



State of Ohio Environmental Protection Agency

Street Address:

Mailing Address:

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Lazarus Gov. Center

**RE: FINAL PERMIT TO INSTALL
STARK COUNTY
Application No: 15-1375**

CERTIFIED MAIL

November 24, 1999

PELtech1
Abid Bengali/Phoenix Environmental
710 East Ogden Avenue Suite 120
Naperville, IL 60563

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, buy 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.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:



Environmental Review Appeals Commission
236 East Town Street, Room 300
Columbus, Ohio 43215

Very truly yours,

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

cc: USEPA
CANTON CITY HEALTH DEPARTMENT

STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

Permit To Install

Issue Date: November 24, 1999

FINAL PERMIT TO INSTALL 15-1375

Application Number: 15-1375
APS Premise Number: 1576001868
Permit Fee: **\$9600**
Name of Facility: PELtech1
Person to Contact: Abid Bengali/Phoenix Environmental
Address: 710 East Ogden Avenue Suite 120
Naperville, IL 60563

Location of proposed air contaminant source(s) [emissions unit(s)]:
**3026 Saratoga Avenue
Perry Township, Ohio**

Description of proposed emissions unit(s):
THE PELTECH1 PROCESS WILL USE BYPRODUCTS FROM STEEL MAKING AND BEARING OPERATIONS TO PRODUCE ENGINEERED IRON OXIDE.

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 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 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 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.

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 application must be made to the Director for the installation or modification of any other emissions unit(s).

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

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This 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 emissions unit(s) covered by this permit.

14. Construction Compliance Certification

PELtech1PTI Application: **15-1375****November 24, 1999**Facility ID: **1576001868**

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>
PM/PM ₁₀	9.114
NO _x	10.04
SO ₂	35.96
VOC	16.91
CO	3.25

PELtech1

PTI Application: 15-1275

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Facility ID: 1576001868

Emissions Unit ID: P001

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**A. Applicable Emissions Limitations and/or Control Requirements**

- 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>
Reactor No. 1 -Phase I + III with acid gas wet scrubber and a HEPA filter	OAC rule 3745-31-05	There shall be no visible emissions from any stack. PM/PM ₁₀ : 0.001 gr/ACFM; 0.07 pound/hour (based on an airflow of 8,000 ACFM) and 0.31 ton/year sulfur dioxide: 0.66 lb SO ₂ /hour and 2.91 tons SO ₂ /year nitrogen oxides: 0.09 pound/hour and 0.4 ton/year carbon monoxide: 0.04 pound/hour and 0.16 ton/year volatile organic compounds: 0.016 pound/hour and 0.07 ton/year
	OAC rule 3745-17-07(A)(1)	BAT is more restrictive
	OAC rule 3745-17-11	BAT is more restrictive
	OAC rule 3745-18-06(E)(2)	BAT is more restrictive

MODIFICATION

(This emissions unit consists of an active reactor furnace, a drop-out box, a quench chamber, an LZO collector, a HEPA filter, an I.D. fan, an acid gas wet scrubber, and a stack.)

2. Additional Terms and Conditions

2.a None

B. Operational Restrictions

1. The emissions from this emissions unit shall be vented to an Acid Gas Wet Scrubber and then to a HEPA Fabric Filter in series. The capture system shall achieve a minimum capture efficiency of 99% or better for both PM/PM₁₀ and SO₂ emissions. For PM/PM₁₀, the control efficiency of the combination of the Acid Gas Wet Scrubber and the HEPA Fabric Filter shall be sufficient enough to reduce PM/PM₁₀ emissions to no more than 0.001 gr/ACFM. For SO₂, the control efficiency of the Acid Gas Wet Scrubber shall be sufficient to reduce emissions to no more than 0.66 pound/hour of SO₂.
2. The pressure drop across the scrubber shall be continuously maintained at a value of not less than four inches of water nor more than five inches of water at all times while the emissions unit is in operation. Alternatively, the pressure drop across the scrubber shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
3. The pH of the scrubber liquor shall be maintained at or above 7. Alternatively, the pH of the scrubber liquor shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
4. The temperature of the scrubber liquor shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
5. The scrubber water flow rate shall be continuously maintained at a value of not less than the rate established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
6. For each day that shipments are received, the permittee shall collect a representative sample of the EAF dust (EAFD) received and analyze it for sulfur. The permittee shall maintain a three-day, rolling average of the sulfur quantity in the reactor feed. Feed rates of EAFD (or other sulfur bearing feed materials) shall be limited so that the total sulfur feed shall not allow the SO₂ hourly emissions limits to be exceeded, based on a daily average.
7. The pressure drop across the HEPA filter shall be maintained within the range of 1 to 3 inches of

water while the emissions unit is in operation. Alternatively, the pressure drop across the HEPA filter shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the filter manufacturer.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate and maintain equipment to continuously monitor the static pressure drop across the scrubber, the pH and temperature of the scrubber liquor, and the water flow rate to the scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day that the emissions unit operates:

- a. The pH and temperature of the scrubber liquor, on a once/shift basis.
 - b. The pressure drop across the scrubber, in inches of water, on a once/shift basis.
 - c. The water flow rate, in gpm, to the scrubber on a once/shift basis.
 - d. The operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
2. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the HEPA filter while the emissions unit is in operation. The monitoring equipment shall be installed, 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 HEPA filter on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pH deviation (excursion) reports that identify all periods of time during which the scrubber liquor pH did not comply with the pH requirements specified above.
2. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the scrubber did not comply with the allowable range specified above.

3. The permittee shall submit temperature deviation (excursion) reports that identify all periods of time during which the temperature of the scrubber liquor did not comply with the allowable range specified above.
4. The permittee shall submit water flow deviation (excursion) reports that identify all periods of time during which the scrubber water flow rate was less than the amount specified above.
5. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the HEPA filter did not comply with the allowable range specified above.
6. All deviation (excursion) reports shall be submitted to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton Ohio 44702.

E. Testing Requirements

1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):
 - a. **Emission Limitation**

0.001 gr/ACFM and 0.07 pound/hour of PM/PM₁₀

Applicable Compliance Method

Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A.
 - b. **Emission Limitation**

0.66 pound SO₂/hour

Applicable Compliance Method

Initial compliance shall be demonstrated using Method 6, 40 CFR Part 60, Appendix A.
 - c. **Emission Limitation**

There shall be no visible particulate emissions from any stack.

Applicable Compliance Method

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

If required, the permittee shall demonstrate with the above visible emissions limitation pursuant to OAC rule 3745-15-04(A).

d. Emission Limitation

0.09 pound NO_x/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 7, 40 CFR Part 60, Appendix A.

e. **Emission Limitation**

0.04 pound CO/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 10, 40 CFR Part 60, Appendix A.

f. **Emission Limitation**

0.016 pound VOC/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 25 or 25A, 40 CFR Part 60, Appendix A.

g. **Emission Limitation**

2.91 tons SO₂/year
0.31 ton PM/PM₁₀/year
0.4 ton NO_x/year
0.16 ton CO/year
0.07 ton VOC/year

Applicable Compliance Method

Multiply the hourly emission limit times 8,760 hours/year.

2. 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 no later than 90 days after this emissions unit has been brought up to a steady state, full production mode.
 - b. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division (Canton Local Air Agency.)
 - c. The emissions testing shall be conducted to demonstrate compliance with the allowable

mass emission rate for SO₂, VOC, CO, NO_x and PM/PM₁₀.

- d. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

<u>Pollutant</u>	<u>Test Methods</u>	<u>Location</u>
PM/PM ₁₀	Method 5	40 CFR Part 60 Appendix A
SO ₂	Method 6	40 CFR Part60 Appendix A
NO _x	Method 7	40 CFR Part 60 Appendix A
	CO	Method 10 40 CFR Part 60 Appendix A
VOC	Method 25/25A	40 CFR Part 60 Appendix A

- e. The parametric monitoring requirements established per Conditions III.1 and III.2 shall be checked during the emissions test.
- f. Sulfur content (and levels of other potential contaminants) shall be quantified in feed materials, particularly EAF dust and dried swarf. As practical, feed materials with differing sulfur contents shall be segregated for separate campaigns for sensitivity testing. If necessary, additional sulfur shall be added to EAFD for testing at worst case conditions (estimated to be 0.9%).
- g. The feed rates to the reactor of all materials shall be measured.
- h. Products produced during the testing period (magnetite and leady-zinc oxide) shall be collected and chemically analyzed.
- i. A sulfur dioxide emission test also shall be conducted at the inlet of the scrubber to determine the control efficiency of the scrubber.

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

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Emissions Unit ID: **P001**

person or persons responsible for the tests and submitted to the Canton Local Air Agency within 30 days following completion of the test(s).

F. Miscellaneous Requirements

1. None

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)
[Continued]**

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>	OAC rule 3745-17-07
Reactor -Phase IA with acid gas wet scrubber and a HEPA filter	OAC rule 3745-31-05	OAC rule 3745-17-11 OAC rule 3745-18-06(E)(2)
MODIFICATION		
(This emissions unit consists of an active reactor furnace, a drop-out box, a quench chamber, an LZO collector, a HEPA filter, an I.D. fan, an acid gas wet scrubber, and a stack.)		

Applicable Emissions Limitations/Control Measures

There shall be no visible particulate emissions from any stack.

PM/PM₁₀:
0.001 gr/ACFM;
0.005 pound/hour (based on an airflow of 600 ACFM) and
0.02 ton/year

sulfur dioxide:
0.07 lb SO₂/hour and
0.29 ton SO₂/year

nitrogen oxides:
0.03 pound/hour and
0.12 ton/year

carbon monoxide:
0.01 pound/hour and
0.05 ton/year

volatile organic compounds:
0.002 pound/hour and
0.01 ton/year

BAT is more restrictive

BAT is more restrictive

BAT is more restrictive

2. Additional Terms and Conditions

2.a None

B. Operational Restrictions

1. The emissions from this emissions unit shall be vented to an Acid Gas Wet Scrubber and then to a HEPA Fabric Filter in series. The capture system shall achieve a minimum capture efficiency of 99% or better for both PM/PM₁₀ and SO₂ emissions. For PM/PM₁₀, the control efficiency of the combination of the Acid Gas Wet Scrubber and the HEPA Fabric Filter shall be sufficient enough

to reduce PM/PM₁₀ emissions to no more than 0.001 gr/ACFM. For SO₂, the control efficiency of the Acid Gas Wet Scrubber shall be sufficient to reduce emissions to no more than 0.07 pound/hour of SO₂.

2. The pressure drop across the scrubber shall be continuously maintained at a value of not less than four inches of water nor more than five inches of water at all times while the emissions unit is in operation. Alternatively, the pressure drop across the scrubber shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
3. The pH of the scrubber liquor shall be maintained at or above 7. Alternatively, the pH of the scrubber liquor shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
4. The temperature of the scrubber liquor shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
5. The scrubber water flow rate shall be continuously maintained at a value of not less than the rate established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
6. For each day that shipments are received, the permittee shall collect a representative sample of the EAF dust (EAFD) received and analyze it for sulfur. The permittee shall maintain a three-day, rolling average of the sulfur quantity in the reactor feed. Feed rates of EAFD (or other sulfur bearing feed materials) shall be limited so that the total sulfur feed shall not allow the SO₂ hourly emissions limits to be exceeded, based on a daily average.
7. The pressure drop across the HEPA filter shall be maintained within the range of 1 to 3 inches of water while the emissions unit is in operation. Alternatively, the pressure drop across the HEPA filter shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the filter manufacturer.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate and maintain equipment to continuously monitor the static pressure drop across the scrubber, the pH and temperature of the scrubber liquor, and the water flow rate to the scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day that the emissions unit operates:

- a. The pH and temperature of the scrubber liquor, on a once/shift basis.
 - b. The pressure drop across the scrubber, in inches of water, on a once/shift basis.
 - c. The water flow rate, in gpm, to the scrubber on a once/shift basis.
 - d. The operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
2. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the HEPA filter while the emissions unit is in operation. The monitoring equipment shall be installed, 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 HEPA filter on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pH deviation (excursion) reports that identify all periods of time during which the scrubber liquor pH did not comply with the pH requirements specified above.
2. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the scrubber did not comply with the allowable range specified above.
3. The permittee shall submit temperature deviation (excursion) reports that identify all periods of time during which the temperature of the scrubber liquor did not comply with the allowable range specified above.

Emissions Unit ID: P002

4. The permittee shall submit water flow deviation (excursion) reports that identify all periods of time during which the scrubber water flow rate was less than the amount specified above.
5. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the HEPA filter did not comply with the allowable range specified above.
6. All deviation (excursion) reports shall be submitted to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton Ohio 44702.

E. Testing Requirements

1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):

a. Emission Limitation

0.001 gr/ACFM and 0.005 pound/hour of PM/PM₁₀

Applicable Compliance Method

Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A.

b. Emission Limitation

0.07 pound SO₂/hour

Applicable Compliance Method

Initial compliance shall be demonstrated using Method 6, 40 CFR Part 60, Appendix A.

c. Emission Limitation

There shall be no visible particulate emissions from any stack.

