

Synthetic Minor Determination and/or **Netting Determination**

Permit To Install **15-01337**

A. Source Description

United Foundries, Inc. is trying to avoid Title V by obtaining the necessary FESOPs for several emissions units at their facility. In the absence of federally enforceable permit conditions, the potential to emit (PTE) from all emissions units at this facility is greater than the 100 tpy Title V threshold for PM10 emissions. Consequently, United Foundries has requested a restriction on the operational capacity of their facility in order to maintain potential emissions below the Title V thresholds.

B. Facility Emissions and Attainment Status

The main pollutant of concern for this facility is PM10. Stark County is currently designated as attainment for this pollutant.

C. Source Emissions

United Foundries uses at least 90% of the iron we pour against castable material and steel. The remaining cores and drags are made using black sand, which is a water-based method with the use of clay as the binder. This facility also uses the “rubber core” technique which requires the use of an oil as a binder. This technique is used for approximately one and a half percent of the total cores made. United makes about three cores per month using the “rubber core” method. This requires the use of about 5 gallons per month of Lino Cure AA oil and approximately 3/4 of a gallon per month of Lino Cure C oil. The total HAP and VOC emissions from this activity is below the “De Minimis” threshold of 10 lbs/day and is less than one ton per year of total VOC and HAP emissions. Furthermore, United is planning on phasing out the “rubber core” process completely within the next two years since this constitutes such a small part of their business. Therefore, a restriction for HAPs and VOCs is not necessary for the proposed FESOPs.

The operation of foundries, in general, depends on the inherent physical limitation associated with the amount of metal which is processed at the facility. The amount of metal processed by the melting furnaces dictates the actual operating capacities of the other ancillary equipment within the foundry. In other words, the other emissions units at the facility will not operate at a rate greater than is necessary to handle the amount of metal processed by the melting furnaces.

Therefore, United Foundries is proposing to restrict the total combined amount of metal melted in all of their five induction furnaces to no more than 37,200 tons based on a rolling, 12-month summation of the metal melted. This facility is accepting federally enforceable terms and conditions for 16 emissions units based on the inherent limitation of metal melted. In addition to the restriction on the amount of metal melted, each baghouse will be restricted to an outlet grain loading of 0.01 gr/dscf. Emissions calculations were performed based both on the use of emissions factors to establish fugitive emissions (using estimated capture efficiencies to each baghouse) as well as determining stack emissions based on 0.01 gr/dscf from each baghouse (using the maximum of 8,760 hours/year of operation). The combination of the two emissions calculations provide a sufficient indicator to show that emissions will remain below the Title V thresholds based on the restrictions of 0.01 gr/dscf and 37,200 tons of metal melted per rolling, 12-month period. It should be noted that United Foundries is currently operating at an actual rate of approximately 24,000 tons of metal melted per year.

D. Conclusion

The permits will contain the necessary recordkeeping and reporting requirements to track the amount of metal melted on a rolling, 12-month basis as well as the parametric monitoring of each baghouse to ensure that they are operating properly. The federally enforceable restrictions will reduce the PTE of particulate emissions to 83.99 tons per year. The production and operational restrictions contained in these proposed FESOPs will allow United Foundries to avoid the Title V permitting requirements.



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: 15-01337**

CERTIFIED MAIL

DATE: 3/11/2003

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

United Foundries Incorporated
Mark Greene
1400 Grace Avenue NE
Canton, OH 447052035

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 **\$3200** 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,

Michael W. Ahern, Supervisor
Field Operations and Permit Section
Division of Air Pollution Control

CC: USEPA

Canton LAA

Stark County Area Transportation Study

WV

PA

STARK COUNTY

PUBLIC NOTICE

**ISSUANCE OF DRAFT PERMIT TO INSTALL 15-01337 FOR AN AIR CONTAMINANT SOURCE FOR
UNITED FOUNDRIES INCORPORATED**

On 3/11/2003 the Director of the Ohio Environmental Protection Agency issued a draft action of a Permit To Install an air contaminant source for **United Foundries Incorporated**, located at **1400 Grace Avenue NE, Canton, Ohio**.

