

April 2, 2001

Mr. Bill Horoho
Maco Coporation
1345 Henry Street
Huntington, IN 46750-0709

Re: 069-12102-00048
First Minor Permit Revision to
MSOP 069-11249-00048

Dear Mr. Horoho:

Maco Corporation was issued a minor source operating permit on December 6, 1999 for the operation of a stationary secondary aluminum foundry. A letter requesting a revision to this permit was received on March 21, 2000. Pursuant to the provisions of 326 IAC 2-6.1-6 a minor revision to this permit is hereby approved as described in the attached Technical Support Document.

The modification consists of the removal of one Torit Dryflow baghouse and the corresponding permit changes below:

1. Change condition A.2(j) to read "Casting grinding/cleaning/finishing operations with a maximum throughput of 1.01 tons of aluminum per hour".
2. Change section D.1(j) to read "Casting grinding/cleaning/finishing operations with a maximum throughput of 1.01 tons of aluminum per hour".
3. Remove condition D.1.2, as there is not a dust collector. The Indiana Regulations required a Preventive Maintenance Plan for control equipment, as there is not any control equipment; a PM Plan should not be required.
4. Remove Conditions D.1.5, D.1.6, and D.1.7, as they are not applicable without a dust controller.
5. Remove the record keeping requirements of Condition D.1.8 (b) as these are all for a dust collector.

Maco Corporation also recommended use of a more representative emission factor for the casting/grinding/cleaning finishing operation. This change required a revision to the potential to emit estimates and the existing source PSD definitions in the technical source document.

MINOR SOURCE OPERATING PERMIT OFFICE OF AIR QUALITY

Maco Corporation
1345 Henry Street
Huntington, Indiana 46750

(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 permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

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| Operation Permit No.: MSOP 069-11249-00048 | |
| Issued by: Paul Dubenetzky, Branch Chief, Office of Air Quality | Issuance Date: December 6, 1999 |

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| First Minor Permit Revision: 069-12102-000048 | Pages Affected: 3, 3a, 3b, 5, 17, 19, 20, 21 |
| Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality <i>Original signed by Paul Dubenetzky</i> | Issuance Date: April 2, 2001 |

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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 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates a stationary secondary aluminum foundry.

Authorized Individual: William Horoho
Source Address: 1345 Henry Street, Huntington, IN 46750
Mailing Address: P.O. Box 709, Huntington, IN 46750
Phone Number: 219-356-3900
SIC Code: 3365
County Location: Huntington
County Status: Attainment for all criteria pollutants
Source Status: Minor Source Operating Permit
Minor Source under PSD.

A.2 Emissions units and Pollution Control Equipment Summary

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

- (a) One (1) natural gas-fired reverberatory furnace identified as Furnace # 2, with a maximum heat input rate of 3.55 million (MM) British thermal units (Btu) per hour with a maximum capacity of melting 1500 pounds of aluminum per hour, and exhausting through stack # 2;
- (b) Nine (9) natural gas-fired reverberatory furnaces, each with a maximum melting rate of 0.5 tons of aluminum per hour, identified as Furnaces # 3 and 5, each with a maximum heat input rate of 2.90 MMBtu/hr, exhausting through stacks # 3 and 5; Furnace # 6 with a maximum heat input rate of 4.62 MMBtu/hr, exhausting through stack # 6; Furnaces # 4, 7, 8, 9 and 10 each with a maximum heat input rate of 3.55 MMBtu/hr, exhausting through stacks # 4, 7, 8, 9 and 10, respectively; and Furnace # 11 with a maximum heat input rate of 2.4 MMBtu/hr, exhausting through stack # 11;
- (c) Nine (9) natural gas-fired core machines with a maximum capacity to produce 710 lbs of cores per hour, three (3) identified as Dependable 600 # 1, 2 and 3, each with a maximum heat input rate of 0.38 MMBtu/hr; three (3) identified as Dependable 400 # 1, 2 and 3, each with a maximum heat input rate of 0.27 MMBtu/hr; one (1) Dependable 200 with a maximum heat input rate of 0.17 MMBtu/hr; one (1) U360 with a maximum heat input rate of 1.00 MMBtu/hr; and one (1) Redford with a maximum heat input rate of 0.37 MMBtu/hr;
- (d) Two (2) electric-fired core machines, identified as U180 #1 and U180 #2;
- (e) One (1) Lost Foam Molding operation with a maximum throughput of 0.5 tons per hour with a baghouse to control PM emissions;
- (f) Two (2) natural gas-fired aging ovens (ID#'s 1 and 2), each with a maximum heat input of 0.6 MMBtu/hr venting to the interior of the building;