Applicable Compliance Method

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

If required, the permittee shall demonstrate with the above visible emissions limitation pursuant to OAC rule 3745-15-04(A).

d. Emission Limitation

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Emissions Unit ID: **P002**

0.03 pound NO_x/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 7, 40 CFR Part 60, Appendix A.

e. **Emission Limitation**

0.01 pound CO/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 10, 40 CFR Part 60, Appendix A.

f. **Emission Limitation**

0.002 pound VOC/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 25 or 25A, 40 CFR Part 60, Appendix A.

g. **Emission Limitation**

0.29 ton SO₂/year

0.02 ton PM/PM₁₀/year

0.12 ton NO_x/year

0.05 ton CO/year

0.01 ton VOC/year

Applicable Compliance Method

Multiply the hourly emission limit times 8,760 hours/year.

2. 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 no later than 90 days after this emissions unit has been brought up to a steady state, full production mode.
 - b. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division (Canton Local Air Agency.)
 - c. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for SO₂, VOC, CO, NO_x and PM/PM₁₀.

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PTI Application: **15 1275**

Noven

Facility ID: **1576001868**

Emissions Unit ID: **P002**

- d. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

<u>Pollutant</u>	<u>Test Methods</u>	<u>Location</u>
PM/PM ₁₀	Method 5	40 CFR Part 60 Appendix A
SO ₂	Method 6	40 CFR Part 60 Appendix A
NO _x	Method 7	40 CFR Part 60 Appendix A
	CO	Method 10 40 CFR Part 60 Appendix A
VOC	Method 25/25A	40 CFR Part 60 Appendix A

- e. The parametric monitoring requirements established per Conditions III.1 and III.2 shall be checked during the emissions test.
- f. Sulfur content (and levels of other potential contaminants) shall be quantified in feed materials, particularly EAF dust and dried swarf. As practical, feed materials with differing sulfur contents shall be segregated for separate campaigns for sensitivity testing. If necessary, additional sulfur shall be added to EAFD for testing at worst case conditions (estimated to be 0.9%).
- g. The feed rates to the reactor of all materials shall be measured.
- h. Products produced during the testing period (magnetite and leady-zinc oxide) shall be collected and chemically analyzed.
- i. A sulfur dioxide emission test also shall be conducted at the inlet of the scrubber to determine the control efficiency of the scrubber.

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).

F. Miscellaneous Requirements

1. None

PART II - SPECIAL

TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S) [Continued]

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>	OAC rule 3745-17-07(A)(1)
Reactor No. 2 -Phase I + III with acid gas wet scrubber and a HEPA filter	OAC rule 3745-31-05	OAC rule 3745-17-11
MODIFICATION		OAC rule 3745-18-06(E)(2)
(This emissions unit consists of an active reactor furnace, a drop-out box, a quench chamber, an LZO collector, a HEPA filter, an I.D. fan, an acid gas wet scrubber, and a stack.)		

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Emissions Unit ID: P003

Applicable Emissions
Limitations/Control Measures

There shall be no visible emissions from any stack.

PM/PM₁₀:

0.001 gr/ACFM;

0.07 pound/hour (based on an airflow of 8,000 ACFM) and

0.31 ton/year

sulfur dioxide:

0.66 lb SO₂/hour and

2.91 tons SO₂/year

nitrogen oxides:

0.09 pound/hour and

0.4 ton/year

carbon monoxide:

0.04 pound/hour and

0.16 ton/year

volatile organic compounds:

0.016 pound/hour and

0.07 ton/year

BAT is more restrictive

BAT is more restrictive

BAT is more restrictive

2. Additional Terms and Conditions

2.a None

B. Operational Restrictions

Emissions Unit ID: P003

1. The emissions from this emissions unit shall be vented to an Acid Gas Wet Scrubber and then to a HEPA Fabric Filter in series. The capture system shall achieve a minimum capture efficiency of 99% or better for both PM/PM₁₀ and SO₂ emissions. For PM/PM₁₀, the control efficiency of the combination of the Acid Gas Wet Scrubber and the HEPA Fabric Filter shall be sufficient enough to reduce PM/PM₁₀ emissions to no more than 0.001 gr/ACFM. For SO₂, the control efficiency of the Acid Gas Wet Scrubber shall be sufficient to reduce emissions to no more than 0.66 pound/hour of SO₂.
2. The pressure drop across the scrubber shall be continuously maintained at a value of not less than four inches of water nor more than five inches of water at all times while the emissions unit is in operation. Alternatively, the pressure drop across the scrubber shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
3. The pH of the scrubber liquor shall be maintained at or above 7. Alternatively, the pH of the scrubber liquor shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
4. The temperature of the scrubber liquor shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
5. The scrubber water flow rate shall be continuously maintained at a value of not less than the rate established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
6. For each day that shipments are received, the permittee shall collect a representative sample of the EAF dust (EAFD) received and analyze it for sulfur. The permittee shall maintain a three-day, rolling average of the sulfur quantity in the reactor feed. Feed rates of EAFD (or other sulfur bearing feed materials) shall be limited so that the total sulfur feed shall not allow the SO₂ hourly emissions limits to be exceeded, based on a daily average.
7. The pressure drop across the HEPA filter shall be maintained within the range of 1 to 3 inches of water while the emissions unit is in operation. Alternatively, the pressure drop across the HEPA filter shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the filter manufacturer.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate and maintain equipment to continuously monitor the static pressure drop across the scrubber, the pH and temperature of the scrubber liquor, and the water flow rate to the scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day that the emissions unit operates:

- a. The pH and temperature of the scrubber liquor, on a once/shift basis.
 - b. The pressure drop across the scrubber, in inches of water, on a once/shift basis.
 - c. The water flow rate, in gpm, to the scrubber on a once/shift basis.
 - d. The operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
2. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the HEPA filter while the emissions unit is in operation. The monitoring equipment shall be installed, 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 HEPA filter on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pH deviation (excursion) reports that identify all periods of time during which the scrubber liquor pH did not comply with the pH requirements specified above.
2. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the scrubber did not comply with the allowable range specified above.
3. The permittee shall submit temperature deviation (excursion) reports that identify all periods of time during which the temperature of the scrubber liquor did not comply with the allowable range specified above.

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4. The permittee shall submit water flow deviation (excursion) reports that identify all periods of time during which the scrubber water flow rate was less than the amount specified above.
5. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the HEPA filter did not comply with the allowable range specified above.
6. All deviation (excursion) reports shall be submitted to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton Ohio 44702.

E. Testing Requirements

1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):

a. Emission Limitation

0.001 gr/ACFM and 0.07 pound/hour of PM/PM₁₀

Applicable Compliance Method

Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A.

b. Emission Limitation

0.66 pound SO₂/hour

Applicable Compliance Method

Initial compliance shall be demonstrated using Method 6, 40 CFR Part 60, Appendix A.

c. Emission Limitation

There shall be no visible particulate emissions from any stack.

Applicable Compliance Method

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

If required, the permittee shall demonstrate with the above visible emissions limitation pursuant to OAC rule 3745-15-04(A).

d. Emission Limitation

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0.09 pound NO_x/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 7, 40 CFR Part 60, Appendix A.

e. Emission Limitation

0.04 pound CO/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 10, 40 CFR Part 60, Appendix A.

f. Emission Limitation

0.016 pound VOC/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 25 or 25A, 40 CFR Part 60, Appendix A.

g. Emission Limitation

2.91 tons SO₂/year

0.31 ton PM/PM₁₀/year

0.4 ton NO_x/year

0.16 ton CO/year

0.07 ton VOC/year

Applicable Compliance Method

Multiply the hourly emission limit times 8,760 hours/year.

2. 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 no later than 90 days after this emissions unit has been brought up to a steady state, full production mode.
 - b. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division (Canton Local Air Agency.)

- c. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for SO₂, VOC, CO, NO_x and PM/PM₁₀.
- d. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

<u>Pollutant</u>	<u>Test Methods</u>	<u>Location</u>
PM/PM ₁₀	Method 5	40 CFR Part 60 Appendix A
SO ₂	Method 6	40 CFR Part60 Appendix A
NO _x	Method 7	40 CFR Part 60 Appendix A
	CO	Method 10 40 CFR Part 60 Appendix A
VOC	Method 25/25A	40 CFR Part 60 Appendix A

- e. The parametric monitoring requirements established per Conditions III.1 and III.2 shall be checked during the emissions test.
- f. Sulfur content (and levels of other potential contaminants) shall be quantified in feed materials, particularly EAF dust and dried swarf. As practical, feed materials with differing sulfur contents shall be segregated for separate campaigns for sensitivity testing. If necessary, additional sulfur shall be added to EAFD for testing at worst case conditions (estimated to be 0.9%).
- g. The feed rates to the reactor of all materials shall be measured.
- h. Products produced during the testing period (magnetite and leady-zinc oxide) shall be collected and chemically analyzed.
- i. A sulfur dioxide emission test also shall be conducted at the inlet of the scrubber to determine the control efficiency of the scrubber.

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

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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).

F. Miscellaneous Requirements

1. None

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)
[Continued]**

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>	
		OAC rule 3745-17-07(A)(1)
		OAC rule 3745-17-11
Reactor No. 1 - Phase II with acid gas wet scrubber and a HEPA filter	OAC rule 3745-31-05	OAC rule 3745-18-06(E)(2)
MODIFICATION		
(This emissions unit consists of an active reactor furnace, a drop-out box, a quench chamber, an LZO collector, a HEPA filter, an I.D. fan, an acid gas wet scrubber, and a stack.)		

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Emissions Unit ID: P004

Applicable Emissions
Limitations/Control Measures

There shall be no visible emissions
from any stack.

PM/PM₁₀:

0.001 gr/ACFM;

0.07 pound/hour (based on an
airflow of 8,000 ACFM) and

0.31 ton/year

sulfur dioxide:

0.59 lb SO₂/hour and

2.6 tons SO₂/year

nitrogen oxides:

0.09 pound/hour and

0.4 ton/year

carbon monoxide:

0.04 pound/hour and

0.16 ton/year

volatile organic compounds:

0.02 pound/hour and

0.07 ton/year

BAT is more restrictive

BAT is more restrictive

BAT is more restrictive

2. Additional Terms and Conditions

2.a None

B. Operational Restrictions

1. The emissions from this emissions unit shall be vented to an Acid Gas Wet Scrubber and then to a HEPA Fabric Filter in series. The capture system shall achieve a minimum capture efficiency of 99% or better for both PM/PM₁₀ and SO₂ emissions. For PM/PM₁₀, the control efficiency of the combination of the Acid Gas Wet Scrubber and the HEPA Fabric Filter shall be sufficient enough to reduce PM/PM₁₀ emissions to no more than 0.001 gr/ACFM. For SO₂, the control efficiency of the Acid Gas Wet Scrubber shall be sufficient to reduce emissions to no more than 0.59 pound/hour of SO₂.
2. The pressure drop across the scrubber shall be continuously maintained at a value of not less than four inches of water nor more than five inches of water at all times while the emissions unit is in operation. Alternatively, the pressure drop across the scrubber shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
3. The pH of the scrubber liquor shall be maintained at or above 7. Alternatively, the pH of the scrubber liquor shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
4. The temperature of the scrubber liquor shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
5. The scrubber water flow rate shall be continuously maintained at a value of not less than the rate established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
6. For each day that shipments are received, the permittee shall collect a representative sample of the EAF dust (EAFD) received and analyze it for sulfur. The permittee shall maintain a three-day, rolling average of the sulfur quantity in the reactor feed. Feed rates of EAFD (or other sulfur bearing feed materials) shall be limited so that the total sulfur feed shall not allow the SO₂ hourly emissions limits to be exceeded, based on a daily average.
7. The pressure drop across the HEPA filter shall be maintained within the range of 1 to 3 inches of water while the emissions unit is in operation. Alternatively, the pressure drop across the HEPA filter shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the filter manufacturer.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate and maintain equipment to continuously monitor the static pressure drop across the scrubber, the pH and temperature of the scrubber liquor, and the water flow rate to the scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day that the emissions unit operates:

- a. The pH and temperature of the scrubber liquor, on a once/shift basis.
 - b. The pressure drop across the scrubber, in inches of water, on a once/shift basis.
 - c. The water flow rate, in gpm, to the scrubber on a once/shift basis.
 - d. The operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
2. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the HEPA filter while the emissions unit is in operation. The monitoring equipment shall be installed, 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 HEPA filter on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pH deviation (excursion) reports that identify all periods of time during which the scrubber liquor pH did not comply with the pH requirements specified above.
2. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the scrubber did not comply with the allowable range specified above.
3. The permittee shall submit temperature deviation (excursion) reports that identify all periods of time during which the temperature of the scrubber liquor did not comply with the allowable range specified above.
4. The permittee shall submit water flow deviation (excursion) reports that identify all periods of time during which the scrubber water flow rate was less than the amount specified above.
5. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the HEPA filter did not comply with the allowable range specified above.