Installation of the air contaminant source identified below may proceed upon final issuance of Permit To Install 15-01337:

Electric Induction Furnace with baghouse.

Comments concerning this draft action, or a request for a public meeting, must be sent in writing to the address identified below no later than thirty (30) days from the date this notice is published. All inquiries concerning this draft action may be directed to the contact identified below.

Dan Aleman, Canton City Health Department, 420 Market Avenue, Canton, OH 44702-1544 [(330)489-3385]



**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 15-01337

Application Number: 15-01337

APS Premise Number: 1576050177

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

Name of Facility: United Foundries Incorporated

Person to Contact: Mark Greene

Address: 1400 Grace Avenue NE
Canton, OH 447052035

Location of proposed air contaminant source(s) [emissions unit(s)]:
**1400 Grace Avenue NE
Canton, Ohio**

Description of proposed emissions unit(s):
Electric Induction Furnace with baghouse.

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. 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

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping 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 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. Records Retention Requirements

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.

4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. 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 verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

5. 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 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. 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 emissions unit(s) that is (are) served by such control system(s).

6. 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.

7. 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.

8. 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.

9. 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 cannot meet the requirements of this permit 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 cannot meet the requirements of this permit or cannot meet applicable standards.

10. 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.

11. Applicability

This Permit To Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate Permit To Install for the installation or modification of any other emissions unit(s) are required for any emissions unit for which a Permit To Install is required.

12. 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.

13. Source Operation and Operating Permit Requirements After Completion of Construction

- 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 ninety (90) days after commencing operation of the source(s) covered by this permit.

14. 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.

15. 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.

B. 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>
PE:	
stack	1.88
fugitive	1.63
PM10:	
stack	1.80
fugitive	1.55

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. 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>
P041 - 6 tons/hr electric induction furnace controlled by the Melt Department baghouse. No. 1 Induction Furnace	OAC rule 3745-31-05(A)(3)	<p>The particulate emission (PE)/PM10 rate from the baghouse shall not exceed 0.01 grain/dscf.</p> <p>The particulate emission PE rate from the baghouse for this emissions unit shall not exceed 0.26 lb/hr and 1.14 tons/yr.</p> <p>The PM10 rate from the baghouse for this emissions unit shall not exceed 0.25 lb/hr and 1.10 tons/yr.</p> <p>There shall be no visible particulate emissions from the baghouse stack(s).</p> <p>The fugitive particulate emissions (PE) rate for this emissions unit shall not exceed 0.27 lb/hr and 0.84 ton/yr.</p> <p>The fugitive PM10 rate for this emissions unit shall not exceed 0.26 lb/hr and 0.80 ton/yr.</p>
	OAC rule 3745-31-05(D)	See sections A.2.c, A.2.d and B.1 below.
	OAC rule 3745-17-07(A)(1)	The visible particulate emission limitation specified by this rule is less stringent than the visible particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

OAC rule 3745-17-07(B)(1)

See section A.2.a below.

OAC rule 3745-17-08(B)

See section A.2.b below.

OAC rule 3745-17-11

The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

2.a Visible particulate emissions of fugitive dust shall not exceed 20% opacity as a 3-minute average. For purposes of verifying compliance with this requirement, the visible particulate emissions shall be observed at any non-stack egress point from the building housing this emissions unit. These egress points shall include, but not be limited to, doorways, windows, and roof monitors.

2.b The permittee shall minimize or eliminate visible fugitive particulate emissions through the employment of reasonably available control measures (RACM).

At a minimum, the permittee's employment of RACM for this emissions unit shall include the following: partial capture of fugitive particulate emissions.

The collection efficiency shall be sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the point(s) of capture to the extent possible with good engineering design.

The baghouse shall have two separate collection chambers which allow for the continuous use of the baghouse in the event that one of the collection chambers has a malfunction. The dust control system shall also have damper controls so that when a furnace is operating or inoculation is taking place the damper is open to that furnace and/or the inoculation area. When a furnace is being tapped, the damper shall be opened over the tapping area.

