



State of Ohio Environmental Protection Agency

Street Address:

Lazarus Gov. Center
122 S. Front Street
Columbus, OH 43215

TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center
P.O. Box 1049
Columbus, OH 43216-1049

**RE: DRAFT PERMIT TO INSTALL
STARK COUNTY
Application No: 15-01424**

CERTIFIED MAIL

Y	TOXIC REVIEW
	PSD
Y	SYNTHETIC MINOR
	CEMS
	MACT
	NSPS
	NESHAPS
	NETTING
	MAJOR NON-ATTAINMENT
Y	MODELING SUBMITTED
	GASOLINE DISPENSING FACILITY

DATE: 7/11/00

American Steel Foundries Alliance
Robert Ribbing
10 South Riverside Plaza 10th Floor
Chicago, IL 60606

You are hereby notified that the Ohio Environmental Protection Agency has made a draft action recommending that the Director issue a Permit to Install for the air contaminant source(s) [emissions unit(s)] shown on the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the proposed installation. A public notice concerning the draft permit will appear in the Ohio EPA Weekly Review and the newspaper in the county where the facility will be located. Public comments will be accepted by the field office within 30 days of the date of publication in the newspaper. Any comments you have on the draft permit should be directed to the appropriate field office within the comment period. A copy of your comments should also be mailed to Robert Hodanbosi, Division of Air Pollution Control, Ohio EPA, P.O. Box 1049, Columbus, OH, 43266-0149.

A Permit to Install may be issued in proposed or final form based on the draft action, any written public comments received within 30 days of the public notice, or record of a public meeting if one is held. You will be notified in writing of a scheduled public meeting. Upon issuance of a final Permit to Install a fee of **\$800** will be due. Please do not submit any payment now.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469. If you have any questions about this draft permit, please contact the field office where you submitted your application, or Mike Ahern, Field Operations & Permit Section at (614) 644-3631.

Very truly yours,

Thomas G. Rigo
Field Operations and Permit Section
Division of Air Pollution Control



**Permit To Install
Terms and Conditions**

**Issue Date: To be entered upon final issuance
Effective Date: To be entered upon final issuance**

DRAFT PERMIT TO INSTALL 15-01424

Application Number: 15-01424

APS Premise Number: 1576010014

Permit Fee: **To be entered upon final issuance**

Name of Facility: American Steel Foundries Alliance

Person to Contact: Robert Ribbing

Address: 10 South Riverside Plaza 10th Floor
Chicago, IL 60606

Location of proposed air contaminant source(s) [emissions unit(s)]:

**1001 East Broadway
Alliance, Ohio**

Description of proposed emissions unit(s):

Betaset core production center.

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

Part I - GENERAL TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install General Terms and Conditions

1. Monitoring and Related Recordkeeping and Reporting Requirements

- a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
 - i. The date, place (as defined in the permit), and time of sampling or measurements.
 - ii. The date(s) analyses were performed.
 - iii. The company or entity that performed the analyses.
 - iv. The analytical techniques or methods used.
 - v. The results of such analyses.
 - vi. The operating conditions existing at the time of sampling or measurement.
- b. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
 - i. Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
 - ii. Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the appropriate Ohio EPA District Office or local air agency. The written reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See B.11 below if no deviations occurred during the quarter.

- iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the appropriate Ohio EPA District Office or local air agency every six months, i.e., by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
- iv. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

2. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

3. Risk Management Plans

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

4. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

5. Severability Clause

A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.

6. General Requirements

- a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and reissuance, or modification, or for denial of a permit renewal application.
- b. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c. This permit may be modified, reopened, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d. This permit does not convey any property rights of any sort, or any exclusive privilege.
- e. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

7. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit To Install fees within 30 days after the issuance of this Permit To Install.

8. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

9. Compliance Requirements

- a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

- b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
 - i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
 - ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
 - iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
 - iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
 - i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
 - ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

10. Permit To Operate Application

- a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).
- b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this Permit To Install is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. Permission to operate is

granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within thirty (30) days after commencing operation of the source(s) covered by this permit.