- (g) One (1) pot furnace, which serves as a holding tank only;
- (h) Twenty (20) natural gas-fired torches venting to the interior of the building;
- (i) One (1) SO₂ gassing chamber for the core department process that utilizes one (1) SO₂ scrubber unit to control emissions venting to the interior of the building;
- (j) One (1) casting grinding/cleaning/finishing operations with a maximum throughput of 1.01 tons of aluminum per hour.
- (k) One (1) pouring/casting operation with a maximum throughput of 5.25 tons of aluminum per hour;
- (l) One (1) sand grinding/handling operation with a maximum throughput of 0.4765 tons per hour;
- (m) Three (3) natural gas-fired boilers (ID#'s 1, 2 and 3) each with a maximum heat input of 0.244 MMBtu/hr, exhausting through stack #14.
- (n) One (1) natural gas-fired steam generating boiler (ID# 4) with a maximum heat input capacity of 1.344 MMBtu/hr, exhausting through stacks 15 and 16;
- (o) Fifth-six (56) natural gas-fired space heaters each with a maximum heat input of 0.05 MMBtu/hr, venting to the interior of the building;
- (p) One (1) cafeteria furnace, with a maximum heat input of 0.075 MMBtu/hr, exhausting through stack #12;
- (q) One (1) office furnace with a maximum heat input of 0.075 MMBtu/hr, exhausting through stack #13;
- (r) Two (2) 10,000 gallon underground storage tanks to store No. 2 fuel oil; and
- (s) Four (4) 1,000 gallon above storage tanks to store LP gas.

SECTION B GENERAL CONSTRUCTION CONDITIONS

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

B.1 Permit No Defense [IC 13]

This permit 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

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

B.3 Effective Date of the Permit [IC 13-15-5-3]

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

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

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction of reverberatory furnace # 2 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.

B.5 Modification to Permit [326 IAC 2]

Notwithstanding the Section B condition entitled "Minor Source Operating Permit", all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

B.6 Minor Source Operating Permit [326 IAC 2-6.1]

This document shall also become a minor source operating permit pursuant to 326 IAC 2-6.1 when, prior to start of operation, the following requirements are met:

- (a) The attached Affidavit of construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section.
 - (1) If the Affidavit of Construction verifies that the reverberatory furnace # 2 covered in this Construction Permit was constructed as proposed in the application, then the facilities may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.
 - (2) If the Affidavit of Construction does not verify that the facilities covered in this Construction Permit were constructed as proposed in the application, then the Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section prior to beginning operation of the facilities.
- (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.

- (c) Upon receipt of the Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section, the Permittee shall attach it to this document.
- (d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-1.1-7(Fees).
- (e) Pursuant to 326 IAC 2-6.1-7, the Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date established in the validation letter. If IDEM, OAQ, upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied. The operation permit issued shall contain as a minimum the conditions in Section C and Section D of this permit.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

C.1 PSD Minor Source Status [326 IAC 2-2] [40 CFR 52.21]

- (a) The total source potential to emit of PM is less than 250 tons per year. Therefore the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 will not apply.
- (b) Any change or modification which may increase potential to emit to 250 tons per year from this source, shall cause this source to be considered a major source under PSD, 326 IAC 2-2 and 40 CFR 52.21, and shall require approval from IDEM, OAQ prior to making the change.

C.2 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) after issuance of this permit, including the following information on each emissions unit:
 - (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.
- (b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventative 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, OAQ, upon request and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its Preventative Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

C.3 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]

- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

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

Any such application should be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1.

- (c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

C.4 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)]

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 permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under this title or the conditions of this permit or any operating permit revisions;
- (c) Inspect, at reasonable times, any processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

C.5 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]

Pursuant to [326 IAC 2-6.1-6(d)(3)] :

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAQ, Permits Branch, within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by a notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAQ, shall issue a revised permit.

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

C.6 Permit Revocation [326 IAC 2-1-9]

Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.

- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.7 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.8 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.9 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 ambient air quality modeling pursuant to 326 IAC 1-7-4.

Testing Requirements

C.10 Performance Testing [326 IAC 3-6][326 IAC 2-1.1-11]

- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

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

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

no later than thirty-five (35) days prior to the intended test date. The 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, OAQ within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAQ, if the source submits to IDEM, OAQ, 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 "authorized individual" as defined by 326 IAC 2-1.1-1.

Compliance Monitoring Requirements

C.11 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.12 Maintenance of Monitoring Equipment [IC 13-14-1-13]

- (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 permit 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.13 Monitoring Methods [326 IAC 3]

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, or other approved methods as specified in this permit.

C.14 Compliance Monitoring Plan - Failure to Take Response Steps [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 permit;
 - (3) The Compliance Monitoring Requirements in Section D of this permit;
 - (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 permit; and
 - (5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAQ upon request and shall be

subject to review and approval by IDEM, OAQ. The CRP shall be prepared within ninety (90) days after issuance of this permit 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 permit; 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 permit, 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 permit 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 permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, 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.