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6. All deviation (excursion) reports shall be submitted to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton Ohio 44702.

E. Testing Requirements

1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):

- a. **Emission Limitation**

0.001 gr/ACFM and 0.07 pound/hour of PM/PM₁₀

Applicable Compliance Method

Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A.

- b. **Emission Limitation**

0.59 pound SO₂/hour

Applicable Compliance Method

Initial compliance shall be demonstrated using Method 6, 40 CFR Part 60, Appendix A.

- c. **Emission Limitation**

There shall be no visible particulate emissions from any stack.

Applicable Compliance Method

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

If required, the permittee shall demonstrate with the above visible emissions limitation pursuant to OAC rule 3745-15-04(A).

- d. **Emission Limitation**

0.09 pound NO_x/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 7, 40 CFR Part 60, Appendix A.

e. **Emission Limitation**

0.04 pound CO/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 10, 40 CFR Part 60, Appendix A.

f. **Emission Limitation**

0.02 pound VOC/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 25 or 25A, 40 CFR Part 60, Appendix A.

g. **Emission Limitation**

2.6 tons SO₂/year
0.31 ton PM/PM₁₀/year
0.4 ton NO_x/year
0.16 ton CO/year
0.07 ton VOC/year

Applicable Compliance Method

Multiply the hourly emission limit times 8,760 hours/year.

2. 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 no later than 90 days after this emissions unit has been brought up to a steady state, full production mode.
 - b. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division (Canton Local Air Agency.)
 - c. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for SO₂, VOC, CO, NO_x and PM/PM₁₀.

- d. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

<u>Pollutant</u>	<u>Test Methods</u>	<u>Location</u>
PM/PM ₁₀	Method 5	40 CFR Part 60 Appendix A
SO ₂	Method 6	40 CFR Part 60 Appendix A
NO _x	Method 7	40 CFR Part 60 Appendix A
CO	Method 10	40 CFR Part 60 Appendix A
VOC	Method 25/25A	40 CFR Part 60 Appendix A

- e. The parametric monitoring requirements established per Conditions III.1 and III.2 shall be checked during the emissions test.
- f. Sulfur content (and levels of other potential contaminants) shall be quantified in feed materials, particularly EAF dust and dried swarf. As practical, feed materials with differing sulfur contents shall be segregated for separate campaigns for sensitivity testing. If necessary, additional sulfur shall be added to EAFD for testing at worst case conditions (estimated to be 0.9%).
- g. The feed rates to the reactor of all materials shall be measured.
- h. Products produced during the testing period (magnetite and leady-zinc oxide) shall be collected and chemically analyzed.
- i. A sulfur dioxide emission test also shall be conducted at the inlet of the scrubber to determine the control efficiency of the scrubber.

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

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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).

F. Miscellaneous Requirements

1. None

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)
[Continued]**

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>	OAC rule 3745-17-07(A)(1)
Reactor No. 2 - Phase II with acid gas wet scrubber and a HEPA filter	OAC rule 3745-31-05	OAC rule 3745-17-11
MODIFICATION		OAC rule 3745-18-06(E)(2)
(This emissions unit consists of an active reactor furnace, a drop-out box, a quench chamber, an LZO collector, a HEPA filter, an I.D. fan, an acid gas wet scrubber, and a stack.)		

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November 24, 1999

Emissions Unit ID: P005

Applicable Emissions
Limitations/Control Measures

There shall be no visible emissions
from any stack.

PM/PM₁₀:

0.001 gr/ACFM;

0.07 pound/hour (based on an
airflow of 8,000 ACFM) and

0.31 ton/year

sulfur dioxide:

0.59 lb SO₂/hour and

2.6 tons SO₂/year

nitrogen oxides:

0.09 pound/hour and

0.4 ton/year

carbon monoxide:

0.04 pound/hour and

0.16 ton/year

volatile organic compounds:

0.02 pound/hour and

0.07 ton/year

BAT is more restrictive

BAT is more restrictive

BAT is more restrictive

2. Additional Terms and Conditions

2.a None

B. Operational Restrictions

1. The emissions from this emissions unit shall be vented to an Acid Gas Wet Scrubber and then to a HEPA Fabric Filter in series. The capture system shall achieve a minimum capture efficiency of 99% or better for both PM/PM₁₀ and SO₂ emissions. For PM/PM₁₀, the control efficiency of the combination of the Acid Gas Wet Scrubber and the HEPA Fabric Filter shall be sufficient enough to reduce PM/PM₁₀ emissions to no more than 0.001 gr/ACFM. For SO₂, the control efficiency of the Acid Gas Wet Scrubber shall be sufficient to reduce emissions to no more than 0.59 pound/hour of SO₂.
2. The pressure drop across the scrubber shall be continuously maintained at a value of not less than four inches of water nor more than five inches of water at all times while the emissions unit is in operation. Alternatively, the pressure drop across the scrubber shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
3. The pH of the scrubber liquor shall be maintained at or above 7. Alternatively, the pH of the scrubber liquor shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
4. The temperature of the scrubber liquor shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
5. The scrubber water flow rate shall be continuously maintained at a value of not less than the rate established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
6. For each day that shipments are received, the permittee shall collect a representative sample of the EAF dust (EAFD) received and analyze it for sulfur. The permittee shall maintain a three-day, rolling average of the sulfur quantity in the reactor feed. Feed rates of EAFD (or other sulfur bearing feed materials) shall be limited so that the total sulfur feed shall not allow the SO₂ hourly emissions limits to be exceeded, based on a daily average.
7. The pressure drop across the HEPA filter shall be maintained within the range of 1 to 3 inches of water while the emissions unit is in operation. Alternatively, the pressure drop across the HEPA filter shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the filter manufacturer.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate and maintain equipment to continuously monitor the static pressure drop across the scrubber, the pH and temperature of the scrubber liquor, and the water flow rate to the scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day that the emissions unit operates:

- a. The pH and temperature of the scrubber liquor, on a once/shift basis.
 - b. The pressure drop across the scrubber, in inches of water, on a once/shift basis.
 - c. The water flow rate, in gpm, to the scrubber on a once/shift basis.
 - d. The operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
2. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the HEPA filter while the emissions unit is in operation. The monitoring equipment shall be installed, 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 HEPA filter on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pH deviation (excursion) reports that identify all periods of time during which the scrubber liquor pH did not comply with the pH requirements specified above.
2. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the scrubber did not comply with the allowable range specified above.
3. The permittee shall submit temperature deviation (excursion) reports that identify all periods of time during which the temperature of the scrubber liquor did not comply with the allowable range specified above.
4. The permittee shall submit water flow deviation (excursion) reports that identify all periods of time during which the scrubber water flow rate was less than the amount specified above.
5. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the HEPA filter did not comply with the allowable range specified above.

- 6. All deviation (excursion) reports shall be submitted to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton Ohio 44702.

E. Testing Requirements

- 1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):

- a. **Emission Limitation**

- 0.001 gr/ACFM and 0.07 pound/hour of PM/PM₁₀

- Applicable Compliance Method**

- Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A.

- b. **Emission Limitation**

- 0.59 pound SO₂/hour

- Applicable Compliance Method**

- Initial compliance shall be demonstrated using Method 6, 40 CFR Part 60, Appendix A.

- c. **Emission Limitation**

- There shall be no visible particulate emissions from any stack.

- Applicable Compliance Method**

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

- If required, the permittee shall demonstrate with the above visible emissions limitation pursuant to OAC rule 3745-15-04(A).

- d. **Emission Limitation**

- 0.09 pound NO_x/hour

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Facility ID: **1576001868**

Emissions Unit ID: **P005**

Applicable Compliance Method

Compliance shall be demonstrated using Method 7, 40 CFR Part 60, Appendix A.

e. **Emission Limitation**

0.04 pound CO/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 10, 40 CFR Part 60, Appendix A.

f. **Emission Limitation**

0.02 pound VOC/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 25 or 25A, 40 CFR Part 60, Appendix A.

g. **Emission Limitation**

2.6 tons SO₂/year

0.31 ton PM/PM₁₀/year

0.4 ton NO_x/year

0.16 ton CO/year

0.07 ton VOC/year

Applicable Compliance Method

Multiply the hourly emission limit times 8,760 hours/year.

2. 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 no later than 90 days after this emissions unit has been brought up to a steady state, full production mode.
 - b. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division (Canton Local Air Agency.)
 - c. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for SO₂, VOC, CO, NO_x and PM/PM₁₀.

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Emissions Unit ID: **P005**

- d. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

<u>Pollutant</u>	<u>Test Methods</u>	<u>Location</u>
PM/PM ₁₀	Method 5	40 CFR Part 60 Appendix A
SO ₂	Method 6	40 CFR Part 60 Appendix A
NO _x	Method 7	40 CFR Part 60 Appendix A
CO	Method 10	40 CFR Part 60 Appendix A
VOC	Method 25/25A	40 CFR Part 60 Appendix A

- e. The parametric monitoring requirements established per Conditions III.1 and III.2 shall be checked during the emissions test.
- f. Sulfur content (and levels of other potential contaminants) shall be quantified in feed materials, particularly EAF dust and dried swarf. As practical, feed materials with differing sulfur contents shall be segregated for separate campaigns for sensitivity testing. If necessary, additional sulfur shall be added to EAFD for testing at worst case conditions (estimated to be 0.9%).
- g. The feed rates to the reactor of all materials shall be measured.
- h. Products produced during the testing period (magnetite and leady-zinc oxide) shall be collected and chemically analyzed.
- i. A sulfur dioxide emission test also shall be conducted at the inlet of the scrubber to determine the control efficiency of the scrubber.

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).

F. Miscellaneous Requirements

1. None

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)
 [Continued]**

A. Applicable Emissions Limitations and/or Control Requirements

- 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>
Reactor No. 3 - Phase II with acid gas wet scrubber and a HEPA filter MODIFICATION (This emissions unit consists of an active reactor furnace, a drop-out box, a quench chamber, an LZO collector, a HEPA filter, an I.D. fan, an acid gas wet scrubber, and a stack.)	OAC rule 3745-31-05	There shall be no visible emissions from any stack. PM/PM ₁₀ : 0.001 gr/ACFM; 0.07 pound/hour (based on an airflow of 8,000 ACFM) and 0.31 ton/year sulfur dioxide: 0.59 lb SO ₂ /hour and 2.6 tons SO ₂ /year nitrogen oxides: 0.09 pound/hour and 0.4 ton/year carbon monoxide: 0.04 pound/hour and 0.16 ton/year volatile organic compounds: 0.02 pound/hour and 0.07 ton/year
	OAC rule 3745-17-07(A)(1)	BAT is more restrictive
	OAC rule 3745-17-11	BAT is more restrictive
	OAC rule 3745-18-06(E)(2)	BAT is more restrictive

2. Additional Terms and Conditions

2.a None

B. Operational Restrictions

1. The emissions from this emissions unit shall be vented to an Acid Gas Wet Scrubber and then to a HEPA Fabric Filter in series. The capture system shall achieve a minimum capture efficiency of 99% or better for both PM/PM₁₀ and SO₂ emissions. For PM/PM₁₀, the control efficiency of the combination of the Acid Gas Wet Scrubber and the HEPA Fabric Filter shall be sufficient enough to reduce PM/PM₁₀ emissions to no more than 0.001 gr/ACFM. For SO₂, the control efficiency of the Acid Gas Wet Scrubber shall be sufficient to reduce emissions to no more than 0.59 pound/hour of SO₂.
2. The pressure drop across the scrubber shall be continuously maintained at a value of not less than four inches of water nor more than five inches of water at all times while the emissions unit is in operation. Alternatively, the pressure drop across the scrubber shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
3. The pH of the scrubber liquor shall be maintained at or above 7. Alternatively, the pH of the scrubber liquor shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
4. The temperature of the scrubber liquor shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
5. The scrubber water flow rate shall be continuously maintained at a value of not less than the rate established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
6. For each day that shipments are received, the permittee shall collect a representative sample of the EAF dust (EAFD) received and analyze it for sulfur. The permittee shall maintain a three-day, rolling average of the sulfur quantity in the reactor feed. Feed rates of EAFD (or other sulfur bearing feed materials) shall be limited so that the total sulfur feed shall not allow the SO₂ hourly emissions limits to be exceeded, based on a daily average.
7. The pressure drop across the HEPA filter shall be maintained within the range of 1 to 3 inches of

water while the emissions unit is in operation. Alternatively, the pressure drop across the HEPA filter shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the filter manufacturer.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate and maintain equipment to continuously monitor the static pressure drop across the scrubber, the pH and temperature of the scrubber liquor, and the water flow rate to the scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day that the emissions unit operates:

- a. The pH and temperature of the scrubber liquor, on a once/shift basis.
 - b. The pressure drop across the scrubber, in inches of water, on a once/shift basis.
 - c. The water flow rate, in gpm, to the scrubber on a once/shift basis.
 - d. The operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
2. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the HEPA filter while the emissions unit is in operation. The monitoring equipment shall be installed, 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 HEPA filter on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pH deviation (excursion) reports that identify all periods of time during which the scrubber liquor pH did not comply with the pH requirements specified above.
2. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the scrubber did not comply with the allowable range specified above.
3. The permittee shall submit temperature deviation (excursion) reports that identify all periods of time during which the temperature of the scrubber liquor did not comply with the allowable range specified above.
4. The permittee shall submit water flow deviation (excursion) reports that identify all periods of time during which the scrubber water flow rate was less than the amount specified above.
5. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the HEPA filter did not comply with the allowable range specified above.