2.c The annual fugitive PE from P041 shall not exceed 0.84 ton per rolling, 12-month period based on an emission limit of 0.9 lb PE/ton metal. The annual fugitive PE emissions from the five electric induction furnaces shall not exceed 0.84 ton per rolling, 12-month period based on an emission limit of 0.9 lb PE/ton metal. This emission limit shall be achieved by limiting the total amount of metal melted in the furnaces to 37,200 tons per rolling, 12-month period and restricting the baghouse outlet emission rate to 0.01 gr/dscf.

2.d This facility has five electric induction furnaces (P003, P034, P035, P041, and P042). All of these furnaces are vented to a common baghouse. At least 95% of the emissions from the

charging, melting, and tapping associated with each of these furnaces shall be captured and vented to this baghouse. In addition, emissions units P036 (Ductile Iron Inoculation) and P027 (Sand Shakeout) shall be vented to this same baghouse.

B. Operational Restrictions

1. The maximum annual metal melting rate for the five electric induction furnaces (P003, P034, P035, P041, and P042) shall not exceed a total of 37,200 tons of metal, based upon a rolling, 12-month summation of the metal melting rates.
2. The pressure drop across the baghouse shall be maintained within the range of 2 to 4 inches of water while any emissions unit vented to this control device is in operation.

The permittee may petition the Canton City Health Department, Air Pollution Control Division (CCHD, APCD) for reestablishment of the pressure drop range provided the permittee can demonstrate to the CCHD, APCD's satisfaction that the operating conditions upon which the pressure drop range was previously established are no longer applicable.

3. When ductile iron inoculation is occurring in one furnace, all other furnaces shall be idled. Being idled means that no melting or pouring is taking place, i.e., hot standby.
4. No more than two furnaces shall be tapped simultaneously.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the total weight of metal melted in the five electric induction furnaces (P003, P034, P035, P041, and P042). Individual records for each furnace do not have to be maintained. In addition, the permittee shall maintain monthly records of the rolling, 12-month summation of the total weight of metal melted in the five electric induction furnaces.
2. The dust control system described in Section A.2.b above shall be monitored by Programmable Logic Control (PLC) with a Panel View Monitor which shall continuously monitor the dust collection system's operation. This system shall constantly monitor the following parameters:
 - a. the pressure differential, and an alarm shall sound when the pressure differential goes outside the range of 2 to 4 inches of water;
 - b. air stream temperature, and an alarm shall sound when temperature nears the upper limit of the baghouse filter media; and
 - c. the flow rate, in cubic feet per minute (CFM), of the system.

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 pressure drop across the baghouse on a daily basis.

3. The permittee shall maintain daily records of the hours of operation and the operating scenarios of each of the five induction furnaces to ensure compliance with Conditions B.3 and B.4 above. Any excursion of the noted operating restrictions shall be recorded in a bound log book and shall include an explanation of the excursion.
4. The permittee shall perform daily checks when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the baghouse stack and any non-stack egress point (e.g., windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible particulate emissions shall be noted in an operations log. If visible particulate emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible particulate emission incident; and
 - e. any corrective actions taken to eliminate the visible particulate emissions.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports of any monthly record showing that the limit of 37,200 tons of metal melted per rolling, 12-month period, has been exceeded.
2. The permittee shall submit quarterly pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above. These reports shall include actions taken to remedy the problem.
3. The permittee shall submit quarterly deviation (excursion) reports of any deviation of the operating scenarios outlined in Conditions B.3 and B.4 above and shall include an explanation of why the deviations occurred. These reports shall include actions taken to remedy the problem.
4. The permittee shall submit semiannual written reports which:
 - a. identify all days during which any visible particulate emissions were observed from the baghouse stack and/or any non-stack egress point serving this emissions unit; and
 - b. describe any corrective actions taken to eliminate the visible particulate emissions.

These reports shall be submitted by January 31 and July 31 of each year and shall cover the previous 6-month period.