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test

- (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 corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected emissions unit while the corrective actions are being implemented. IDEM, OAQ 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, OAQ within thirty (30) days of receipt of the notice of deficiency. IDEM, OAQ 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, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ

may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate permit conditions may be grounds for immediate revocation of the permit to operate the affected emissions unit.

The documents submitted pursuant to this condition do not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Record Keeping and Reporting Requirements

C.16 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 Quality (OAQ) 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 OAQ, 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.17 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (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 permit 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 permit 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 permit.
- (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.18 General Record Keeping Requirements [326 IAC 2-6.1-2]

- (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, OAQ, 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 permit;
 - (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 Preventative 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 when operation begins.

C.19 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a Semi-annual report. Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported. The Compliance Monitoring Report shall include the certification by the "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, P. O. Box 6015
Indianapolis, Indiana 46206-6015
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (d) Unless otherwise specified in this permit, any semi-annual report shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) All instances of deviations must be clearly identified in such reports. A reportable deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:
 - (1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or
 - (2) A malfunction as described in 326 IAC 1-6-2; or
 - (3) Failure to implement elements of the Preventive Maintenance Plan unless lack of maintenance has caused or contributed to a deviation.
 - (4) Failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds 5% of the required data in any calendar quarter.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred or failure to monitor or record the required compliance monitoring is a deviation.

- (f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.
- (g) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

C.20 Annual Notification [326 IAC 2-6.1-5(a)(5)]

- (a) Annual notification shall be submitted to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.
- (c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in the format attached no later than March 1 of each year to:
- Compliance Data Section, Office of Air Quality
Indiana Department of Environmental Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015
- (d) The notification 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 received by IDEM, OAQ on or before the date it is due.

SECTION D.1

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) natural gas-fired reverberatory furnace identified as Furnace #2, with a maximum heat input rate of 3.55 million (MM) British thermal units (Btu) per hour with a maximum capacity of melting 1500 pounds of aluminum per hour, and exhausting through stack #2.
- (b) Nine (9) natural gas-fired reverberatory furnaces, each with a maximum melting rate of 0.5 tons of aluminum per hour, identified as Furnaces # 3 and 5, each with a maximum heat input rate of 2.90 MMBtu/hr, exhausting through stacks #3 and 5; Furnaces # 6 with a maximum heat input rate of 4.62 MMBtu/hr, exhausting through stacks #6; Furnaces # 4, 7, 8, 9 and 10, each with a maximum heat input rate of 3.55 MMBtu/hr, exhausting through stacks #4, 7, 8, 9, and 10, respectively; and Furnaces # 11 with a maximum heat input rate of 2.4 MMBtu/hr, exhausting through stacks #11.
- (c) Nine (9) natural gas-fired core machines with a maximum capacity to produce 710 lbs of cores per hour, three (3) identified as Dependable 600 #1, 2 and 3, each with a maximum heat input rate of 0.38 MMBtu/hr; three (3) identified as Dependable 400 #1, 2 and 3, each with a maximum heat input rate of 0.27 MMBtu/hr; one (1) Dependable 200 with a maximum heat input rate of 0.17 MMBtu/hr; one (1) U360 with a maximum heat input rate of 1.00 MMBtu/hr; and one (1) Redford with a maximum heat input rate of 0.37 MMBtu/hr;
- (d) Two (2) electric-fired core machines, identified as U180 #1 and U180 #2;
- (e) One (1) Lost Foam Molding operation with a maximum throughput of 0.5 tons per hour with a baghouse to control PM emissions;
- (f) Two (2) natural gas-fired aging ovens (ID#'s 1 and 2), each with a maximum heat input of 0.6 MMBtu/hr venting to the interior of the building;
- (g) One (1) pot furnace, which serves as a holding tank only;
- (h) Twenty (2) natural gas-fired torches venting to the interior of the building;
- (i) One (1) gassing chamber for the core department process that utilizes one (1) SO₂ scrubber unit to control emissions venting to the interior of the building;
- (j) One (1) casting grinding/cleaning/finishing operations with a maximum throughput of 1.01 tons of aluminum per hour.
- (k) One (1) pouring/casting operation with a maximum throughput of 5.25 tons of aluminum per hour; and
- (l) One (1) sand grinding/handling operation with a maximum throughput of 0.4765 tons per hour.

(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

D.1.1 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the reverberatory furnace # 2 shall not exceed 3.38 pounds per hour when operating at a process weight rate of 1500 pounds per hour. The allowable PM emission rate from each reverberatory furnaces # 3, 4, 5, 6, 7, 8, 9, 10, 11 shall not exceed 2.58 pounds per hour when each is operating at a process weight rate of 1000 pounds per hour.