6. All deviation (excursion) reports shall be submitted to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton Ohio 44702.

E. Testing Requirements

1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):

a. Emission Limitation

0.001 gr/ACFM and 0.07 pound/hour of PM/PM₁₀

Applicable Compliance Method

Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A.

b. Emission Limitation

0.59 pound SO₂/hour

Applicable Compliance Method

Initial compliance shall be demonstrated using Method 6, 40 CFR Part 60, Appendix A.

c. Emission Limitation

There shall be no visible particulate emissions from any stack.

Applicable Compliance Method

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

If required, the permittee shall demonstrate with the above visible emissions limitation pursuant to OAC rule 3745-15-04(A).

d. Emission Limitation

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Emissions Unit ID: **P006**

0.09 pound NO_x/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 7, 40 CFR Part 60, Appendix A.

e. **Emission Limitation**

0.04 pound CO/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 10, 40 CFR Part 60, Appendix A.

f. **Emission Limitation**

0.02 pound VOC/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 25 or 25A, 40 CFR Part 60, Appendix A.

g. **Emission Limitation**

2.6 tons SO₂/year

0.31 ton PM/PM₁₀/year

0.4 ton NO_x/year

0.16 ton CO/year

0.07 ton VOC/year

Applicable Compliance Method

Multiply the hourly emission limit times 8,760 hours/year.

2. 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 no later than 90 days after this emissions unit has been brought up to a steady state, full production mode.
 - b. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division (Canton Local Air Agency.)
 - c. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for SO₂, VOC, CO, NO_x and PM/PM₁₀.

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PTI Application: **15 1275**

Noven

Facility ID: **1576001868**

Emissions Unit ID: **P006**

- d. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

<u>Pollutant</u>	<u>Test Methods</u>	<u>Location</u>
PM/PM ₁₀	Method 5	40 CFR Part 60 Appendix A
SO ₂	Method 6	40 CFR Part 60 Appendix A
NO _x	Method 7	40 CFR Part 60 Appendix A
CO	Method 10	40 CFR Part 60 Appendix A
VOC	Method 25/25A	40 CFR Part 60 Appendix A

- e. The parametric monitoring requirements established per Conditions III.1 and III.2 shall be checked during the emissions test.
- f. Sulfur content (and levels of other potential contaminants) shall be quantified in feed materials, particularly EAF dust and dried swarf. As practical, feed materials with differing sulfur contents shall be segregated for separate campaigns for sensitivity testing. If necessary, additional sulfur shall be added to EAFD for testing at worst case conditions (estimated to be 0.9%).
- g. The feed rates to the reactor of all materials shall be measured.
- h. Products produced during the testing period (magnetite and leady-zinc oxide) shall be collected and chemically analyzed.
- i. A sulfur dioxide emission test also shall be conducted at the inlet of the scrubber to determine the control efficiency of the scrubber.

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).

F. Miscellaneous Requirements

1. None

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)
[Continued]**

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>	
		OAC rule 3745-17-07(A)(1)
		OAC rule 3745-17-11
Reactor No. 4 - Phase II with acid gas wet scrubber and a HEPA filter	OAC rule 3745-31-05	OAC rule 3745-18-06(E)(2)
MODIFICATION		
(This emissions unit consists of an active reactor furnace, a drop-out box, a quench chamber, an LZO collector, a HEPA filter, an I.D. fan, an acid gas wet scrubber, and a stack.)		

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Facility ID: **1576001868**

Emissions Unit ID: **P007**

**Applicable Emissions
Limitations/Control Measures**

There shall be no visible emissions from any stack.

PM/PM₁₀:

0.001 gr/ACFM;
0.07 pound/hour (based on an airflow of 8,000 ACFM) and
0.31 ton/year

sulfur dioxide:

0.59 lb SO₂/hour and
2.6 tons SO₂/year

nitrogen oxides:

0.09 pound/hour and
0.4 ton/year

carbon monoxide:

0.04 pound/hour and
0.16 ton/year

volatile organic compounds:

0.02 pound/hour and
0.07 ton/year

BAT is more restrictive

BAT is more restrictive

BAT is more restrictive

2. Additional Terms and Conditions

2.a None

B. Operational Restrictions

1. The emissions from this emissions unit shall be vented to an Acid Gas Wet Scrubber and then to a HEPA Fabric Filter in series. The capture system shall achieve a minimum capture efficiency of 99% or better for both PM/PM₁₀ and SO₂ emissions. For PM/PM₁₀, the control efficiency of the combination of the Acid Gas Wet Scrubber and the HEPA Fabric Filter shall be sufficient enough to reduce PM/PM₁₀ emissions to no more than 0.001 gr/ACFM. For SO₂, the control efficiency

- of the Acid Gas Wet Scrubber shall be sufficient to reduce emissions to no more than 0.59 pound/hour of SO₂ .
2. The pressure drop across the scrubber shall be continuously maintained at a value of not less than four inches of water nor more than five inches of water at all times while the emissions unit is in operation. Alternatively, the pressure drop across the scrubber shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
 3. The pH of the scrubber liquor shall be maintained at or above 7. Alternatively, the pH of the scrubber liquor shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
 4. The temperature of the scrubber liquor shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
 5. The scrubber water flow rate shall be continuously maintained at a value of not less than the rate established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
 6. For each day that shipments are received, the permittee shall collect a representative sample of the EAF dust (EAFD) received and analyze it for sulfur. The permittee shall maintain a three-day, rolling average of the sulfur quantity in the reactor feed. Feed rates of EAFD (or other sulfur bearing feed materials) shall be limited so that the total sulfur feed shall not allow the SO₂ hourly emissions limits to be exceeded, based on a daily average.
 7. The pressure drop across the HEPA filter shall be maintained within the range of 1 to 3 inches of water while the emissions unit is in operation. Alternatively, the pressure drop across the HEPA filter shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the filter manufacturer.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate and maintain equipment to continuously monitor the static pressure drop across the scrubber, the pH and temperature of the scrubber liquor, and the water flow rate to the scrubber while the emissions unit is in operation. The monitoring devices and

any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day that the emissions unit operates:

- a. The pH and temperature of the scrubber liquor, on a once/shift basis.
 - b. The pressure drop across the scrubber, in inches of water, on a once/shift basis.
 - c. The water flow rate, in gpm, to the scrubber on a once/shift basis.
 - d. The operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
2. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the HEPA filter while the emissions unit is in operation. The monitoring equipment shall be installed, 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 HEPA filter on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pH deviation (excursion) reports that identify all periods of time during which the scrubber liquor pH did not comply with the pH requirements specified above.
2. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the scrubber did not comply with the allowable range specified above.
3. The permittee shall submit temperature deviation (excursion) reports that identify all periods of time during which the temperature of the scrubber liquor did not comply with the allowable range specified above.
4. The permittee shall submit water flow deviation (excursion) reports that identify all periods of time during which the scrubber water flow rate was less than the amount specified above.
5. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the HEPA filter did not comply with the allowable range specified above.

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6. All deviation (excursion) reports shall be submitted to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton Ohio 44702.

E. Testing Requirements

1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):

- a. **Emission Limitation**

0.001 gr/ACFM and 0.07 pound/hour of PM/PM₁₀

Applicable Compliance Method

Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A.

- b. **Emission Limitation**

0.59 pound SO₂/hour

Applicable Compliance Method

Initial compliance shall be demonstrated using Method 6, 40 CFR Part 60, Appendix A.

- c. **Emission Limitation**

There shall be no visible particulate emissions from any stack.

Applicable Compliance Method

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

If required, the permittee shall demonstrate with the above visible emissions limitation pursuant to OAC rule 3745-15-04(A).

- d. **Emission Limitation**

0.09 pound NO_x/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 7, 40 CFR Part 60, Appendix A.

e. **Emission Limitation**

0.04 pound CO/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 10, 40 CFR Part 60, Appendix A.

f. **Emission Limitation**

0.02 pound VOC/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 25 or 25A, 40 CFR Part 60, Appendix A.

g. **Emission Limitation**

- 2.6 tons SO₂/year
- 0.31 ton PM/PM₁₀/year
- 0.4 ton NO_x/year
- 0.16 ton CO/year
- 0.07 ton VOC/year

Applicable Compliance Method

Multiply the hourly emission limit times 8,760 hours/year.

2. 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 no later than 90 days after this emissions unit has been brought up to a steady state, full production mode.
 - b. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division (Canton Local Air Agency.)
 - c. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for SO₂, VOC, CO, NO_x and PM/PM₁₀.

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Facility ID: **1576001868**

Emissions Unit ID: **P007**

- d. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

<u>Pollutant</u>	<u>Test Methods</u>	<u>Location</u>
PM/PM ₁₀	Method 5	40 CFR Part 60 Appendix A
SO ₂	Method 6	40 CFR Part60 Appendix A
NO _x	Method 7	40 CFR Part 60 Appendix A
	CO	Method 10 40 CFR Part 60 Appendix A
VOC	Method 25/25A	40 CFR Part 60 Appendix A

- e. The parametric monitoring requirements established per Conditions III.1 and III.2 shall be checked during the emissions test.
- f. Sulfur content (and levels of other potential contaminants) shall be quantified in feed materials, particularly EAF dust and dried swarf. As practical, feed materials with differing sulfur contents shall be segregated for separate campaigns for sensitivity testing. If necessary, additional sulfur shall be added to EAFD for testing at worst case conditions (estimated to be 0.9%).
- g. The feed rates to the reactor of all materials shall be measured.
- h. Products produced during the testing period (magnetite and leady-zinc oxide) shall be collected and chemically analyzed.
- i. A sulfur dioxide emission test also shall be conducted at the inlet of the scrubber to determine the control efficiency of the scrubber.

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).

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Emissions Unit ID: **P007**

F. Miscellaneous Requirements

1. None

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)
[Continued]**

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>
Reactor No. 5 - Phase II with acid gas wet scrubber and a HEPA filter	OAC rule 3745-17-07(A)(1) OAC rule 3745-17-11 OAC rule 3745-31-05 OAC rule 3745-18-06(E)(2)

MODIFICATION

(This emissions unit consists of an active reactor furnace, a drop-out box, a quench chamber, an LZO collector, a HEPA filter, an I.D. fan, an acid gas wet scrubber, and a stack.)

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Emissions Unit ID: P008

Applicable Emissions
Limitations/Control Measures

There shall be no visible emissions
from any stack.

PM/PM₁₀:

0.001 gr/ACFM;

0.07 pound/hour (based on an
airflow of 8,000 ACFM) and

0.31 ton/year

sulfur dioxide:

0.59 lb SO₂/hour and

2.6 tons SO₂/year

nitrogen oxides:

0.09 pound/hour and

0.4 ton/year

carbon monoxide:

0.04 pound/hour and

0.16 ton/year

volatile organic compounds:

0.02 pound/hour and

0.07 ton/year

BAT is more restrictive

BAT is more restrictive

BAT is more restrictive

2. Additional Terms and Conditions

2.a None

B. Operational Restrictions

1. The emissions from this emissions unit shall be vented to an Acid Gas Wet Scrubber and then to a HEPA Fabric Filter in series. The capture system shall achieve a minimum capture efficiency of 99% or better for both PM/PM₁₀ and SO₂ emissions. For PM/PM₁₀, the control efficiency of the combination of the Acid Gas Wet Scrubber and the HEPA Fabric Filter shall be sufficient enough to reduce PM/PM₁₀ emissions to no more than 0.001 gr/ACFM. For SO₂, the control efficiency of the Acid Gas Wet Scrubber shall be sufficient to reduce emissions to no more than 0.59 pound/hour of SO₂.
2. The pressure drop across the scrubber shall be continuously maintained at a value of not less than four inches of water nor more than five inches of water at all times while the emissions unit is in operation. Alternatively, the pressure drop across the scrubber shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
3. The pH of the scrubber liquor shall be maintained at or above 7. Alternatively, the pH of the scrubber liquor shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
4. The temperature of the scrubber liquor shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
5. The scrubber water flow rate shall be continuously maintained at a value of not less than the rate established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
6. For each day that shipments are received, the permittee shall collect a representative sample of the EAF dust (EAFD) received and analyze it for sulfur. The permittee shall maintain a three-day, rolling average of the sulfur quantity in the reactor feed. Feed rates of EAFD (or other sulfur bearing feed materials) shall be limited so that the total sulfur feed shall not allow the SO₂ hourly emissions limits to be exceeded, based on a daily average.
7. The pressure drop across the HEPA filter shall be maintained within the range of 1 to 3 inches of water while the emissions unit is in operation. Alternatively, the pressure drop across the HEPA filter shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the filter manufacturer.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate and maintain equipment to continuously monitor the static pressure drop across the scrubber, the pH and temperature of the scrubber liquor, and the water flow rate to the scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day that the emissions unit operates:

- a. The pH and temperature of the scrubber liquor, on a once/shift basis.
 - b. The pressure drop across the scrubber, in inches of water, on a once/shift basis.
 - c. The water flow rate, in gpm, to the scrubber on a once/shift basis.
 - d. The operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
2. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the HEPA filter while the emissions unit is in operation. The monitoring equipment shall be installed, 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 HEPA filter on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pH deviation (excursion) reports that identify all periods of time during which the scrubber liquor pH did not comply with the pH requirements specified above.
2. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the scrubber did not comply with the allowable range specified above.
3. The permittee shall submit temperature deviation (excursion) reports that identify all periods of time during which the temperature of the scrubber liquor did not comply with the allowable range specified above.
4. The permittee shall submit water flow deviation (excursion) reports that identify all periods of time during which the scrubber water flow rate was less than the amount specified above.
5. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the HEPA filter did not comply with the allowable range specified above.