B. State Only Enforceable Permit To Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

2. Reporting Requirements Related to Monitoring and Recordkeeping Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

4. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

5. Termination of Permit To Install

This permit to install shall terminate within eighteen months of the effective date of the permit to install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may

be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

6. Construction of New Sources(s)

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources are inadequate or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities prove to be inadequate or cannot meet applicable standards.

7. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

8. Applicability

This Permit to Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

9. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

10. Construction Compliance Certification

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit To Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

11. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations (See Section A of This Permit)

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

C. Permit To Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

**SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS**

<u>Pollutant</u>	<u>Tons Per Year</u>
VOC	34.058
PM/PM10	0.646
CO	0.882
NOx	1.049
Methyl Formate	33.075

Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install Facility Specific Terms and Conditions

None

B. State Only Enforceable Permit To Install Facility Specific Terms and Conditions

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
<p>P036- Betaset core production center, This emissions unit consists of the following equipment: sand delivery system, multi-station core machine, core handling equipment, core wash station, core wash drying oven and an unloading area.</p>	<p>OAC rule 3745-31-05(A)(3)</p>	<p>PM/PM10 emissions shall not exceed 0.205 lb/hr and 0.646 ton/yr.</p> <p>Methyl formate emissions shall not exceed 10.5 lbs/hr, 2.76 tons/month and 33.075 tons/yr.</p> <p>Methanol emissions shall not exceed 0.294 lb/hr and 0.926 ton/yr.</p> <p>VOC emissions shall not exceed 10.812 lbs/hr and 34.058 tons/yr.</p> <p>CO emissions shall not exceed 0.28 lb/hr and 0.882 ton/yr.</p> <p>NO_x emissions shall not exceed 0.333 lb/hr and 1.049 tons/yr.</p> <p>See sections A.I.2.a and A.I.2.b.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1) and OAC rule 3745-21-07(G)(2).</p>
	<p>OAC rule 3745-17-07(A)(1)</p>	<p>Visible particulate emissions from any of the three stacks serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.</p>
	<p>OAC rule 3745-17-11</p>	<p>The emission limitation specified by this rule is less stringent than the emission</p>

OAC rule 3745-21-07(G)(2)

limitation established pursuant to OAC rule 3745-31-05(A)(3).

See section A.I.2.c below.

2. Additional Terms and Conditions

- 2.a** The permittee shall employ no more than 105 pounds of methyl formate in any one hour. This number represents the maximum usage capacity of this emissions unit so no hourly recordkeeping will be required.
- 2.b** The permittee shall employ no more than 55,125 pounds of methyl formate in any one month.
- 2.c** Resins and other liquid organic materials used in this emissions unit shall not be photochemically reactive materials, as defined in OAC rule 3745-21-01(C)(5).

II. Operational Restrictions

- 1. The permittee shall control the core machine inlet sand temperature at 70 to 90 degrees F to maximize the reaction efficiency. This temperature range does not have to be complied with during the first fifteen minutes after startup and when the ambient temperature is below 10 degrees Fahrenheit or above 90 degrees Fahrenheit.
- 2. The permittee shall determine a minimum gassing time for each job type and shall adhere to this minimum gassing time when making cores so that emissions are minimized.
- 3. If methyl formate is replaced by another non-photochemically reactive material that emits less VOCs, then the permittee can increase the monthly usage as long as the 34.058 tons VOC/year is not exceeded. Notification and an updated calculation sheet must be submitted to the Canton local air agency. If the replacement of methyl formate with a new material would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," section B.III.1 must be complied with.
- 4. The maximum monthly operating hours for this emissions unit shall not exceed 525 hours.

