060	1146.00	5.4	5.36	36.87	36.87	161.48	0.00	16.91	1	86.93%	
Amide Imide Topcoat	MAG/VZ5	8.80	69.50%	0.00%	69.50%	0.00%	21.30%	0.0024	1146.00	6.1	6.12	16.82	16.82	73.68	0.00	28.71	1	92.30%	
Total Uncontrolled Potential Emissions:												53.69	53.69	235.16	0.00				
Potential Emissions (controlled):																			
										Material (as applied)	Applicant listed VOC Control Efficiency*	Controlled VOC lbs per Hour	Controlled VOC lbs per Day	Controlled VOC tons per Year					
										Polyester Basecoat	95.00%	1.84	44.24	8.07					
										Amide Imide Topcoat	95.00%	0.84	20.19	3.68					
Total Controlled Potential Emissions:												2.68	64.43	11.76					

* The VOC from the basecoat polyurethane and topcoat nylon is controlled by a catalytic oxidizer with permanent total enclosure.

A minimum overall VOC control efficiency of 92.3% is required from each unit to comply with 326 IAC 8-2-8 (Magnet wire coating operations). The applicant has stated that the unit will achieve a 95.0% control efficiency.

Required VOC Control Efficiency = (lb VOC/gal solids -E)/lb VOC/gal solids * 100

E= (1.7 lb VOC/gal of coating/(1-(1.7 lb VOC/gal of coating/7.36 lb VOC/gal coating solids)) = 2.21 lb VOC/gal of solids

Methodology:

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

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

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

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

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

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

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

Total = Worst Coating + Sum of all solvents used

Controlled emission rate = uncontrolled emission rate * (1 - control efficiency)

Company Name: Phelps Dodge, Inc.
Address City IN Zip: 2131 S. Coliseum Blvd., Fort Wayne, Indiana 46803
Source Modification: 003-11803
Pit ID: 003-00013
Reviewer: Rachel Meredith
Date: 2/4/00

Material	Density (Lb/Gal)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Weight % Phenol	Weight % Cresol/Cresylic Acid	Phenol Emissions (ton/yr)	Cresols/Cresylic Acid (ton/yr)	Total HAP Emissions (ton/yr)	
Polyester Basecoat	9.44	0.0060	1146.00	26.00%	21.00%	73.919	59.704	133.623	
Topcoat Nylon	8.80	0.0024	1146.00	0.00%	0.00%	0.000	0.000	0.000	
Total Potential Emissions (uncontrolled):						per unit:	73.919	59.704	133.623

Potential HAP Emissions (after Controls)

Material	Destruction Efficiency (%)	Phenol Emissions (ton/yr)	Cresols/Cresylic Acid (ton/yr)	Total Emissions (ton/yr)
Polyester Basecoat	95.00%	3.696	2.985	6.681
Topcoat Nylon	95.00%	0.000	0.000	0.000
per unit:		3.696	2.985	6.681

METHODOLOGY

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