E. Testing Requirements

1. Compliance with the emission limitation(s) in section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

- a. Emissions Limitation:
There shall be no visible emissions from the baghouse stack.
- Applicable Compliance Method:
Compliance shall be determined using the requirements established in 40 CFR Part 60, Appendix A, Method 22.
- b. Emissions Limitation:
Visible particulate emissions of fugitive dust shall not exceed 20% opacity as a 3-minute average.
- 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 specified in OAC rule 3745-17-03(B)(3). The points of observation for visible particulate fugitive emissions shall include any non-stack egress points serving this emissions unit. Such egress points shall include, but are not limited to, doorways, windows, and roof monitors.
- c. Emissions Limitation:
The particulate emission PE/PM10 rate from the baghouse shall not exceed 0.01 grain/dscf
- Applicable Compliance Method:
Compliance shall be determined through stack testing performed using the requirements established in 40 CFR Part 60, Appendix A, Methods 1-5 and the procedures specified in OAC rule 3745-17-03(B)(10).
- d. Emissions Limitation:
The particulate emission (PE) rate from the baghouse for this emissions unit shall not exceed 0.26 lb/hr and 1.14 tons/yr.
- Applicable Compliance Method:
No record keeping is needed because 4 tons/hr is the maximum production capacity. Calculate the hourly emission allowable by using the emission factor of 0.9 lb PE/ton metal melted from AP-42, Table 12.10-3, and a capture efficiency of 95% for the baghouse. Emissions shall be calculated as follows:
- $$6 \text{ tons/hr} \times 0.9 \text{ lb/ton} \times 0.95 \times 0.05 = 0.26 \text{ lb/hr}$$
- $$0.26 \text{ lb/hr} \times 8,760 \text{ hrs/yr} \times 1 \text{ ton}/2000 \text{ lbs} = 1.14 \text{ tons/yr}$$
- e. Emissions Limitation:
The PM10 rate from the baghouse for this emissions unit shall not exceed 0.25 lb/hr and 1.10 tons/yr.
- Applicable Compliance Method:
No record keeping is needed because 4 tons/hr is the maximum production capacity. Calculate the hourly emission allowable by using the emission factor of 0.86 lb PM10/ton metal melted from AP-42, Table 12.10-3, and a capture efficiency of 95% for the baghouse.

Emissions shall be calculated as follows:

$$6 \text{ tons/hr} \times 0.86 \text{ lb/ton} \times 0.95 \times 0.05 = 0.25 \text{ lb/hr}$$
$$0.25 \text{ lb/hr} \times 8,760 \text{ hrs/yr} \times 1 \text{ ton}/2000 \text{ lbs} = 1.10 \text{ ton/yr}$$

- f. Emissions Limitation:
The fugitive particulate emissions (PE) rate for this emissions unit shall not exceed 0.27 lb/hr.

Applicable Compliance Method:

No record keeping is needed because 4 tons/hr is the maximum production capacity. Calculate the hourly emission allowable by using the emission factor of 0.9 lb PE/ton metal melted from AP-42, Table 12.10-3, and a capture efficiency of 95% for the baghouse. Emissions shall be calculated as follows:

$$0.9 \text{ lb PE/ton metal melted} \times 6 \text{ tons/hr} \times \text{ton}/2000 \text{ lbs} \times (1 - 0.95) = 0.27 \text{ lb PE/hr}$$

- g. Emissions Limitation:
The fugitive PM10 rate for this emissions unit shall not exceed 0.26 lb/hr.

Applicable Compliance Method:

No record keeping is needed because 4 tons/hr is the maximum production capacity. Calculate the hourly emission allowable by using the emission factor of 0.86 lb PE/ton metal melted from AP-42, Table 12.10-3, and a capture efficiency of 95% for the baghouse. Emissions shall be calculated as follows:

$$0.86 \text{ lb PM10/ton metal melted} \times 6 \text{ tons/hr} \times \text{ton}/2000 \text{ lbs} \times (1 - 0.95) = 0.26 \text{ lb PM10/hr}$$

- h. Emissions Limitation:
fugitive: 0.84 ton PE per rolling, 12-month period (combined for P003, P034, P035, P041, and P042)

Applicable Compliance Method:

Maintain monthly records of the rolling, 12-month summation of metal melted for all five induction furnaces. Calculate the rolling, 12-month emissions by using the emission factor of 0.9 lb PE/ton metal melted from AP-42, Table 12.10-3, and a capture efficiency of 95% for the baghouse.