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6. All deviation (excursion) reports shall be submitted to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton Ohio 44702.

E. Testing Requirements

1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):

- a. **Emission Limitation**

0.001 gr/ACFM and 0.07 pound/hour of PM/PM₁₀

Applicable Compliance Method

Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A.

- b. **Emission Limitation**

0.59 pound SO₂/hour

Applicable Compliance Method

Initial compliance shall be demonstrated using Method 6, 40 CFR Part 60, Appendix A.

- c. **Emission Limitation**

There shall be no visible particulate emissions from any stack.

Applicable Compliance Method

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

If required, the permittee shall demonstrate with the above visible emissions limitation pursuant to OAC rule 3745-15-04(A).

- d. **Emission Limitation**

0.09 pound NO_x/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 7, 40 CFR Part 60, Appendix A.

e. **Emission Limitation**

0.04 pound CO/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 10, 40 CFR Part 60, Appendix A.

f. **Emission Limitation**

0.02 pound VOC/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 25 or 25A, 40 CFR Part 60, Appendix A.

g. **Emission Limitation**

2.6 tons SO₂/year

0.31 ton PM/PM₁₀/year

0.4 ton NO_x/year

0.16 ton CO/year

0.07 ton VOC/year

Applicable Compliance Method

Multiply the hourly emission limit times 8,760 hours/year.

2. 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 no later than 90 days after this emissions unit has been brought up to a steady state, full production mode.
 - b. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division (Canton Local Air Agency.)
 - c. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for SO₂, VOC, CO, NO_x and PM/PM₁₀.

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- d. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

<u>Pollutant</u>	<u>Test Methods</u>	<u>Location</u>
PM/PM ₁₀	Method 5	40 CFR Part 60 Appendix A
SO ₂	Method 6	40 CFR Part60 Appendix A
NO _x	Method 7	40 CFR Part 60 Appendix A
	CO	Method 10 40 CFR Part 60 Appendix A
VOC	Method 25/25A	40 CFR Part 60 Appendix A

- e. The parametric monitoring requirements established per Conditions III.1 and III.2 shall be checked during the emissions test.
- f. Sulfur content (and levels of other potential contaminants) shall be quantified in feed materials, particularly EAF dust and dried swarf. As practical, feed materials with differing sulfur contents shall be segregated for separate campaigns for sensitivity testing. If necessary, additional sulfur shall be added to EAFD for testing at worst case conditions (estimated to be 0.9%).
- g. The feed rates to the reactor of all materials shall be measured.
- h. Products produced during the testing period (magnetite and leady-zinc oxide) shall be collected and chemically analyzed.
- i. A sulfur dioxide emission test also shall be conducted at the inlet of the scrubber to determine the control efficiency of the scrubber.

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

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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).

F. Miscellaneous Requirements

1. None

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PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S) [Continued]**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>
Product finishing Train No. 1 - Phase I + III with HEPA filters; atomize molten magnetite, shape, sort, grind and package magPEL products	OAC rule 3745-31-05	There shall be no visible particulate emissions from any stack.
MODIFICATION	OAC rule 3745-17-07	PM/PM ₁₀ : 0.14 pound/hour (based on an airflow 16,600 ACFM combined limit for 3 HEPA filters) and 0.62 ton/year
	OAC rule 3745-17-11	The control efficiency of each of the three HEPA fabric filters shall be sufficient enough to reduce PM/PM ₁₀ emissions to no more than 0.001 gr/ACFM
		BAT is more restrictive
		BAT is more restrictive

2. Additional Terms and Conditions

2.a None

B. Operational Restrictions

1. This emissions unit consists of an air atomizer and equipment for sizing, sorting, classifying, grinding (dry and wet), and packaging magPEL products.
2. The emissions from this emissions unit shall be vented through three HEPA Fabric Filters.
3. The pressure drop across each of the three HEPA filters servicing this emissions unit shall be maintained within the range of 1 to 3 inches of water while the emissions unit is in operation. Alternatively, the pressure drop across each of the three HEPA filters shall be maintained within a range established by one of the following three methods: 1) using the pressure drop readings observed during the most recent emissions test that demonstrated that the emissions unit was in compliance, 2) using the pressure drop readings observed during the most recent emissions test conducted on a similar emissions unit at this facility that demonstrated that this emissions unit was in compliance; or 3) using the recommendation by the filter manufacturer.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across each of the three HEPA filters servicing this emissions unit while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each of the three HEPA filters on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across any of the three HEPA filters did not comply with the allowable range specified above.
2. The permittee shall submit reports to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton, OH 44702.

E. Testing Requirements

1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):
 - a. **Emission Limitation**

PELtech1PTI Application: **15-1275****Noven**Facility ID: **1576001868**Emissions Unit ID: **P009**0.001 gr/ACFM, 0.14 pound/hour of PM/PM₁₀**Applicable Compliance Method**

Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A. This permit has no requirement for testing.

b. Emission Limitation

There shall be no visible particulate emissions from any stack.

Applicable Compliance Method

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

If required, the permittee shall demonstrate with the above visible emissions limitation pursuant to OAC rule 3745-15-04(A).

c. Emission Limitation

0.62 ton PM/PM₁₀/yr

Applicable Compliance Method

Multiply the hourly allowable times 8,760.

F. Miscellaneous Requirements

1. None

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PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S) [Continued]**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>
Product finishing for Phase IA with HEPA filter; atomize molten magnetite, shape, sort, grind and package magPEL products	OAC rule 3745-31-05	There shall be no visible particulate emissions from any stack.
MODIFICATION		PM/PM ₁₀ : 0.001 gr/ACFM; 0.018 pound/hour (based on 2,100 ACFM airflow); and 0.08 ton/year
	OAC rule 3745-17-07(A)(1)	
	OAC rule 3745-17-11	BAT is more restrictive BAT is more restrictive

2. Additional Terms and Conditions

- 2.a None

B. Operational Restrictions

1. This emissions unit consists of an air atomizer and equipment for sizing, sorting, classifying, grinding (dry and wet), and packaging magPEL products.
2. The emissions from this emissions unit shall be vented through a HEPA Fabric Filter.

3. The pressure drop across the HEPA filter servicing this emissions unit shall be maintained within the range of 1 to 3 inches of water while the emissions unit is in operation. Alternatively, the pressure drop across the HEPA filter shall be maintained within a range established range established by one of the following three methods: 1) using the pressure drop readings observed during the most recent emissions test that demonstrated that the emissions unit was in compliance, 2) using the pressure drop readings observed during the most recent emissions test conducted on a similar emissions unit at this facility that demonstrated that this emissions unit was in compliance; or 3) using the recommendation by the filter manufacturer.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the HEPA filter servicing this emissions unit while the emissions unit is in operation. The monitoring equipment shall be installed, 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 HEPA filter on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across any of the three HEPA filters did not comply with the allowable range specified above.
2. The permittee shall submit reports to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton, OH 44702.

E. Testing Requirements

1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):

a. Emission Limitation

0.001 gr/ACFM, 0.018 pound PM/PM₁₀/hr

Applicable Compliance Method

Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A. This permit has no requirement for testing.

PELtech1PTI Application: **15-1275****Noven**Facility ID: **1576001868**Emissions Unit ID: **P010****b. Emission Limitation**

There shall be no visible particulate emissions from any stack.

Applicable Compliance Method

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

If required, the permittee shall demonstrate with the above visible emissions limitation pursuant to OAC rule 3745-15-04(A).

c. Emission Limitation

0.08 ton PM/PM₁₀/yr

Applicable Compliance Method

Multiply the hourly allowable times 8,760.

F. Miscellaneous Requirements

1. None

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Emissions Unit ID: P011

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S) [Continued]**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>
Product finishing Train No. 2 - Phase I + III with HEPA filters; atomize molten magnetite, shape, sort, grind and package magPEL products	OAC rule 3745-31-05	There shall be no visible particulate emissions from any stack.
MODIFICATION	OAC rule 3745-17-07	PM/PM ₁₀ : 0.14 pound/hour (based on an airflow 16,600 ACFM combined limit for 3 HEPA filters) and 0.62 ton/year
	OAC rule 3745-17-11	The control efficiency of each of the three HEPA fabric filters shall be sufficient enough to reduce PM/PM ₁₀ emissions to no more than 0.001 gr/ACFM
		BAT is more restrictive
		BAT is more restrictive

2. Additional Terms and Conditions

2.a None

B. Operational Restrictions

1. This emissions unit consists of an air atomizer and equipment for sizing, sorting, classifying, grinding (dry and wet), and packaging magPEL products.
2. The emissions from this emissions unit shall be vented through three HEPA Fabric Filters.
3. The pressure drop across each of the three HEPA filters servicing this emissions unit shall be maintained within the range of 1 to 3 inches of water while the emissions unit is in operation. Alternatively, the pressure drop across each of the three HEPA filters shall be maintained within a range established by one of the following three methods: 1) using the pressure drop readings observed during the most recent emissions test that demonstrated that the emissions unit was in compliance, 2) using the pressure drop readings observed during the most recent emissions test conducted on a similar emissions unit at this facility that demonstrated that this emissions unit was in compliance; or 3) using the recommendation by the filter manufacturer.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across each of the three HEPA filters servicing this emissions unit while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each of the three HEPA filters on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across any of the three HEPA filters did not comply with the allowable range specified above.
2. The permittee shall submit reports to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton, OH 44702.

E. Testing Requirements

1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):
 - a. **Emission Limitation**
0.001 gr/ACFM, 0.14 pound/hour of PM/PM₁₀

PELtech1PTI Application: **15-1275****Noven**Facility ID: **1576001868**Emissions Unit ID: **P011****Applicable Compliance Method**

Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A. This permit has no requirement for testing.

b. Emission Limitation

There shall be no visible particulate emissions from any stack.

Applicable Compliance Method

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

If required, the permittee shall demonstrate with the above visible emissions limitation pursuant to OAC rule 3745-15-04(A).

c. Emission Limitation

0.62 ton PM/PM₁₀/yr

Applicable Compliance Method

Multiply the hourly allowable times 8,760.

F. Miscellaneous Requirements

1. None

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S) [Continued]**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>
No. 1 Product finishing - Phase II with HEPA filters; atomize molten magnetite, shape, sort, grind and package magPEL products	OAC rule 3745-31-05	There shall be no visible particulate emissions from any stack.
MODIFICATION	OAC rule 3745-17-07	PM/PM ₁₀ : 0.14 pound/hour (based on an airflow of 16,600 ACFM) and 0.62 ton/year
	OAC rule 3745-17-11	The control efficiency of each of the three HEPA fabric filters shall be sufficient enough to reduce PM/PM ₁₀ emissions to no more than 0.001 gr/ACFM.
		BAT is more restrictive
		BAT is more restrictive

2. Additional Terms and Conditions

2.a None

B. Operational Restrictions

1. This emissions unit consists of an air atomizer and equipment for sizing, sorting, classifying,

grinding (dry and wet), and packaging magPEL products.

2. The emissions from this emissions unit shall be vented through HEPA Fabric Filters.
3. The pressure drop across each of the three HEPA filters servicing this emissions unit shall be maintained within the range of 1 to 3 inches of water while the emissions unit is in operation. Alternatively, the pressure drop across each of the three HEPA filters shall be maintained within a range established by one of the following three methods: 1) using the pressure drop readings observed during the most recent emissions test that demonstrated that the emissions unit was in compliance, 2) using the pressure drop readings observed during the most recent emissions test conducted on a similar emissions unit at this facility that demonstrated that this emissions unit was in compliance; or 3) using the recommendation by the filter manufacturer.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across each of the three HEPA filters servicing this emissions unit while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each of the three HEPA filters on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across any of the three HEPA filters did not comply with the allowable range specified above.
2. The permittee shall submit reports to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton, OH 44702.