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

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

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

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

| Emission Unit | Process Weight Rate (tons/hr) | Allowable PM Emissions (326 IAC 6-3-2) (lb/hr) |
|----------------------------|-------------------------------|--|
| Reverberatory Furnace # 2 | 0.75 | 3.38 |
| Reverberatory Furnace # 3 | 0.50 | 2.58 |
| Reverberatory Furnace # 4 | 0.50 | 2.58 |
| Reverberatory Furnace # 5 | 0.50 | 2.58 |
| Reverberatory Furnace # 6 | 0.50 | 2.58 |
| Reverberatory Furnace # 7 | 0.50 | 2.58 |
| Reverberatory Furnace # 8 | 0.50 | 2.58 |
| Reverberatory Furnace # 9 | 0.50 | 2.58 |
| Reverberatory Furnace # 10 | 0.50 | 2.58 |
| Reverberatory Furnace # 11 | 0.50 | 2.58 |
| Dependable 600 # 1 | 0.04 | 0.47 |
| Dependable 600 # 2 | 0.04 | 0.47 |
| Dependable 600 # 3 | 0.04 | 0.47 |
| Dependable 400 # 1 | 0.04 | 0.47 |
| Dependable 400 # 2 | 0.04 | 0.47 |
| Dependable 400 # 3 | 0.04 | 0.47 |
| Dependable 200 | 0.04 | 0.47 |

| Emission Unit | Process Weight Rate (tons/hr) | Allowable PM Emissions (326 IAC 6-3-2) (lb/hr) |
|--------------------------------------|----------------------------------|--|
| U360 | 0.04 | 0.47 |
| Redford | 0.04 | 0.47 |
| Lost Foam Molding | 0.50 | 2.58 |
| Casting/Grinding/Cleansing/Finishing | 1.01 | 4.13 |

Compliance Determination Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5 (a)(2)]

D.1.2 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.1.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing. The lost foam molding baghouse shall be in operation at all times.

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.3 Visible Emissions Notations

- (a) Daily visible emission notations of the Casting cleaning/finishing shop stack exhaust shall be performed 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 Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.4 Record Keeping Requirements

- (a) To document compliance with Conditions D.1.3, the Permittee shall maintain records in daily visible emission notations of the Casting cleaning/finishing shop stack exhaust.

SECTION D.2 EMISSION UNITS OPERATION CONDITIONS

Emissions unit Description

- (m) Three (3) natural gas-fired boilers (ID#'s 1, 2 and 3) each with a maximum heat input of 0.244 MMBtu/hr, exhausting through stack # 14;
- (n) One (1) natural gas-fired steam generating boiler (ID# 4) with a maximum heat input capacity of 1.344 MMBtu/hr, exhausting through stacks 15 and 16;
- (o) Fifty-six (56) natural gas-fired space heaters each with a maximum heat input of 0.05 MMBtu/hr, venting to the interior of the building;
- (p) One (1) cafeteria furnace, with a maximum heat input of 0.075 MMBtu/hr, exhausting through stack # 12;
- (q) One (1) office furnace with a maximum heat input of 0.075 MMBtu/hr, exhausting through stack # 13;
- (r) Two (2) 10,000 gallon underground storage tanks to store No. 2 fuel oil; and
- (s) Four (4) 1,000 gallon above ground storage tanks to store LP gas.

(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

D.2.1 Particulate Matter Limitation (PM) [326 IAC 6-2-3]

- (a) Each of the (3) natural gas-fired boilers (identified as Boiler # 1, 2 and 3) rated at 0.244 MMBtu/hr each, are subject to the particulate matter limitations of 326 IAC 6-2-4. Pursuant to this rule, the boilers (boilers # 1 and 2 constructed in 1985, and boiler # 3 constructed in 1989) are limited by the following equation:

$$Pt = (1.09)/(Q^{0.26})$$

where:

Pt = maximum allowable particulate matter (PM) emitted per MMBtu/hr heat input
Q = total source max. indirect heater input = boiler #1 + #2 + #3 = (3 * 0.244 MMBtu/hr)
= 0.732 MMBtu/hr

$$Pt = (1.09)/(0.732^{0.26}) = 1.00 \text{ MMBtu/hr}$$

However, pursuant to 326 IAC 6-2-4, indirect heating units with a heat input rate (Q) of less than 10 MMBtu/hr shall be limited to 0.60 lb/MMBtu heat input. Therefore, PM emissions from each of the three (3) 0.244 MMBtu/hr boilers shall be limited to 0.60 lb/MMBtu heat input.