$$0.9 \text{ lb PE/ton metal melted} \times 37,200 \text{ tons/yr} \times \text{ton}/2000 \text{ lbs} \times (1 - 0.95) = 0.84 \text{ tpy PE}$$

- i. Emissions Limitation:
fugitive: 0.80 ton PM10 per rolling, 12-month period (combined for P003, P034, P035, P041, and P042)

Applicable Compliance Method:

Maintain monthly records of the rolling, 12-month summation of metal melted for all five induction furnaces. Calculate the rolling, 12-month emissions by using the emission factor of 0.86 lb PM10/ton metal melted from AP-42, Table 12.10-3, and a capture efficiency of 95% for the baghouse.

$$0.86 \text{ lb PM10/ton metal melted} \times 37,200 \text{ tons/yr} \times \text{ton}/2000 \text{ lbs} \times (1 - 0.95) = 0.80 \text{ tpy PM10}$$

2. Compliance with the usage restrictions and operational limitations in section B.1 of these terms and conditions shall be determined in accordance with the following methods:

- a. **Operational Limitation:**

This emission limit shall be achieved by limiting the total amount of metal melted in the five induction furnaces to 37,200 tons per rolling, 12-month period

Applicable Compliance Method

Compliance shall be demonstrated based upon the monthly record keeping requirements specified in section C.1.

3. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- a. The emission testing shall be conducted within 6 months after issuance of this permit and within 6 months prior to expiration of the Permit to Operate for this emissions unit.

- b. The emission testing shall be conducted to demonstrate compliance with the allowable visible particulate emission limitations (stack and fugitive) and the allowable mass emission rate for particulates from the baghouse exhaust.

- c. The following parameters also shall be monitored and recorded during the emissions testing: the process weight rate (in tons per hour), the pressure drop across the baghouse, air stream temperature, and the flow rate in cubic feet per minute.

- d. The following test method(s) shall be employed to demonstrate compliance:

- i. for the visible fugitive particulate emissions, Method 9 of 40 CFR Part 60, Appendix A;

- ii. for the visible stack particulate emissions, Method 22 of 40 CFR Part 60, Appendix A; and

- iii. for the mass emission rate for particulates, Method 5 of 40 CFR Part 60, Appendix A.

- e. The test(s) shall be conducted while any of the five induction furnaces, inoculation (P036), and the sand shakeout (P027) are being operated at their maximum capacities, unless otherwise approved by the Canton LAA.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an “Intent to Test” notification to the Canton LAA. The “Intent to Test” notification shall describe in detail the proposed test methods and procedures, the emissions unit's 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 LAA’s refusal to accept the results of the emission test(s).

Personnel from the Canton LAA 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 LAA within 30 days following completion of the test(s).

F. Miscellaneous Requirements

None.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. 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.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P042 - 4 tons/hr electric induction furnace controlled by the Melt Department baghouse. No. 2 Induction Furnace	OAC rule 3745-31-05(A)(3)	<p>The particulate emission (PE)/PM10 rate from the baghouse shall not exceed 0.01 grain/dscf .</p> <p>The particulate emission (PE) rate from the baghouse for this emissions unit shall not exceed 0.17 lb/hr and 0.74 ton/yr.</p> <p>The PM10 rate from the baghouse for this emissions unit shall not exceed 0.16 lb/hr and 0.70 ton/yr.</p> <p>There shall be no visible particulate emissions from the baghouse stack(s).</p> <p>The fugitive particulate emissions (PE) rate for this emissions unit shall not exceed 0.18 lb/hr and 0.79 ton/yr.</p> <p>The fugitive PM10 rate for this emissions unit shall not exceed 0.17 lb/hr and 0.75 ton/yr.</p>
	OAC rule 3745-31-05(D)	See sections A.2.c, A.2.d and B.1 below.
	OAC rule 3745-17-07(A)(1)	The visible particulate emission limitation specified by this rule is less stringent than the visible particulate emission limitation established

	pursuant to OAC rule 3745-31-05(A)(3).
OAC rule 3745-17-07(B)(1)	See section A.2.a below.
OAC rule 3745-17-08(B)	See section A.2.b below.
OAC rule 3745-17-11	The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

2.a Visible particulate emissions of fugitive dust shall not exceed 20% opacity as a 3-minute average. For purposes of verifying compliance with this requirement, the visible particulate emissions shall be observed at any non-stack egress point from the building housing this emissions unit. These egress points shall include, but not be limited to, doorways, windows, and roof monitors.