E. Testing Requirements

1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):

a. **Emission Limitation**

0.001 gr/ACFM, 0.14 pound/hour

Applicable Compliance Method

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Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A. This permit has no requirement for testing.

b. Emission Limitation

There shall be no visible particulate emissions from any stack.

Applicable Compliance Method

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

If required, the permittee shall demonstrate with the above visible emissions limitation pursuant to OAC rule 3745-15-04(A).

c. Emission Limitation

0.62 ton PM/PM₁₀/yr

Applicable Compliance Method

Multiply the hourly allowable times 8,760.

F. Miscellaneous Requirements

1. None

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

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>
No. 2 Product finishing - Phase II with HEPA filters; atomize molten magnetite, shape, sort, grind and package magPEL products MODIFICATION	OAC rule 3745-31-05	There shall be no visible particulate emissions from any stack. PM/PM ₁₀ : 0.14 pound/hour (based on an airflow of 16,600 ACFM) and 0.62 ton/year The control efficiency of each of the three HEPA fabric filters shall be sufficient enough to reduce PM/PM ₁₀ emissions to no more than 0.001 gr/ACFM.
	OAC rule 3745-17-07	BAT is more restrictive.
	OAC rule 3745-17-11	BAT is more restrictive.

2. Additional Terms and Conditions

2.a None

B. Operational Restrictions

1. This emissions unit consists of an air atomizer and equipment for sizing, sorting, classifying, grinding (dry and wet), and packaging magPEL products.
2. The emissions from this emissions unit shall be vented through HEPA Fabric Filters.
3. The pressure drop across each of the three HEPA filters servicing this emissions unit shall be maintained within the range of 1 to 3 inches of water while the emissions unit is in operation. Alternatively, the pressure drop across each of the three HEPA filters shall be maintained within a range established range established by one of the following three methods: 1) using the pressure drop readings observed during the most recent emissions test that demonstrated that the emissions unit was in compliance, 2) using the pressure drop readings observed during the most recent emissions test conducted on a similar emissions unit at this facility that demonstrated that this emissions unit was in compliance; or 3) using the recommendation by the filter manufacturer.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across each of the three HEPA filters servicing this emissions unit while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each of the three HEPA filters on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across any of the three HEPA filters did not comply with the allowable range specified above.
2. The permittee shall submit reports to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton, OH 44702.

E. Testing Requirements

1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):

a. Emission Limitation

0.001 gr/ACFM, 0.14 pound/hour

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Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A. This permit has no requirement for testing.

b. Emission Limitation

There shall be no visible particulate emissions from any stack.

Applicable Compliance Method

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

If required, the permittee shall demonstrate with the above visible emissions limitation pursuant to OAC rule 3745-15-04(A).

c. Emission Limitation

0.62 ton PM/PM₁₀/yr

Applicable Compliance Method

Multiply the hourly allowable times 8,760.

F. Miscellaneous Requirements

1. None

**PART II - SPEC
 IAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S) [Continued]**

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	<u>Applicable Rules/Requirements</u>	OAC rule 3745-17-11
No. 3 Product finishing - Phase II with HEPA filters; atomize molten magnetite, shape, sort, grind and package magPEL products	OAC rule 3745-31-05	
MODIFICATION		
	OAC rule 3745-17-07	

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Applicable Emissions
Limitations/Control Measures

There shall be no visible particulate emissions from any stack.

PM/PM₁₀:

0.14 pound/hour

(based on an airflow of 16,600 ACFM) and

0.62 ton/year

The control efficiency of each of the three HEPA fabric filters shall be sufficient enough to reduce PM/PM₁₀ emissions to no more than 0.001 gr/ACFM.

BAT is more restrictive.

BAT is more restrictive.

2. Additional Terms and Conditions

2.a None

B. Operational Restrictions

1. This emissions unit consists of an air atomizer and equipment for sizing, sorting, classifying, grinding (dry and wet), and packaging magPEL products.
2. The emissions from this emissions unit shall be vented through HEPA Fabric Filters.
3. The pressure drop across each of the three HEPA filters servicing this emissions unit shall be maintained within the range of 1 to 3 inches of water while the emissions unit is in operation. Alternatively, the pressure drop across each of the three HEPA filters shall be maintained within a range established range established_ by one of the following three methods: 1) using the pressure drop readings observed during the most recent emissions test that demonstrated that the emissions unit was in compliance, 2) using the pressure drop readings observed during the most recent

emissions test conducted on a similar emissions unit at this facility that demonstrated that this emissions unit was in compliance; or 3) using the recommendation by the filter manufacturer.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across each of the three HEPA filters servicing this emissions unit while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each of the three HEPA filters on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across any of the three HEPA filters did not comply with the allowable range specified above.
2. The permittee shall submit reports to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton, OH 44702.

E. Testing Requirements

1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):

- a. **Emission Limitation**

0.001 gr/ACFM, 0.14 pound/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A. This permit has no requirement for testing.

- b. **Emission Limitation**

There shall be no visible particulate emissions from any stack.

Applicable Compliance Method

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

If required, the permittee shall demonstrate with the above visible emissions limitation pursuant to OAC rule 3745-15-04(A).

c. Emission Limitation

0.62 ton PM/PM₁₀/yr

Applicable Compliance Method

Multiply the hourly allowable times 8,760.

F. Miscellaneous Requirements

1. None

**PART II - SPECIAL TE
 RMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S) [Continued]**

A. Applicable Emissions Limitations and/or Control Requirements

- 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>
No. 4 Product finishing - Phase II with HEPA filters; atomize molten magnetite, shape, sort, grind and package magPEL products	OAC rule 3745-31-05	There shall be no visible particulate emissions from any stack. PM/PM ₁₀ : 0.14 pound/hour (based on an airflow of 16,600 ACFM) and 0.62 ton/year The control efficiency of each of the three HEPA fabric filters shall be sufficient enough to reduce PM/PM ₁₀ emissions to no more than 0.001 gr/ACFM.
MODIFICATION	OAC rule 3745-17-07	BAT is more restrictive
	OAC rule 3745-17-11	BAT is more restrictive

2. Additional Terms and Conditions

2.a None

B. Operational Restrictions

1. This emissions unit consists of an air atomizer and equipment for sizing, sorting, classifying, grinding (dry and wet), and packaging magPEL products.
2. The emissions from this emissions unit shall be vented through HEPA Fabric Filters.
3. The pressure drop across each of the three HEPA filters servicing this emissions unit shall be maintained within the range of 1 to 3 inches of water while the emissions unit is in operation. Alternatively, the pressure drop across each of the three HEPA filters shall be maintained within a range established range established by one of the following three methods: 1) using the pressure drop readings observed during the most recent emissions test that demonstrated that the emissions unit was in compliance, 2) using the pressure drop readings observed during the most recent emissions test conducted on a similar emissions unit at this facility that demonstrated that this emissions unit was in compliance; or 3) using the recommendation by the filter manufacturer.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across each of the three HEPA filters servicing this emissions unit while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each of the three HEPA filters on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across any of the three HEPA filters did not comply with the allowable range specified above.
2. The permittee shall submit reports to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton, OH 44702.

E. Testing Requirements

1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):

a. Emission Limitation

0.001 gr/ACFM, 0.14 pound/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A. This permit has no requirement for testing.

b. Emission Limitation

There shall be no visible particulate emissions from any stack.

Applicable Compliance Method

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

If required, the permittee shall demonstrate with the above visible emissions limitation pursuant to OAC rule 3745-15-04(A).

c. Emission Limitation

0.62 ton PM/PM₁₀/yr

Applicable Compliance Method

Multiply the hourly allowable times 8,760.

F. Miscellaneous Requirements

1. None

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

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>
No. 5 Product finishing - Phase II with HEPA filters; atomize molten magnetite, shape, sort, grind and package magPEL products MODIFICATION	OAC rule 3745-31-05	There shall be no visible particulate emissions from any stack. PM/PM ₁₀ : 0.14 pound/hour (based on an airflow of 16,600 ACFM) and 0.62 ton/year The control efficiency of each of the three HEPA fabric filters shall be sufficient enough to reduce PM/PM ₁₀ emissions to no more than 0.001 gr/ACFM.
	OAC rule 3745-17-07	BAT is more restrictive
	OAC rule 3745-17-11	BAT is more restrictive

2. **Additional Terms and Conditions**

- 2.a None

B. Operational Restrictions

1. This emissions unit consists of an air atomizer and equipment for sizing, sorting, classifying, grinding (dry and wet), and packaging magPEL products.
2. The emissions from this emissions unit shall be vented through HEPA Fabric Filters.
3. The pressure drop across each of the three HEPA filters servicing this emissions unit shall be maintained within the range of 1 to 3 inches of water while the emissions unit is in operation. Alternatively, the pressure drop across each of the three HEPA filters shall be maintained within a range established by one of the following three methods: 1) using the pressure drop readings observed during the most recent emissions test that demonstrated that the emissions unit was in compliance, 2) using the pressure drop readings observed during the most recent emissions test conducted on a similar emissions unit at this facility that demonstrated that this emissions unit was in compliance; or 3) using the recommendation by the filter manufacturer.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across each of the three HEPA filters servicing this emissions unit while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each of the three HEPA filters on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across any of the three HEPA filters did not comply with the allowable range specified above.
2. The permittee shall submit reports to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton, OH 44702.

E. Testing Requirements

1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):

a. Emission Limitation

0.001 gr/ACFM, 0.14 pound/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A. This permit has no requirement for testing.

b. Emission Limitation

There shall be no visible particulate emissions from any stack.

Applicable Compliance Method

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

If required, the permittee shall demonstrate with the above visible emissions limitation pursuant to OAC rule 3745-15-04(A).

c. Emission Limitation

0.62 ton PM/PM₁₀/yr

Applicable Compliance Method

Multiply the hourly allowable times 8,760.

F. Miscellaneous Requirements

1. None

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

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>	
		OAC rule 3745-17-07(A)(1)
		OAC rule 3745-17-11
Secondary swarf processing with HEPA filter Phase I + III (Remove remaining liquids from grinding swarf that has already been deliquified by mechanical compression.)	OAC rule 3745-31-05	OAC rule 3745-18-06(E)(2)
MODIFICATION		

Applicable Emissions
Limitations/Control Measures

There shall be no visible particulate emissions from any stack.

sulfur dioxide:

0.77 pound SO₂/hour and
3.37 tons SO₂/year

PM/PM₁₀:

0.001 gr/ACFM;
0.034 pound/hour
(based on a airflow of 4,000
ACFM) and
0.15 ton/year

nitrogen oxides:

0.4 pound/hour and
1.75 tons/year

carbon monoxide:

0.11 pound/hour and
0.47 ton/year

volatile organic compounds:

0.96 pound/hour and
4.2 tons/year

BAT is more restrictive

BAT is more restrictive

BAT is more restrictive

2. Additional Terms and Conditions

2.a None

B. Operational Restrictions

1. The emissions from this emissions unit shall be vented through a HEPA Fabric Filter.
2. The pressure drop across the HEPA filter servicing this emissions unit shall be maintained within the range of 1 to 3 inches of water while the emissions unit is in operation. Alternatively, the pressure drop across the HEPA filter shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the filter manufacturer.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the HEPA filter servicing this emissions unit while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each of the three HEPA filters on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the HEPA filter did not comply with the allowable range specified above.
2. The permittee shall submit reports to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton, OH 44702.

E. Testing Requirements

1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):

a. Emission Limitation

0.001 gr/ACFM, 0.034 pound PM/PM₁₀/hr

Applicable Compliance Method

Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A.

b. Emission Limitation

There shall be no visible particulate emissions from any stack.

Applicable Compliance Method

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

If required, the permittee shall demonstrate with the above visible emissions limitation pursuant to OAC rule 3745-15-04(A).

c. Emission Limitation

0.77 pound SO₂/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 6, 40 CFR Part 60, Appendix A.

d. Emission Limitation

0.95 pound NO_x/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 7, 40 CFR Part 60, Appendix A.

e. Emission Limitation

0.11 pound/hour of CO

Applicable Compliance Method

Compliance shall be demonstrated using Method 10, 40 CFR Part 60, Appendix A.

f. Emission Limitation

0.96 pound/hour of VOC

Applicable Compliance Method

Compliance shall be demonstrated using Method 25/25A, 40 CFR Part 60, Appendix A.

g. Emission Limitation

1.75 tons NO_x/yr
 0.47 ton CO/yr
 4.2 tons VOC/yr
 0.15 ton PM/PM₁₀/yr
 3.37 tons SO₂/yr

Applicable Compliance Method

Multiply the hourly allowable times 8,760.