III. Monitoring and/or Recordkeeping Requirements

- 1. The permittee shall maintain monthly records of methyl formate usage for this emissions unit..
- 2. The permittee shall keep the following monthly records for all materials used in this emissions unit:
 - a. an identification of the chemical compound and its physical state at standard conditions; and

- b. for any liquid organic materials, documentation as to whether or not the material is a photochemically reactive material, as defined in OAC rule 3745-21-01(C)(5).
3. The permittee shall properly operate and maintain equipment to monitor the temperature of the sand at the inlet to the core machine while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the inlet sand temperature once a shift when the emissions unit is in operation.
4. The computer that operates this emissions unit shall maintain all gassing times.
5. The permittee shall maintain monthly records of the operating hours for this emissions unit.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all months during which any photochemically reactive material(s) was (were) employed.
2. The permittee shall submit deviation (excursion) reports which include an identification of each month during which the methyl formate usage exceeded 55,125 pounds, and the actual monthly methyl formate usage for each such month.
3. The permittee shall submit temperature deviation (excursion) reports that identify all periods of time during which the core machine inlet temperature did not comply with the allowable range specified in section A.II.1 above. This temperature range does not have to be complied with during the first fifteen minutes after startup and when the ambient temperature is below 10 degrees Fahrenheit or above 90 degrees Fahrenheit.
4. The permittee shall submit quarterly reports which identify any exceedances of the monthly operating hours limitation, as well as the corrective actions that were taken to achieve compliance.
5. The reports required in sections A.IV.1 through A.IV.4 above are due by the date described in Part 1 - General Terms and Conditions of this permit under section (A)(1).

V. Testing Requirements

1. Compliance with the emission limitation(s) in sections A.I.1. and A.I.2. of these terms and conditions shall be determined in accordance with the following method(s):
 - a. Emission Limitation:
Visible emissions from any stack shall not exceed 20% opacity, as a six-minute average, except as provided by the rule.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures in OAC rule 3745-17-03(B)(1).

- b. Emission Limitation:
PM/PM10 emissions shall not exceed 0.205 lb/hr and 0.646 ton/yr.

Applicable Compliance Method:
Emission testing using Methods 1-5; see section A.V.2 below.

- c. Emission Limitation:
Methyl formate emissions shall not exceed 10.5 lbs/hr, 2.76 tons/month and 33.075 tons/yr.

Applicable Compliance Method:
Recordkeeping as required in section A.III. and emission testing using Method 18, as required in section A.V.2 below. 10.5 lbs/hr represents the maximum capacity of this emissions unit so no hourly recordkeeping will be required.

- d. Emission Limitation:
Methanol emissions shall not exceed 0.294 lb/hr and 0.926 ton/yr.

Applicable Compliance Method:
Emission testing using Method 25; see section A.V.2 below.

- e. Emission Limitation:
VOC emissions shall not exceed 10.812 lbs/hr and 34.058 tons/yr.

Applicable Compliance Method:
Emission testing using Method 25; see section A.V.2 below.

- f. Emission Limitation:
CO emissions shall not exceed 0.28 lb/hr and 0.882 ton/yr.

Applicable Compliance Method:
Based on the uncontrolled emission factor for natural gas combustion found in AP-42, Table 1.4-1 (2/98 Edition) of $84 \text{ lbs CO}/10^6 \text{ CF} \times 0.0033 \text{ } 10^6 \text{ CF/hr} = 0.28 \text{ lb CO/hr}$
 $0.28 \text{ lb CO/hr} \times 6,300 \text{ hrs/yr} \times 1 \text{ ton}/2000 \text{ lbs} = 0.882 \text{ ton CO/yr}$

- g. Emission Limitation:
NO_x emissions shall not exceed 0.333 lb/hr and 1.049 tons/yr.

Applicable Compliance Method:
Based on the uncontrolled emission factor for natural gas combustion found in AP-42, Table 1.4-1 (2/98 Edition) of $100 \text{ lbs NO}_x/10^6 \text{ CF} \times 0.0033 \text{ } 10^6 \text{ CF/hr} = 0.33 \text{ lb NO}_x/\text{hr}$
 $0.33 \text{ lb NO}_x/\text{hr} \times 6,300 \text{ hrs/yr} \times 1 \text{ ton}/2000 \text{ lbs} = 1.049 \text{ tons NO}_x/\text{yr}$