2.b The permittee shall minimize or eliminate visible fugitive particulate emissions through the employment of reasonably available control measures (RACM).

At a minimum, the permittee’s employment of RACM for this emissions unit shall include the following: partial capture of fugitive particulate emissions.

The collection efficiency shall be sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the point(s) of capture to the extent possible with good engineering design.

The baghouse shall have two separate collection chambers which allow for the continuous use of the baghouse in the event that one of the collection chambers has a malfunction. The dust control system shall also have damper controls so that when a furnace is operating or inoculation is taking place the damper is open to that furnace and/or the inoculation area. When a furnace is being tapped, the damper shall be opened over the tapping area.

2.c The annual fugitive PE from P042 shall not exceed 0.74 ton per rolling, 12-month period based on an emission limit of 0.9 lb PE/ton metal. The annual fugitive PE emissions from the five electric induction furnaces shall not exceed 0.84 ton per rolling, 12-month period based on an emission limit of 0.9 lb PE/ton metal. This emission limit shall be achieved by limiting the total amount of metal melted in the furnaces to 37,200 tons per rolling, 12-month period and restricting the baghouse outlet emission rate to 0.01 gr/dscf.

- 2.d** This facility has five electric induction furnaces (P003, P034, P035, P041, and P042). All of these furnaces are vented to a common baghouse. At least 95% of the emissions from the charging, melting, and tapping associated with each of these furnaces shall be captured and vented to this baghouse. In addition, emissions units P036 (Ductile Iron Inoculation) and P027 (Sand Shakeout) shall be vented to this same baghouse.

B. Operational Restrictions

1. The maximum annual metal melting rate for the five electric induction furnaces (P003, P034, P035, P041, and P042) shall not exceed a total of 37,200 tons of metal, based upon a rolling, 12-month summation of the metal melting rates.
2. The pressure drop across the baghouse shall be maintained within the range of 2 to 4 inches of water while any emissions unit vented to this control device is in operation.

The permittee may petition the Canton City Health Department, Air Pollution Control Division (CCHD, APCD) for reestablishment of the pressure drop range provided the permittee can demonstrate to the CCHD, APCD's satisfaction that the operating conditions upon which the pressure drop range was previously established are no longer applicable.

3. When ductile iron inoculation is occurring in one furnace, all other furnaces shall be idled. Being idled means that no melting or pouring is taking place, i.e., hot standby.
4. No more than two furnaces shall be tapped simultaneously.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the total weight of metal melted in the five electric induction furnaces (P003, P034, P035, P041, and P042). Individual records for each furnace do not have to be maintained. In addition, the permittee shall maintain monthly records of the rolling, 12-month summation of the total weight of metal melted in the five electric induction furnaces.
2. The dust control system described in Section A.2.b above shall be monitored by Programmable Logic Control (PLC) with a Panel View Monitor which shall continuously monitor the dust collection system's operation. This system shall constantly monitor the following parameters:
 - a. the pressure differential and an alarm shall sound when the pressure differential goes outside the range of 2 to 4 inches of water;
 - b. air stream temperature and an alarm shall sound when temperature nears the upper limit of the baghouse filter media; and

- c. the flow rate, in cubic feet per minute (CFM), of the system.

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 pressure drop across the baghouse on a daily basis.

- 3. The permittee shall maintain daily records of the hours of operation and the operating scenarios of each of the five induction furnaces to ensure compliance with Conditions B.3 and B.4 above. Any excursion of the noted operating restrictions shall be recorded in a bound log book and shall include an explanation of the excursion.
- 4. The permittee shall perform daily checks when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the baghouse stack and any non-stack egress point (e.g., windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible particulate emissions shall be noted in an operations log. If visible particulate emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible particulate emission incident; and
 - e. any corrective actions taken to eliminate the visible particulate emissions.