2. 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 no later than 90 days after this emissions unit has been brought up to a steady state, full production mode.
 - b. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division (Canton Local Air Agency.)
 - c. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for SO₂, VOC, CO, NO_x and PM/PM₁₀.
 - d. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

<u>Pollutant Test Methods</u>	<u>Location</u>
PM/PM ₁₀ Method 5	40 CFR Part 60 Appendix A
SO ₂ Method 6	40 CFR Part 60 Appendix A
NO _x Method 7	40 CFR Part 60 Appendix A
CO	Method 10 40 CFR Part 60 Appendix A
VOC Method 25/25A	40 CFR Part 60 Appendix A

- e. The parametric monitoring requirements established per Conditions III.1 shall be checked during the emissions test.
- f. Sulfur content (and levels of other potential contaminants) shall be quantified in feed materials. As practical, feed materials with differing sulfur contents shall be segregated for separate campaigns for sensitivity testing.
- g. The feed rates to this emissions unit of all materials shall be measured.
- 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).

F. Miscellaneous Requirements

- 1. None

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

A. Applicable Emissions Limitations and/or Control Requirements

- 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>
Secondary swarf processing with HEPA filter SCAP Center (Remove remaining liquids from grinding swarf that has already been deliquified by mechanical compression.)	OAC rule 3745-31-05	There shall be no visible particulate emissions from any stack. sulfur dioxide: 2.19 lbs SO ₂ /hour and 9.6 tons SO ₂ /year PM/PM ₁₀ : 0.001 gr/ACFM; 0.034 pound/hour (based on a airflow of 4,000 ACFM) and 0.15 ton/year nitrogen oxides: 0.95 pound/hour and 4.17 tons/year carbon monoxide: 0.26 pound/hour and 1.13 tons/year volatile organic compounds: 2.74 pounds/hour and 12 tons/year
MODIFICATION	OAC rule 3745-17-07(A)(1)	BAT is more restrictive
	OAC rule 3745-17-11	BAT is more restrictive
	OAC rule 3745-18-06(E)(2)	BAT is more restrictive

2. Additional Terms and Conditions**2.a** None**B. Operational Restrictions**

1. The emissions from this emissions unit shall be vented through a HEPA Fabric Filter.
2. The pressure drop across each of the HEPA filter servicing this emissions unit shall be maintained within the range of 1 to 3 inches of water while the emissions unit is in operation. Alternatively, the pressure drop across the HEPA filter shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the filter manufacturer.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the HEPA filters servicing this emissions unit while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each of the three HEPA filters on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the HEPA filter did not comply with the allowable range specified above.
2. The permittee shall submit reports to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton, OH 44702.

E. Testing Requirements

1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):

a. Emission Limitation

0.001 gr/ACFM, 0.034 lb PM/PM₁₀/hr

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PELte

PTI A₁

November 24, 1999

Emissions Unit ID: **P018**

Applicable Compliance Method

Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A.

b. Emission Limitation

There shall be no visible particulate emissions from any stack.

Applicable Compliance Method

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

If required, the permittee shall demonstrate with the above visible emissions limitation pursuant to OAC rule 3745-15-04(A).

c. Emission Limitation

2.19 pounds SO₂/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 6, 40 CFR Part 60, Appendix A.

d. Emission Limitation

0.95 pound NO_x/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 7, 40 CFR Part 60, Appendix A.

e. Emission Limitation

0.26 pound/hour of CO

Applicable Compliance Method

Compliance shall be demonstrated using Method 10, 40 CFR Part 60, Appendix A.

f. Emission Limitation

2.74 pounds/hour of VOC

119

PELtech1

PTI Application: **15 1275**

Noven

Facility ID: **1576001868**

Emissions Unit ID: **P018**

Applicable Compliance Method

Compliance shall be demonstrated using Method 25/25A, 40 CFR Part 60, Appendix A.

g. Emission Limitation

9.6 tons SO₂/yr
 0.15 ton PM/PM₁₀/yr
 4.17 tons NO_x/yr
 1.13 tons CO/yr
 12 tons VOC/yr

Applicable Compliance Method

Multiply the hourly allowable times 8,760.

2. 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 no later than 90 days after this emissions unit has been brought up to a steady state, full production mode.
 - b. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division (Canton Local Air Agency.)
 - c. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for SO₂, VOC, CO, NO_x and PM/PM₁₀.
 - d. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

<u>Pollutant</u>	<u>Test Methods</u>	<u>Location</u>
PM/PM ₁₀	Method 5	40 CFR Part 60 Appendix A
SO ₂	Method 6	40 CFR Part60 Appendix A
NO _x	Method 7	40 CFR Part 60 Appendix A
	CO	Method 10 40 CFR Part 60 Appendix A
VOC	Method 25/25A	40 CFR Part 60 Appendix A

- e. The parametric monitoring requirements established per Conditions III.1 shall be checked during the emissions test.
- f. Sulfur content (and levels of other potential contaminants) shall be quantified in feed materials. As practical, feed materials with differing sulfur contents shall be segregated for separate campaigns for sensitivity testing.
- g. The feed rates to this emissions unit of all materials shall be measured.
- 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).

F. Miscellaneous Requirements

- 1. None

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

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>
Reactor No. 6 - Phase II with acid gas wet scrubber and a HEPA filter (This emissions unit consists of an active reactor furnace, a drop-out box, a quench chamber, an LZO collector, a HEPA filter, an I.D. fan, an acid gas wet scrubber, and a stack.)	OAC rule 3745-17-11 OAC rule 3745-18-06(E)(2)
	OAC rule 3745-17-07(A)(1)

Applicable Emissions Limitations/Control Measures

There shall be no visible emissions from any stack.

PM/PM₁₀:
0.001 gr/ACFM;
0.07 pound/hour (based on an airflow of 8,000 ACFM) and
0.31 ton/year

sulfur dioxide:
0.59 lb SO₂/hour and
2.6 tons SO₂/year

nitrogen oxides:
0.09 pound/hour and
0.4 ton/year

carbon monoxide:
0.04 pound/hour and
0.16 ton/year

volatile organic compounds:
0.02 pound/hour and
0.07 ton/year

BAT is more restrictive

BAT is more restrictive

BAT is more restrictive

2. Additional Terms and Conditions

2.a None

B. Operational Restrictions

1. The emissions from this emissions unit shall be vented to an Acid Gas Wet Scrubber and then to a HEPA Fabric Filter in series. The capture system shall achieve a minimum capture efficiency of 99% or better for both PM/PM₁₀ and SO₂ emissions. For PM/PM₁₀, the control efficiency of the combination of the Acid Gas Wet Scrubber and the HEPA Fabric Filter shall be sufficient enough to reduce PM/PM₁₀ emissions to no more than 0.001 gr/ACFM. For SO₂, the control efficiency

- of the Acid Gas Wet Scrubber shall be sufficient to reduce emissions to no more than 0.59 pound/hour of SO₂ .
2. The pressure drop across the scrubber shall be continuously maintained at a value of not less than four inches of water nor more than five inches of water at all times while the emissions unit is in operation. Alternatively, the pressure drop across the scrubber shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
 3. The pH of the scrubber liquor shall be maintained at or above 7. Alternatively, the pH of the scrubber liquor shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
 4. The temperature of the scrubber liquor shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
 5. The scrubber water flow rate shall be continuously maintained at a value of not less than the rate established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
 6. For each day that shipments are received, the permittee shall collect a representative sample of the EAF dust (EAFD) received and analyze it for sulfur. The permittee shall maintain a three-day, rolling average of the sulfur quantity in the reactor feed. Feed rates of EAFD (or other sulfur bearing feed materials) shall be limited so that the total sulfur feed shall not allow the SO₂ hourly emissions limits to be exceeded, based on a daily average.
 7. The pressure drop across the HEPA filter shall be maintained within the range of 1 to 3 inches of water while the emissions unit is in operation. Alternatively, the pressure drop across the HEPA filter shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the filter manufacturer.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate and maintain equipment to continuously monitor the static pressure drop across the scrubber, the pH and temperature of the scrubber liquor, and the water flow rate to the scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day that the emissions unit operates:

- a. The pH and temperature of the scrubber liquor, on a once/shift basis.
 - b. The pressure drop across the scrubber, in inches of water, on a once/shift basis.
 - c. The water flow rate, in gpm, to the scrubber on a once/shift basis.
 - d. The operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
2. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the HEPA filter while the emissions unit is in operation. The monitoring equipment shall be installed, 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 HEPA filter on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pH deviation (excursion) reports that identify all periods of time during which the scrubber liquor pH did not comply with the pH requirements specified above.
2. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the scrubber did not comply with the allowable range specified above.
3. The permittee shall submit temperature deviation (excursion) reports that identify all periods of time during which the temperature of the scrubber liquor did not comply with the allowable range specified above.
4. The permittee shall submit water flow deviation (excursion) reports that identify all periods of

time during which the scrubber water flow rate was less than the amount specified above.

5. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the HEPA filter did not comply with the allowable range specified above.
6. All deviation (excursion) reports shall be submitted to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton Ohio 44702.

E. Testing Requirements

1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):

a. **Emission Limitation**

0.001 gr/ACFM and 0.07 pound/hour of PM/PM₁₀

Applicable Compliance Method

Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A.

b. **Emission Limitation**

0.59 pound SO₂/hour

Applicable Compliance Method

Initial compliance shall be demonstrated using Method 6, 40 CFR Part 60, Appendix A.

c. **Emission Limitation**

There shall be no visible particulate emissions from any stack.

Applicable Compliance Method

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

If required, the permittee shall demonstrate with the above visible emissions limitation pursuant to OAC rule 3745-15-04(A).

d. **Emission Limitation**

0.09 pound NO_x/hour

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PELte

PTI A₁

November 24, 1999

Emissions Unit ID: **P019**

Applicable Compliance Method

Compliance shall be demonstrated using Method 7, 40 CFR Part 60, Appendix A.

e. **Emission Limitation**

0.04 pound CO/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 10, 40 CFR Part 60, Appendix A.

f. **Emission Limitation**

0.02 pound VOC/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 25 or 25A, 40 CFR Part 60, Appendix A.

g. **Emission Limitation**

2.6 tons SO₂/year

0.31 ton PM/PM₁₀/year

0.4 ton NO_x/year

0.16 ton CO/year

0.07 ton VOC/year

Applicable Compliance Method

Multiply the hourly emission limit times 8,760 hours/year.

2. 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 no later than 90 days after this emissions unit has been brought up to a steady state, full production mode.
 - b. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division (Canton Local Air Agency.)
 - c. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for SO₂, VOC, CO, NO_x and PM/PM₁₀.

- d. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

<u>Pollutant Test Methods</u>		<u>Location</u>
PM/PM ₁₀	Method 5	40 CFR Part 60 Appendix A
SO ₂	Method 6	40 CFR Part60 Appendix A
NO _x	Method 7	40 CFR Part 60 Appendix A
	CO	Method 10 40 CFR Part 60 Appendix A
VOC	Method 25/25A	40 CFR Part 60 Appendix A

- e. The parametric monitoring requirements established per Conditions III.1 shall be checked during the emissions test.
- f. Sulfur content (and levels of other potential contaminants) shall be quantified in feed materials. As practical, feed materials with differing sulfur contents shall be segregated for separate campaigns for sensitivity testing.
- g. The feed rates to this emissions unit of all materials shall be measured.
- 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).

F. Miscellaneous Requirements

- 1. None

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

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>
No. 6 Product finishing - Phase II with HEPA filters; atomize molten magnetite, shape, sort, grind and package magPEL products	OAC rule 3745-31-05	<p>There shall be no visible particulate emissions from any stack.</p> <p>PM/PM₁₀: 0.14 pound/hour (based on an airflow of 16,600 ACFM) and 0.62 ton/year</p> <p>The control efficiency of each of the three HEPA fabric filters shall be sufficient enough to reduce PM/PM₁₀ emissions to no more than 0.001 gr/ACFM.</p> <p>BAT is more restrictive</p> <p>BAT is more restrictive</p>

2. **Additional Terms and Conditions**

- 2.a None

B. Operational Restrictions

1. This emissions unit consists of an air atomizer and equipment for sizing, sorting, classifying, grinding (dry and wet), and packaging magPEL products.
2. The emissions from this emissions unit shall be vented through HEPA Fabric Filters.
3. The pressure drop across each of the three HEPA filters servicing this emissions unit shall be maintained within the range of 1 to 3 inches of water while the emissions unit is in operation. Alternatively, the pressure drop across each of the three HEPA filters shall be maintained within a range established either by one of the following three methods: 1) using the pressure drop readings observed during the most recent emissions test that demonstrated that the emissions unit was in compliance, 2) using the pressure drop readings observed during the most recent emissions test conducted on a similar emissions unit at this facility that demonstrated that this emissions unit was in compliance; or 3) using the recommendation by the filter manufacturer.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across each of the three HEPA filters servicing this emissions unit while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each of the three HEPA filters on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across any of the three HEPA filters did not comply with the allowable range specified above.
2. The permittee shall submit reports to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton, OH 44702.