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The emissions testing shall be conducted within 90 days of startup of this emissions unit.
 - b. The emissions testing shall be conducted to demonstrate compliance with the emission limitations of 10.5 lbs methyl formate/hour, 10.812 lbs VOC/hr and 0.205 lb PM/hour.
 - c. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rate(s): for methyl formate, Methods 18 and 1 through 4 of 40 CFR Part 60, Appendix A; for VOC and methanol, Method 25 and 1 through 4 of 40 CFR Part 60, Appendix A; and for particulate, Method 5 and 1 through 4 of 40 CFR Part 60, Appendix A.
 - d. The testing shall be performed while the emissions unit is operating at or near its maximum methyl formate usage capacity, unless otherwise specified or approved by the Canton local air agency.
 - e. During the emissions test, the permittee shall continuously monitor the temperature of the sand at the inlet to the core machine while the emissions unit is in operation. The permittee shall record the inlet sand temperature every 15 minutes during the emission testing.
 - f. During the emissions test, the permittee shall record the minimum and actual gassing time for each job type.
 - g. During the emissions test, the permittee shall record the methyl formate usage rate.
 - h. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Canton local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Canton local air agency's refusal to accept the results of the emission test(s).

Personnel from the Canton local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Canton local air agency within 30 days following completion of the test(s).

VI. Miscellaneous Requirements

None

American Steel Foundries Alliance

PTI Application: 15-01424

Issued: To be entered upon final issuance

Facility ID: 1576010014

Emissions Unit ID: P036

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P036 - Betaset core production center, This emissions unit consists of the following equipment: sand delivery system, multi-station core machine, core handling equipment, core wash station, core drying oven and an unloading area.	OAC rule 3745-31-05	See section A.III below.

2. **Additional Terms and Conditions**

- 2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit (P036 - Betaset Core Production Center) was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The following input parameters were used:
 - a. Source type = Point
 - b. Emission rate = 1.32 grams/second (10.5 lbs/hr) methyl formate
 - c. Stack height = 13.3 meters (43.25 ft.)
 - d. Stack inside diameter = 0.46 meter (1.5 feet)
 - e. Stack flow rate = 1,039 ACFM

- f. Stack gas exit temp. = 419 degrees Kelvin
- g. Location = Rural
- h. Building Ht. = 13 meters
- i. Nearest property line = 126 meters

The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model. using the SCREEN 3.0 model and comparing The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for "worst case" pollutant:

Pollutant: methyl formate

TLV (ug/m3): 246,000

Maximum Hourly Emission Rate (lbs/hr): 10.5 lbs/hour

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 2,352

MAGLC (ug/m3): 5,857

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used (typically for coatings or cleanup materials) or the use of new materials that, would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV previously modeled;
- b. changes in the composition of the materials used, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that is proposed in the application and modeled; and
- c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the “Air Toxic Policy” will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a “modification” under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (V)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the “Air Toxic Policy:”

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of its evaluation and determination that changed emissions unit still satisfies the “Air Toxic Policy”; and
- c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the “Air Toxic Policy” for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

NEW SOURCE REVIEW FORM B

PTI Number: 15-01424

Facility ID: 1576010014

FACILITY NAME American Steel Foundries - AllianceFACILITY DESCRIPTION Betaset core production center. CITY/TWP AllianceSIC CODE 3325 SCC CODE 30400731 EMISSIONS UNIT ID P036EMISSIONS UNIT DESCRIPTION Betaset core production center.DATE_INSTALLED Scheduled to be installed
in 11/00.

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate	Attainment			0.205 lb/hr	0.9
PM ₁₀	Attainment			0.22 lb/hr	0.96
Sulfur Dioxide					
Volatile Organic Compounds	Attainment			10.812 lbs/hr	34.365
Nitrogen Oxides	Attainment			0.333 lb/hr	1.46
Carbon Monoxide	Attainment			0.28 lb/hr	1.23
Lead					
Other: Air Toxics methyl formate				10.5 lbs/hr	33.075

APPLICABLE FEDERAL RULES:

NSPS? _____ NESHAP? _____ PSD? _____ OFFSET POLICY? _____

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination No use of photochemically reactive materialsIS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? YesOPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$ NA**TOXIC AIR CONTAMINANTS**

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? X YES NOIDENTIFY THE AIR CONTAMINANTS: methyl formate