- (b) Pursuant to 326 IAC 6-2-3 (Particulate Matter Emission Limitations for Sources of Indirect Heating), indirect heating units which began operation on or before June 8, 1972, shall in no case exceed 0.8 lb/MMBtu heat input.

This limitation is based on the following equation:

$$Pt = (C*a*h)/(76.5*Q^{0.75}*N^{0.25})$$

where: Pt = maximum allowable particulate matter (PM) emitted per MMBtu heat input
C = maximum ground level concentration (50 µg/m³, for a period not to exceed 60 min.)
Q = total source max. indirect heater input = boiler #4 = 1.344 MMBtu/hr
N = number of stacks in the fuel burning operation = 2
a = plume rise factor (0.67, for Q < 1,000)
h = average stack height in feet = 28 feet

$$Pt = (50*0.67*28)/(76.5*1.344^{0.75}*2^{0.25}) = 8.26 \text{ lbs PM/MMBtu}$$

Therefore, the PM emissions from the one (1) natural gas-fired steam generating boiler (identified as Boiler # 4 and constructed in 1965) rated at 1.344 MMBtu per hour heat input shall be limited to 0.8 pounds per MMBtu heat input.

Compliance Determination Requirements

D.2.2 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.2.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

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

MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

| | |
|----------------------|--------------------------|
| Company Name: | Maco Corporation |
| Address: | 1345 Henry Street |
| City: | Huntington |
| Phone #: | 219-356-3900 |
| MSOP #: | 069-11249-00048 |

I hereby certify that Maco Corporation is still in operation.
 no longer in operation.

I hereby certify that Maco Corporation is in compliance with the requirements of MSOP 069-11249-00048.
 not in compliance with the requirements of MSOP 069-11249-00048.

| |
|---------------------------------------|
| Authorized Individual (typed): |
| Title: |
| Signature: |
| Date: |

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

| |
|-----------------------|
| Noncompliance: |
| |
| |
| |

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

**MINOR SOURCE OPERATING PERMIT
SEMI-ANNUAL COMPLIANCE MONITORING REPORT**

Source Name: Maco Corporation
Source Address: 1345 Henry Street, Huntington, IN 46750
Mailing Address: P.O. Box 709, Huntington, IN 46750
MSOP Permit No.: 069-11249-00048

Months: _____ to _____ Year: _____

This report is an affirmation that the source has met all the compliance monitoring requirements stated in this permit. This report shall be submitted semi-annually. Any deviation from the compliance monitoring requirements and the date(s) of each deviation must be reported. Additional pages may be attached if necessary. This form can be supplemented by attaching the Emergency/Deviation Occurrence Report. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD.

| Compliance Monitoring Requirement (e.g. Permit Condition D.1.3) | Number of Deviations | Date of each Deviation |
|--|----------------------|------------------------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Form Completed By: _____
Title/Position: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

Maco Corporation
Elkhart, Indiana
Reviewer: NH/EVP

First Minor Permit Revision 069-12102-00048
Modified By: ERG/RB

Page 24 of 25
MSOP 069-11249-00048

MALFUNCTION REPORT

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
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 ?____, 100TONS/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: Maco Corporation PHONE NO. (219) 356-3900
LOCATION: (CITY AND COUNTY) Huntington, Huntington
PERMIT NO. 069-11249 AFS PLANT ID: 069-00048 AFS POINT ID: _____ INSP: RJH
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" 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:

All of the requested changes were made except for the removal of Condition D.1.6 and D.1.7, as these conditions also apply to the lost foam molding operation baghouse, which is still in operation.

Pursuant to 326 IAC 2-6.1-6, the minor source operating permit shall be revised by incorporating the minor permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. A copy of this revised MSOP is attached.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. Pursuant to Contract No. A305-0-00-36, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc. (ERG). Therefore, questions should be directed to Richard Billings, ERG, P.O. Box 2010, Morrisville, North Carolina, 27560 or call (919) 468-7812 to speak directly to Mr. Billings. Questions may also be directed to Duane Van Langinham at IDEM, OAQ, 100 North Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015 or call (800) 451-6027, press 0 and ask for Duane Van Laningham or extension 3-6878, or dial (317) 233-6878.

Sincerely,

Original signed by Paul Dubenetzky

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments
ERG/RB

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

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Permit Revision to a Minor Source Operating Permit

Source Background and Description

| | |
|--|---|
| Source Name: | Maco Corporation |
| Source Location: | 1345 Henry Street, Huntington, Indiana 46750 |
| County: | Huntington |
| SIC Code: | 3365 |
| Operation Permit No.: | MSOP 069-11249-00048 |
| Operation Permit Issuance Date: | December 6, 1999 |
| Permit Revision No.: | MSOP 069-12102-00048 |
| Permit Reviewer: | ERG/RB |

The Office of Air Quality (OAQ) has reviewed a revision application from Maco Corporation relating to the operation of a stationary secondary aluminum foundry.