D. Reporting Requirements

- 1. The permittee shall submit quarterly deviation (excursion) reports of any monthly record showing that the limit of 37,200 tons of metal melted per rolling, 12-month period, has been exceeded.
- 2. The permittee shall submit quarterly pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above. These reports shall include actions taken to remedy the problem.
- 3. The permittee shall submit quarterly deviation (excursion) reports of any deviation of the operating scenarios outlined in Conditions B.3 and B.4 above and shall include an explanation of why the deviations occurred. These reports shall include actions taken to remedy the problem.
- 4. The permittee shall submit semiannual written reports which:
 - a. identify all days during which any visible particulate emissions were observed from the baghouse stack and/or any non-stack egress point serving this emissions unit; and

- b. describe any corrective actions taken to eliminate the visible particulate emissions.

These reports shall be submitted by January 31 and July 31 of each year and shall cover the previous 6-month period.

E. Testing Requirements

- 1. Compliance with the emission limitation(s) in section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

- a. Emissions Limitation:
There shall be no visible emissions from the baghouse stack.

Applicable Compliance Method:
Compliance shall be determined using the requirements established in 40 CFR Part 60, Appendix A, Method 22.

- b. Emissions Limitation:
Visible particulate emissions of fugitive dust shall not exceed 20% opacity as a 3-minute average.

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 specified in OAC rule 3745-17-03(B)(3). The points of observation for visible particulate fugitive emissions shall include any non-stack egress points serving this emissions unit. Such egress points shall include, but are not limited to, doorways, windows, and roof monitors.

- c. Emissions Limitation:
The particulate emission (PE)/PM10 rate from the baghouse shall not exceed 0.01 grain/dscf

Applicable Compliance Method:
Compliance shall be determined through stack testing performed using the requirements established in 40 CFR Part 60, Appendix A, Methods 1-5 and the procedures specified in OAC rule 3745-17-03(B)(10).

- d. Emissions Limitation:
The particulate emission (PE) rate from the baghouse for this emissions unit shall not exceed 0.17 lb/hr and 0.74 ton/yr.

Applicable Compliance Method:
No record keeping is needed because 4 tons/hr is the maximum production capacity. Calculate the hourly emission allowable by using the emission factor of 0.9 lb PE/ton metal melted from AP-42, Table 12.10-3, and a capture efficiency of 95% for the baghouse. Emissions shall be calculated as follows:

$$4 \text{ tons/hr} \times 0.9 \text{ lb/ton} \times 0.95 \times 0.05 = 0.17 \text{ lb/hr}$$
$$0.17 \text{ lb/hr} \times 8,760 \text{ hrs/yr} \times 1 \text{ ton/2000 lbs} = 0.74 \text{ ton/yr}$$

e. Emissions Limitation:

The PM10 rate from the baghouse for this emissions unit shall not exceed 0.16 lb/hr and 0.70 ton/yr.

Applicable Compliance Method:

No record keeping is needed because 4 tons/hr is the maximum production capacity. Calculate the hourly emission allowable by using the emission factor of 0.86 lb PM10/ton metal melted from AP-42, Table 12.10-3, and a capture efficiency of 95% for the baghouse. Emissions shall be calculated as follows:

$$4 \text{ tons/hr} \times 0.86 \text{ lb/ton} \times 0.95 \times 0.05 = 0.16 \text{ lb/hr}$$
$$0.16 \text{ lb/hr} \times 8,760 \text{ hrs/yr} \times 1 \text{ ton/2000 lbs} = 0.70 \text{ ton/yr}$$

f. Emissions Limitation:

The fugitive particulate emissions (PE) rate for this emissions unit shall not exceed 0.18 lb/hr and 0.79 ton/yr.

Applicable Compliance Method:

No record keeping is needed because 4 tons/hr is the maximum production capacity. Calculate the hourly emission allowable by using the emission factor of 0.9 lb PE/ton metal melted from AP-42, Table 12.10-3, and a capture efficiency of 95% for the baghouse. Emissions shall be calculated as follows:

$$0.9 \text{ lb PE/ton metal melted} \times 4 \text{ tons/hr} \times \text{ton/2000 lbs} \times (1 - 0.95) = 0.18 \text{ lb PE/hr}$$
$$0.18 \text{ lb/hr} \times 8,760 \text{ hrs/yr} \times 1 \text{ ton/2000 lbs} = 0.79 \text{ ton PE/yr}$$

g. Emissions Limitation:

The fugitive PM10 rate for this emissions unit shall not exceed 0.17 lb/hr and 0.75 ton/yr.