NEW SOURCE REVIEW FORM B

PTI Number: 15-01424

Facility ID: 1576010014

FACILITY NAME American Steel Foundries - Alliance

FACILITY DESCRIPTION Betaset core production center.CITY/TWP Alliance

Ohio EPA Permit to Install Information Form Please describe below any documentation which is being submitted with this recommendation (must be sent the same day). Electronic items should be submitted with the e-mail transmitting the PTI terms, and in software that CO can utilize. If mailing any hard copy, this section must be printed as a cover page. All items must be clearly labeled indicating the PTI name and number. Submit **hard copy items to Pam McGraner**, AQM&P, DAPC, Central Office, and **electronic files to airpti@epa.state.oh.us**

<i>Please fill out the following. If the checkbox does not work, replace it with an 'X'</i>	Electronic	Additional information File Name Convention (your PTI # plus this letter)	Hard Copy	None
Calculations (required)	<input checked="" type="checkbox"/>	0000000c.wpd	<input type="checkbox"/>	
Modeling form/results	<input checked="" type="checkbox"/>	0000000s.wpd	<input type="checkbox"/>	<input type="checkbox"/>
PTI Application (complete or partial)*	<input type="checkbox"/>	0000000a.wpd	<input checked="" type="checkbox"/>	<input type="checkbox"/>
BAT Study	<input type="checkbox"/>	0000000b.wpd	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other/misc.	<input type="checkbox"/>	0000000t.wpd	<input type="checkbox"/>	<input type="checkbox"/>

* Mandatory for netting, PSD, nonattainment NSR, 112(g), 21-07(G)(9)(g) and 21-09(U)(2)(f) - 2 complete copies.

Please complete (see comment bubble to the left for additional instructions):

NSR Discussion

Air Toxic Modeling

The only air toxic that will be emitted at a rate of more than 1 TPY is methyl formate. An air toxic analysis was done and it passed. See the modeling results in the Additional Notes and Comments section below.

Facility Information

American Steel Foundries (ASF) is a Title V facility. ASF is a "major source" (PTE for PM > 250 TPY) for NSR.

OAC rule 3745-21-07(G)(2)

To be exempt from this rule ASF is being restricted from employing resins or other liquid organic materials that are photochemically reactive materials, as defined in OAC rule 3745-21-01(C)(5).

NSPS

There are no applicable NSPS for this type of air contaminant source.

HAPs

Methyl formate is not a HAP. Methanol is a HAP but will be emitted at a rate of less than 1.3 TPY.

NEW SOURCE REVIEW FORM B

PTI Number: 15-01424

Facility ID: 1576010014

FACILITY NAME American Steel Foundries - Alliance

FACILITY DESCRIPTION Betaset core production center. CITY/TWP Alliance**Please complete for these type permits (For PSD/NSR Permit, place mouse over this text):**

Synthetic Minor Determination and/or Netting Determination
Permit To Install 15-01424

A. Source Description

American Steel Foundries - Alliance Plant (ASF) is a steel foundry and a Title V facility. ASF wants to install a Betaset Core Production Center. This emissions unit consists of the following equipment: sand delivery system, multi-station core machine, core handling equipment, core wash station, core wash drying oven and an unloading area.

B. Facility Emissions and Attainment Status

ASF is a "major source" of PM emissions (> 250 tpy). This facility is located in Stark County. Stark County is attainment for all criteria pollutants.

C. Source Emissions

The hourly limit of 10.812 lbs VOC/hr, which is the potential to emit (PTE) for this emissions unit, would project out to 47.36 tons VOC/yr or 3.95 tons VOC/month. The hourly limit of 10.812 lbs VOC/hr is broken down into 10.5 lbs methyl formate/hr, 0.294 lb methanol/hr and 0.018 lb VOC/hr (from combustion). The yearly PTE for methanol would be 0.926 ton/yr (0.294 lb methanol/hr x 6,300 hrs/yr x 1 ton/2000 lbs). ASF is accepting a usage limit of no more than 55,125 pounds of methyl formate in any one month. **This usage limit will effectively limit the monthly allowable emissions to 2.76 tons methyl formate/month (this is based on the supplier emission factor of 1 lb of methyl formate emissions for every 10 pounds of methyl formate usage, which will be verified during an emission test). 2.76 tons methyl formate/month projects to 33.075 tons methyl formate/yr (2.76 tons methyl formate/month x 12 months/year). Adding the PTE for methanol of 0.926 ton VOC/yr to the VOCs from combustion of 0.0567 ton/yr to 33.075 tons VOC/yr equals 34.058 tons VOC/yr which is less than 40 TPY (significant level for VOC).**

D. Conclusion

ASF will avoid major NSR for the installation of this emissions unit.