History

Maco Corporation was issued a permit on December 6, 1999. On March 2, 2000 Maco Corporation submitted an application to the OAQ requesting a minor permit revision to reflect the removal of a dust collector during the summer of 1999. The associated baghouse was to control emissions from the casting/grinding/cleaning/finishing operations. Given the emission factors used in the previous TSD, the baghouse was required in order to meet the requirements of 326 IAC 6-3-2. In the current application, the facility has provided more representative emission factors which suggest that the baghouse is not required to meet 326 IAC 6-3-2. Since there is no longer a Torit Dryflow baghouse dust collector, a Preventative Maintenance Plan and record keeping requirements for the dust collector are no longer needed. Maco Corporation also recommended use of a more appropriate PM emission factor for the casting grinding/cleaning/finishing operation. The affected permit unit is the following:

One (1) casting grinding/cleaning/finishing operations with a maximum throughput of 1.01 tons of aluminum per hour previously equipped with a baghouse that is now removed.

Existing Approvals

The source was issued a Minor Source Operating Permit (069-11249-00048) on December 6, 1999.

Enforcement Issue

- (a) IDEM is aware that the baghouse has been removed prior to receipt of the proper permit.
- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Recommendation

The staff recommends to the Commissioner that the Minor Permit Revision be approved. This recommendation is based on the following facts and conditions:

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

Emission Calculations

Emission estimates for the casting grinding/cleaning/finishing operation were revised based on the new PM emission factor provided by the source - for the previous estimate see the TSD for MSOP 069-11249-00048.

Potential To Emit

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

The potential to emit for PM has changed due to improvements made to the emission calculations for the cast grinding/cleaning/finishing operation. The table below reflects the revised potential to emit calculations.

| Pollutant | Potential to Emit (tons/year) | |
|-----------------|-------------------------------|----------------------|
| | Previous ¹ | Revised ² |
| PM | 181.89 | 121.90 |
| PM-10 | 69.84 | 69.84 |
| SO ₂ | 50.26 | 50.26 |
| VOC | 12.02 | 12.02 |
| CO | 16.20 | 16.20 |
| NO _x | 17.71 | 17.71 |

¹ from TSD for MSOP 069-11249-00048.

² Incorporates revised emission factor.

Justification for Modification

This modification is being performed pursuant to 326 IAC 2-6.1-6(d)(5) as the modification does not result in an increase in the potential to emit any regulated pollutant greater than the thresholds in 326 IAC 2-1.1-3(d)(I).

Source Status

Existing Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/or as otherwise limited):

The use of the new PM emission factor and the removal of the Torit Dryflow baghouse has been noted in the table below.

| Pollutant | Emissions (ton/yr) | |
|-----------------|-----------------------|----------------------|
| | Previous ¹ | Revised ² |
| PM | 110.45 | 121.90 |
| PM-10 | 62.70 | 62.70 |
| SO ₂ | 21.36 | 21.36 |
| VOC | 12.02 | 12.02 |
| CO | 16.20 | 16.20 |
| NO _x | 17.71 | 17.71 |

¹ from TSD for MSOP 069-11249-00048.

² Incorporates revised emission factor and removal of bag house.

Actual Emissions

No previous emission data has been received from the source.

County Attainment Status

The source is located in Huntington County.

| Pollutant | Status |
|-----------------|------------|
| PM-10 | attainment |
| SO ₂ | attainment |
| NO ₂ | 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. Huntington County has been designated as attainment or unclassifiable for ozone.

Federal Rule Applicability

There are no changes in the Federal Rule Applicability for the source as a result of this permit revision.

State Rule Applicability - Entire Source

325 IAC 6-3-2 (Process Operations)

Casting grinding/cleaning/finishing shall not exceed 4.127 pounds per hour when operating at a process weight rate of 1.01 tons per hour. Note, this limitation was not considered in the original permit. The pounds per hour limitation was calculated using the following calculation:

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

Note that the potential to emit for this equipment based on all of the revised emission factor is 3.48 pounds per hour. Potential emissions are less than allowed emissions of 4.13 pounds per hour.

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.

Proposed Changes

The following changes in the permit one recommended. Bolded text represents additions, while strikeouts represents deletions from the original permit.