Applicable Compliance Method:

No record keeping is needed because 4 tons/hr is the maximum production capacity. Calculate the hourly emission allowable by using the emission factor of 0.86 lb PE/ton metal melted from AP-42, Table 12.10-3, and a capture efficiency of 95% for the baghouse. Emissions shall be calculated as follows:

$$0.86 \text{ lb PM10/ton metal melted} \times 4 \text{ tons/hr} \times \text{ton/2000 lbs} \times (1 - 0.95) = 0.17 \text{ lb PM10/hr}$$
$$0.16 \text{ lb PM10/hr} \times 8760 \text{ hrs/yr} \times 1 \text{ ton/2000 lbs} = 0.75 \text{ ton PM10/yr}$$

- h. Emissions Limitation:
fugitive: 0.84 ton PE per rolling, 12-month period (combined for P003, P034, P035, P041, and P042)

Applicable Compliance Method:

Maintain monthly records of the rolling, 12-month summation of metal melted for all five induction furnaces. Calculate the rolling, 12-month emissions by using the emission factor of 0.9 lb PE/ton metal melted from AP-42, Table 12.10-3, and a capture efficiency of 95% for the baghouse. Emissions shall be calculated as follows:

$$0.9 \text{ lb PE/ton metal melted} \times 37,200 \text{ tons/yr} \times \text{ton}/2000 \text{ lbs} \times (1 - 0.95) = 0.84 \text{ tpy PE}$$

- i. Emissions Limitation:
fugitive: 0.80 ton PM10 per rolling, 12-month period (combined for P003, P034, P035, P041, and P042)

Applicable Compliance Method:

Maintain monthly records of the rolling, 12-month summation of metal melted for all five induction furnaces. Calculate the rolling, 12-month emissions by using the emission factor of 0.86 lb PM10/ton metal melted from AP-42, Table 12.10-3, and a capture efficiency of 95% for the baghouse. Emissions shall be calculated as follows:

$$0.86 \text{ lb PM10/ton metal melted} \times 37,200 \text{ tons/yr} \times \text{ton}/2000 \text{ lbs} \times (1 - 0.95) = 0.80 \text{ tpy PM10}$$

- 2. Compliance with the usage restrictions and operational limitations in section B.1 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Operational Limitation:
This emissions limit shall be achieved by limiting the total amount of metal melted in the five induction furnaces to 37,200 tons per rolling, 12-month period

Applicable Compliance Method
Compliance shall be demonstrated based upon the monthly record keeping requirements specified in section C.1.
- 3. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The emission testing shall be conducted within 6 months after issuance of this permit and within 6 months prior to expiration of the Permit to Operate for this emissions unit.

- b. The emission testing shall be conducted to demonstrate compliance with the allowable visible particulate emission limitations (stack and fugitive) and the allowable mass emission rate for particulates from the baghouse exhaust.
- c. The following parameters also shall be monitored and recorded during the emissions testing: the process weight rate (in tons per hour), the pressure drop across the baghouse, air stream temperature, and the flow rate in cubic feet per minute.
- d. The following test method(s) shall be employed to demonstrate compliance:
 - i. for the visible fugitive particulate emissions, Method 9 of 40 CFR Part 60, Appendix A;
 - ii. for the visible stack particulate emissions, Method 22 of 40 CFR Part 60, Appendix A; and
 - iii. for the mass emission rate for particulates, Method 5 of 40 CFR Part 60, Appendix A.
- e. The test(s) shall be conducted while any of the five induction furnaces, inoculation (P036), and the sand shakeout (P027) are being operated at their maximum capacities, unless otherwise approved by the Canton LAA.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Canton LAA. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit's 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 LAA's refusal to accept the results of the emission test(s).

Personnel from the Canton LAA 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 LAA within 30 days following completion of the test(s).

F. Miscellaneous Requirements

None.