PLEASE PROVIDE ADDITIONAL NOTES OR COMMENTS AS NECESSARY:

Calculations

Emissions from burning natural gas in an oven

Maximum BTU = 3.5 MMBtu/hr Natural Gas Heat content = 1,050 Btu/CF

Natural gas usage = 0.0033 MMCF/hr

AP-42 Emission factors (3-98 Edition Tables 1.4-1 & 1.4-2)

C:\temp\permits3\13631.wpd

NEW SOURCE REVIEW FORM B

PTI Number: 15-01424

Facility ID: 1576010014

FACILITY NAME American Steel Foundries - Alliance

FACILITY DESCRIPTION	Betaset core production center.	CITY/TWP	Alliance
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CO	84 lbs MMCF	x 0.0033 MMCF/hr	= 0.28 lb/hr
NOx	100 lbs MMCF	x 0.0033 MMCF/hr	= 0.333 lb/hr
PM/PM10	7.6 lbs MMCF	x 0.0033 MMCF/hr	= 0.025 lb/hr
VOC	5.5 lbs MMCF	x 0.0033 MMCF/hr	= 0.018 lb/hr

Betaset Machine

Sand	12000 lbs/hr
Resin	210 lbs/hr (1.75% of sand usage)
	12000 x 0.0175 = 210 lbs/hr)
Co-Reactant(methyl formate)	105 lbs/hr (50% of resin 210 lbs/hr x 0.5 = 105 lbs/hr)
Formaldehyde	2.1 lbs/hr (0.99% of resin 210 lbs/hr x 0.0099 = 2.1 lbs/hr)
Phenol	3.15 lbs /hr (1.5% of resin 210 lbs/hr x 0.015 = 3.15 lbs/hr)

Permittee claims that only 10% of the methyl formate is exhausted
 $105 \text{ lbs/hr} \times 0.1 = 10.5 \text{ lbs/hr} = \text{methyl formate emission rate}$

PM/PM10 emission factor based on Laempe testing**0.03 lb PM/ton sand** **$6 \text{ tons sand/hr} \times 0.03 \text{ lb PM/ton of sand} = 0.18 \text{ lb PM/hr}$** **Total PM/PM10 emissions**

Oven	0.025 lb/hr
Laempe	<u>0.180 lb/hr</u>

Total 0.205 lb/hr**Methanol Emissions****Emission factor is based on tests done by supplier and is 0.294 lb methanol/hr.****Total VOC emissions**

Methyl formate 10.5 lbs/hr

Methanol 0.294 lb/hr

Oven 0.018 lb/hr**Total VOC 10.812 lbs/hr**

NEW SOURCE REVIEW FORM B

PTI Number: 15-01424

Facility ID: 1576010014

FACILITY NAME American Steel Foundries - Alliance

FACILITY DESCRIPTION Betaset core production center.

CITY/TWP Alliance

Air Toxic Modeling for Methyl Formate

05/04/00

09:46:10

*** SCREEN3 MODEL RUN ***

*** VERSION DATED 96043 ***

15-01424 American Steel Foundry Methyl Formate

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT
 EMISSION RATE (G/S) = 1.32000
 STACK HEIGHT (M) = 13.3000
 STK INSIDE DIAM (M) = .4600
 STK EXIT VELOCITY (M/S)= 2.9506
 STK GAS EXIT TEMP (K) = 419.0000
 AMBIENT AIR TEMP (K) = 293.0000
 RECEPTOR HEIGHT (M) = .0000
 URBAN/RURAL OPTION = RURAL
 BUILDING HEIGHT (M) = 13.0000
 MIN HORIZ BLDG DIM (M) = 130.0000
 MAX HORIZ BLDG DIM (M) = 200.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
 THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