A.2 Emissions units and Pollution Control Equipment Summary

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

- (a) One (1) natural gas-fired reverberatory furnace identified as France #2, with a maximum heat input rate of 3.55 million (MM) British thermal units (Btu) per hour with a maximum capacity of melting 1500 pounds of aluminum per hour, and exhausting through stack #2.
- (b) Nine (9) natural gas-fired reverberatory furnaces, each with a maximum melting rate of 0.5 tons of aluminum per hour, identified as Furnaces # 3 and 5, each with a maximum heat input rate of 2.90 MMBtu/hr, exhausting through stacks #3 and 5; Furnaces # 6 with a maximum heat input rate of 4.62 MMBtu/hr, exhausting through stacks #6; Furnaces # 4, 7, 8, 9 and 10, each with a maximum heat input rate of 3.55 MMBtu/hr, exhausting through stacks #4, 7, 8, 9, and 10, respectively; and Furnaces # 11 with a maximum heat input rate of 2.4 MMBtu/hr, exhausting through stacks #11.
- (c) Nine (9) natural gas-fired core machines with a maximum capacity to produce 710 lbs of cores per hour, three (3) identified as Dependable 600 #1, 2 and 3, each with a maximum heat input rate of 0.38 MMBtu/hr; three (3) identified as Dependable 400 #1, 2 and 3, each with a maximum heat input rate of 0.27 MMBtu/hr; one (1) Dependable 200 with a maximum heat input rate of 0.17 MMBtu/hr; one (1) U360 with a maximum heat input rate of 1.00 MMBtu/hr; and one (1) Redford with a maximum heat input rate of 0.37 MMBTU/hr;
- (d) Two (2) electric-fired core machines, identified as U180 #1 and U180 #2;
- (e) One (1) Lost Foam Molding operation with a maximum throughput of 0.5 tons per hour with a baghouse to control PM emissions;

- (f) Two (2) natural gas-fired aging ovens (ID#'s 1 and 2), each with a maximum heat input of 0.6 MMBtu/hr venting to the interior of the building;
- (g) One (1) pot furnace, which serves as a holding tank only;
- (h) Twenty (2) natural gas-fired torches venting to the interior of the building;
- (i) One (1) gassing chamber for the core department process that utilizes one (1) SO₂ scrubber unit to control emissions venting to the interior of the building;
- (j) One (1) castings grinding/cleaning/finishing **operations shop** with a maximum throughput of 1.01 tons of aluminum per hour. ~~with one (1) Torit Dryno baghouse to control PM emissions venting to the interior of the building;~~
- (k) One (1) pouring/casting operation with a maximum throughput of 5.25 tons of aluminum per hour; and
- (l) One (1) sand grinding/handling operation with a maximum throughput of 0.4765 tons per hour.
- (m) Three (3) natural gas-fired boilers (ID#'s 1, 2 and 3) each with a maximum heat input of 0.244 MMBtu/hr, exhausting through stack #14.
- (n) One (1) natural gas-fired steam generating boiler (ID# 4) with a maximum heat input capacity of 1.344 MMBtu/hr, exhausting through stacks 15 and 16;
- (o) Fifth-six (56) natural gas-fired space heaters each with a maximum heat input of 0.05 MMBtu/hr, venting to the interior of the building;
- (p) One (1) cafeteria furnace, with a maximum heat input of 0.075 MMBtu/hr, exhausting through stack #12;
- (q) One (1) office furnace with a maximum heat input of 0.075 MMBtu/hr, exhausting through stack #13;
- (r) Two (2) 10,000 gallon underground storage tanks to store No. 2 fuel oil; and
- (s) Four (4) 1,000 gallon above storage tanks to store LP gas.

SECTION D.1

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) natural gas-fired reverberatory furnace identified as France #2, with a maximum heat input rate of 3.55 million (MM) British thermal units (Btu) per hour with a maximum capacity of melting 1500 pounds of aluminum per hour, and exhausting through stack #2.
- (b) Nine (9) natural gas-fired reverberatory furnaces, each with a maximum melting rate of 0.5 tons of aluminum per hour, identified as Furnaces # 3 and 5, each with a maximum heat input rate of 2.90 MMBtu/hr, exhausting through stacks #3 and 5; Furnaces # 6 with a maximum heat input rate of 4.62 MMBtu/hr, exhausting through stacks #6; Furnaces # 4, 7, 8, 9 and 10, each with a maximum heat input rate of 3.55 MMBtu/hr, exhausting through stacks #4, 7, 8, 9, and 10, respectively; and Furnaces # 11 with a maximum heat input rate of 2.4 MMBtu/hr, exhausting through stacks #11.
- (c) Nine (9) natural gas-fired core machines with a maximum capacity to produce 710 lbs of cores per hour, three (3) identified as Dependable 600 #1, 2 and 3, each with a maximum heat input rate of 0.38 MMBtu/hr; three (3) identified as Dependable 400 #1, 2 and 3, each with a maximum heat input rate of 0.27 MMBtu/hr; one (1) Dependable 200 with a maximum heat input rate of 0.17 MMBtu/hr; one (1) U360 with a maximum heat input rate of 1.00 MMBtu/hr; and one (1) Redford with a maximum heat input rate of 0.37 MMBTU/hr;
- (d) Two (2) electric-fired core machines, identified as U180 #1 and U180 #2;
- (e) One (1) Lost Foam Molding operation with a maximum throughput of 0.5 tons per hour with a baghouse to control PM emissions;
- (f) Two (2) natural gas-fired aging ovens (ID#'s 1 and 2), each with a maximum heat input of 0.6 MMBtu/hr venting to the interior of the building;
- (g) One (1) pot furnace, which serves as a holding tank only;
- (h) Twenty (2) natural gas-fired torches venting to the interior of the building;
- (i) One (1) gassing chamber for the core department process that utilizes one (1) SO₂ scrubber unit to control emissions venting to the interior of the building;
- (j) One (1) castings grinding/cleaning/finishing ~~operations shop~~ with a maximum throughput of 1.01 tons of aluminum per hour. ~~with one (1) Torit Dryno baghouse to control PM emissions venting to the interior of the building;~~
- (k) One (1) pouring/casting operation with a maximum throughput of 5.25 tons of aluminum per hour; and
- (l) One (1) sand grinding/handling operation with a maximum throughput of 0.4765 tons per hour.

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

| | | |
|---|-------------|-------------|
| U360 | 0.04 | 0.47 |
| Redford | 0.04 | 0.47 |
| Lost Foam Molding | 0.50 | 2.58 |
| Casting Grinding/Cleansing/Finishing | 1.01 | 4.13 |

~~D.1.2 Preventive Maintenance Plan [326 IAC 1-6-3]~~

~~A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for the Casting cleaning/finishing shop and its control devices.~~

Compliance Determination Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5 (a)(2)]

~~D.1.23 Testing Requirements [326 IAC 2-1.1-11]~~

~~The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.1.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing. The lost foam molding baghouse shall be in operation at all times.~~

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

~~D.1.34 Visible Emissions Notations~~

- ~~(a) Daily visible emission notations of the Casting cleaning/finishing shop stack exhaust shall be performed 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.~~

~~D.1.5 Parametric Monitoring~~

~~The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the Casting cleaning/finishing shop at least once weekly when the Casting cleaning/finishing shop is in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 6.0 and 10.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.~~

~~_____ The instrument used for determining the pressure shall comply with Section C Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.~~

~~D.1.6 Baghouse Inspections~~

~~An inspection shall be performed each calendar quarter of all bags controlling the casting grinding/cleaning/finishing shop operation and the lost foam molding operation when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.~~

~~D.1.7 Broken or Failed Bag Detection~~

~~In the event that bag failure has been observed:~~

- ~~(a) _____ The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. 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 single compartment baghouses, 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 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.48 Record Keeping Requirements

- ~~(a) To document compliance with Conditions D.1.34 the Permittee shall maintain records in daily visible emission notations of the Casting cleaning/finishing shop stack exhaust.~~
- ~~(b) To document compliance with Condition D.1.5, the Permittee shall maintain the following:
 - ~~(1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:
 - ~~(A) Inlet and outlet differential static pressure; and~~
 - ~~(B) Cleaning cycle: frequency and differential pressure.~~~~
 - ~~(2) Documentation of all response steps implemented, per event.~~
 - ~~(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.~~
 - ~~(4) Quality Assurance/Quality Control (QA/QC) procedures.~~
 - ~~(5) Operator standard operating procedures (SOP).~~~~

~~(6) — Manufacturer's specifications or its equivalent.~~

~~(7) — Equipment "troubleshooting" contingency plan.~~

~~(8) — Documentation of the dates vents are redirected.~~

Conclusion

The operation of this stationary secondary aluminum foundry shall be subject to the conditions of the attached proposed minor permit revision for an MSOP 069-12102-00048.

Appendix A: Emission Calculations

Casting Grinding/Cleaning/Finishing

Company Name: Maco Corporation

Address City IN Zip: 45 Henry Street, Huntington, IN 46750

MSOP: 0069-12102

Plt ID: 0069-00048

Reviewer: ERG/RG

Date: 11/17/2000

SCC # 3-04-003-40
Grinding/Cleaning

| Type of Material | Throughput lbs/hr | Ton/hr | |
|--|------------------------------------|-------------------|------------|
| Aluminum | 2020 | 1.01 | |
| | Revised Estimate | Previous Estimate | Difference |
| | PM Lbs per ton of metal charged | | |
| | 3.44 | 17.00 | |
| Potential emissions lbs/hr | 3.47 | 17.17 | |
| Potential emissions lbs/day | 83.39 | 412.08 | |
| Potential emissions tons/year | 15.22 | 75.20 | -59.99 |
| Potential emissions after control tons/year | 15.22 | 3.76 | 11.46 |