STACK EXIT VELOCITY WAS CALCULATED FROM
 VOLUME FLOW RATE = 1039.0000 (ACFM)

BUOY. FLUX = .460 M**4/S**3; MOM. FLUX = .322 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	U10M STAB	USTK (M/S)	MIX (M/S)	HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
10.	.0000	0	.0	.0	.0	.00	.00	.00	NA
100.	2358.	6	1.0	1.2	10000.0	17.61	4.07	11.44	SS
200.	1514.	6	1.0	1.2	10000.0	17.61	7.73	14.15	SS
300.	1070.	6	1.0	1.2	10000.0	17.61	11.23	15.01	SS

NEW SOURCE REVIEW FORM B

PTI Number: 15-01424

Facility ID: 1576010014

FACILITY NAME American Steel Foundries - Alliance

FACILITY DESCRIPTION	Betaset core production center.								CITY/TWP	Alliance
400. 834.9	6	1.0	1.2	10000.0	17.61	14.64	15.84	SS		
500. 686.1	6	1.0	1.2	10000.0	17.61	17.97	16.65	SS		
600. 582.3	6	1.0	1.2	10000.0	17.61	21.24	17.44	SS		
700. 505.2	6	1.0	1.2	10000.0	17.61	24.46	18.20	SS		
800. 445.3	6	1.0	1.2	10000.0	17.61	27.63	18.95	SS		
900. 397.3	6	1.0	1.2	10000.0	17.61	30.78	19.68	SS		
1000. 358.0	6	1.0	1.2	10000.0	17.61	33.88	20.39	SS		

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:

40. 4402. 6 1.0 1.2 10000.0 15.07 1.78 8.01 SS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

*** SCREEN DISCRETE DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	U10M STAB	USTK (M/S)	MIX (M/S)	HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
101.	2352.	6	1.0	1.2	10000.0	17.61	4.11	11.50	SS
126.	2181.	6	1.0	1.2	10000.0	17.61	5.04	12.95	SS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

*** REGULATORY (Default) ***

PERFORMING CAVITY CALCULATIONS
 WITH ORIGINAL SCREEN CAVITY MODEL
 (BRODE, 1988)

*** CAVITY CALCULATION - 1 *** *** CAVITY CALCULATION - 2 ***
 CONC (UG/M**3) = 126.7 CONC (UG/M**3) = 195.0

NEW SOURCE REVIEW FORM B

PTI Number: 15-01424

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FACILITY DESCRIPTION Betaset core production center. CITY/TWP Alliance

CRIT WS @10M (M/S) = 5.04 CRIT WS @10M (M/S) = 5.04
 CRIT WS @ HS (M/S) = 5.34 CRIT WS @ HS (M/S) = 5.34
 DILUTION WS (M/S) = 2.67 DILUTION WS (M/S) = 2.67
 CAVITY HT (M) = 13.00 CAVITY HT (M) = 13.00
 CAVITY LENGTH (M) = 72.22 CAVITY LENGTH (M) = 65.00
 ALONGWIND DIM (M) = 130.00 ALONGWIND DIM (M) = 200.00

END OF CAVITY CALCULATIONS

*** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	4402.	40.	0.
BLDG. CAVITY-1	126.7	72.	-- (DIST = CAVITY LENGTH)
BLDG. CAVITY-2	195.0	65.	-- (DIST = CAVITY LENGTH)

TLV methyl formate = 246 mg/m3 = 246,000 ug/m3

MAGLC = 246,000 ug/m3/42 = 5,857 ug/m3

Maximum concentration at closest property line (330') = 2,352 ug/m3

Since 2,352 ug/m3 is less than 5,857 ug/m3 the air toxic modeling passed.

Please complete:

SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons Per Year</u>
VOC	34.058
PM/PM10	0.646
CO	0.882
NOx	1.049
Methyl Formate	33.075

NEW SOURCE REVIEW FORM B

PTI Number: 15-01424

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FACILITY NAME American Steel Foundries - Alliance

FACILITY DESCRIPTION Betaset core production center.

CITY/TWP Alliance