E. Testing Requirements

1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):
 - a. **Emission Limitation**

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Emissions Unit ID: **P020**

0.001 gr/ACFM, 0.14 pound/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A. This permit has no requirement for testing.

b. Emission Limitation

There shall be no visible particulate emissions from any stack.

Applicable Compliance Method

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

If required, the permittee shall demonstrate with the above visible emissions limitation pursuant to OAC rule 3745-15-04(A).

c. Emission Limitation

0.62 ton PM/PM₁₀/yr

Applicable Compliance Method

Multiply the hourly allowable times 8,760.

F. Miscellaneous Requirements

1. None

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

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>	OAC rule 3745-17-11
Reactor No. 1 - Phase IV with acid gas wet scrubber and a HEPA filter	OAC rule 3745-31-05	OAC rule 3745-18-06(E)(2)
(This emissions unit consists of an active reactor furnace, a drop-out box, a quench chamber, an oxides collector, an acid gas wet scrubber, a HEPA filter, an I.D. fan, and a stack.)		
	OAC rule 3745-17-07(A)(1)	

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Applicable Emissions
Limitations/Control Measures

There shall be no visible emissions from any stack.

PM/PM₁₀:

0.001 gr/ACFM;

0.07 pound/hour (based on an airflow of 8,000 ACFM) and

0.31 ton/year

sulfur dioxide:

0.15 lb SO₂/hour and

0.64 ton SO₂/year

nitrogen oxides:

0.09 pound/hour and

0.4 ton/year

carbon monoxide:

0.04 pound/hour and

0.16 ton/year

volatile organic compounds:

0.01 pound/hour and

0.07 ton/year

BAT is more restrictive

BAT is more restrictive

BAT is more restrictive

2. Additional Terms and Conditions

2.a None

B. Operational Restrictions

1. The emissions from this emissions unit shall be vented to an Acid Gas Wet Scrubber and then to a HEPA Fabric Filter in series. The capture system shall achieve a minimum capture efficiency of 99% or better for both PM/PM₁₀ and SO₂ emissions. For PM/PM₁₀, the control efficiency of the combination of the Acid Gas Wet Scrubber and the HEPA Fabric Filter shall be sufficient enough to reduce PM/PM₁₀ emissions to no more than 0.001 gr/ACFM. For SO₂, the control efficiency of the Acid Gas Wet Scrubber shall be sufficient to reduce emissions to no more than 0.15 pound/hour of SO₂.
2. The pressure drop across the scrubber shall be continuously maintained at a value of not less than four inches of water nor more than five inches of water at all times while the emissions unit is in operation. Alternatively, the pressure drop across the scrubber shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
3. The pH of the scrubber liquor shall be maintained at or above 7. Alternatively, the pH of the scrubber liquor shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
4. The temperature of the scrubber liquor shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
5. The scrubber water flow rate shall be continuously maintained at a value of not less than the rate established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
6. For each day that shipments are received, the permittee shall collect a representative sample of the EAF dust (EAFD) received and analyze it for sulfur. The permittee shall maintain a three-day, rolling average of the sulfur quantity in the reactor feed. Feed rates of EAFD (or other sulfur bearing feed materials) shall be limited so that the total sulfur feed shall not allow the SO₂ hourly emissions limits to be exceeded, based on a daily average.
7. The pressure drop across the HEPA filter shall be maintained within the range of 1 to 3 inches of water while the emissions unit is in operation. Alternatively, the pressure drop across the HEPA filter shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the filter manufacturer.

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C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate and maintain equipment to continuously monitor the static pressure drop across the scrubber, the pH and temperature of the scrubber liquor, and the water flow rate to the scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day that the emissions unit operates:

- a. The pH and temperature of the scrubber liquor, on a once/shift basis.
 - b. The pressure drop across the scrubber, in inches of water, on a once/shift basis.
 - c. The water flow rate, in gpm, to the scrubber on a once/shift basis.
 - d. The operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
2. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the HEPA filter while the emissions unit is in operation. The monitoring equipment shall be installed, 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 HEPA filter on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pH deviation (excursion) reports that identify all periods of time during which the scrubber liquor pH did not comply with the pH requirements specified above.
2. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the scrubber did not comply with the allowable range specified above.
3. The permittee shall submit temperature deviation (excursion) reports that identify all periods of time during which the temperature of the scrubber liquor did not comply with the allowable range specified above.
4. The permittee shall submit water flow deviation (excursion) reports that identify all periods of

time during which the scrubber water flow rate was less than the amount specified above.

5. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the HEPA filter did not comply with the allowable range specified above.
6. All deviation (excursion) reports shall be submitted to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton Ohio 44702.

E. Testing Requirements

1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):

a. Emission Limitation

0.001 gr/ACFM and 0.07 pound/hour of PM/PM₁₀

Applicable Compliance Method

Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A.

b. Emission Limitation

0.15 pound SO₂/hour

Applicable Compliance Method

Initial compliance shall be demonstrated using Method 6, 40 CFR Part 60, Appendix A.

c. Emission Limitation

There shall be no visible particulate emissions from any stack.

Applicable Compliance Method

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

If required, the permittee shall demonstrate with the above visible emissions limitation pursuant to OAC rule 3745-15-04(A).

d. Emission Limitation

0.09 pound NO_x/hour

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Applicable Compliance Method

Compliance shall be demonstrated using Method 7, 40 CFR Part 60, Appendix A.

e. **Emission Limitation**

0.04 pound CO/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 10, 40 CFR Part 60, Appendix A.

f. **Emission Limitation**

0.01 pound VOC/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 25 or 25A, 40 CFR Part 60, Appendix A.

g. **Emission Limitation**

0.64 ton SO₂/year

0.31 ton PM/PM₁₀/year

0.4 ton NO_x/year

0.16 ton CO/year

0.07 ton VOC/year

Applicable Compliance Method

Multiply the hourly emission limit times 8,760 hours/year.

2. 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 no later than 90 days after this emissions unit has been brought up to a steady state, full production mode.
 - b. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division (Canton Local Air Agency.)
 - c. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for SO₂, VOC, CO, NO_x and PM/PM₁₀.

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- d. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

<u>Pollutant</u>	<u>Test Methods</u>	<u>Location</u>
PM/PM ₁₀	Method 5	40 CFR Part 60 Appendix A
SO ₂	Method 6	40 CFR Part 60 Appendix A
NO _x	Method 7	40 CFR Part 60 Appendix A
	CO	Method 10 40 CFR Part 60 Appendix A
VOC	Method 25/25A	40 CFR Part 60 Appendix A

- e. The parametric monitoring requirements established per Conditions III.1 and III.2 shall be checked during the emissions test.
- f. Sulfur content (and levels of other potential contaminants) shall be quantified in feed materials, particularly EAF dust and dried swarf. As practical, feed materials with differing sulfur contents shall be segregated for separate campaigns for sensitivity testing. If necessary, additional sulfur shall be added to EAFD for testing at worst case conditions (estimated to be 0.9%).
- g. The feed rates to the reactor of all materials shall be measured.
- h. Products produced during the testing period (magnetite and leady-zinc oxide) shall be collected and chemically analyzed.
- i. A sulfur dioxide emission test also shall be conducted at the inlet of the scrubber to determine the control efficiency of the scrubber.

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.

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Emissions Unit ID: **P021**

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).

F. Miscellaneous Requirements

1. None

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

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>
Reactor No. 2 - Phase IV with acid gas wet scrubber and a HEPA filter (This emissions unit consists of an active reactor furnace, a drop-out box, a quench chamber, an oxides collector, an acid gas wet scrubber, a HEPA filter, an I.D. fan, and a stack.)	OAC rule 3745-17-11 OAC rule 3745-18-06(E)(2)
	OAC rule 3745-17-07(A)(1)

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Emissions Unit ID: P022

Applicable Emissions
Limitations/Control Measures

There shall be no visible emissions from any stack.

PM/PM₁₀:

0.001 gr/ACFM;

0.07 pound/hour (based on an airflow of 8,000 ACFM) and

0.31 ton/year

sulfur dioxide:

0.15 lb SO₂/hour and

0.64 ton SO₂/year

nitrogen oxides:

0.09 pound/hour and

0.4 ton/year

carbon monoxide:

0.04 pound/hour and

0.16 ton/year

volatile organic compounds:

0.01 pound/hour and

0.07 ton/year

BAT is more restrictive

BAT is more restrictive

BAT is more restrictive

2. Additional Terms and Conditions

2.a None

B. Operational Restrictions

1. The emissions from this emissions unit shall be vented to an Acid Gas Wet Scrubber and then to a HEPA Fabric Filter in series. The capture system shall achieve a minimum capture efficiency of 99% or better for both PM/PM₁₀ and SO₂ emissions. For PM/PM₁₀, the control efficiency of the combination of the Acid Gas Wet Scrubber and the HEPA Fabric Filter shall be sufficient enough to reduce PM/PM₁₀ emissions to no more than 0.001 gr/ACFM. For SO₂, the control efficiency of the Acid Gas Wet Scrubber shall be sufficient to reduce emissions to no more than 0.15 pound/hour of SO₂.
2. The pressure drop across the scrubber shall be continuously maintained at a value of not less than four inches of water nor more than five inches of water at all times while the emissions unit is in operation. Alternatively, the pressure drop across the scrubber shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
3. The pH of the scrubber liquor shall be maintained at or above 7. Alternatively, the pH of the scrubber liquor shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
4. The temperature of the scrubber liquor shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
5. The scrubber water flow rate shall be continuously maintained at a value of not less than the rate established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.
6. For each day that shipments are received, the permittee shall collect a representative sample of the EAF dust (EAFD) received and analyze it for sulfur. The permittee shall maintain a three-day, rolling average of the sulfur quantity in the reactor feed. Feed rates of EAFD (or other sulfur bearing feed materials) shall be limited so that the total sulfur feed shall not allow the SO₂ hourly emissions limits to be exceeded, based on a daily average.
7. The pressure drop across the HEPA filter shall be maintained within the range of 1 to 3 inches of water while the emissions unit is in operation. Alternatively, the pressure drop across the HEPA filter shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the filter manufacturer.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate and maintain equipment to continuously monitor the static pressure drop across the scrubber, the pH and temperature of the scrubber liquor, and the water flow rate to the scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day that the emissions unit operates:

- a. The pH and temperature of the scrubber liquor, on a once/shift basis.
 - b. The pressure drop across the scrubber, in inches of water, on a once/shift basis.
 - c. The water flow rate, in gpm, to the scrubber on a once/shift basis.
 - d. The operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
2. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the HEPA filter while the emissions unit is in operation. The monitoring equipment shall be installed, 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 HEPA filter on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pH deviation (excursion) reports that identify all periods of time during which the scrubber liquor pH did not comply with the pH requirements specified above.
2. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the scrubber did not comply with the allowable range specified above.
3. The permittee shall submit temperature deviation (excursion) reports that identify all periods of time during which the temperature of the scrubber liquor did not comply with the allowable range specified above.
4. The permittee shall submit water flow deviation (excursion) reports that identify all periods of time during which the scrubber water flow rate was less than the amount specified above.
5. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the HEPA filter did not comply with the allowable range specified above.

6. All deviation (excursion) reports shall be submitted to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton Ohio 44702.

E. Testing Requirements

1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):

a. Emission Limitation

0.001 gr/ACFM and 0.07 pound/hour of PM/PM₁₀

Applicable Compliance Method

Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A.

b. Emission Limitation

0.15 pound SO₂/hour

Applicable Compliance Method

Initial compliance shall be demonstrated using Method 6, 40 CFR Part 60, Appendix A.

c. Emission Limitation

There shall be no visible particulate emissions from any stack.

Applicable Compliance Method

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

If required, the permittee shall demonstrate with the above visible emissions limitation pursuant to OAC rule 3745-15-04(A).

d. Emission Limitation

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0.09 pound NO_x/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 7, 40 CFR Part 60, Appendix A.

e. Emission Limitation

0.04 pound CO/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 10, 40 CFR Part 60, Appendix A.

f. Emission Limitation

0.01 pound VOC/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 25 or 25A, 40 CFR Part 60, Appendix A.

g. Emission Limitation

0.64 ton SO₂/year

0.31 ton PM/PM₁₀/year

0.4 ton NO_x/year

0.16 ton CO/year

0.07 ton VOC/year

Applicable Compliance Method

Multiply the hourly emission limit times 8,760 hours/year.

2. 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 no later than 90 days after this emissions unit has been brought up to a steady state, full production mode.
 - b. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division (Canton Local Air Agency.)

- c. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for SO₂, VOC, CO, NO_x and PM/PM₁₀.
- d. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

<u>Pollutant</u>	<u>Test Methods</u>	<u>Location</u>
PM/PM ₁₀	Method 5	40 CFR Part 60 Appendix A
SO ₂	Method 6	40 CFR Part60 Appendix A
NO _x	Method 7	40 CFR Part 60 Appendix A
	CO	Method 10 40 CFR Part 60 Appendix A
VOC	Method 25/25A	40 CFR Part 60 Appendix A

- e. The parametric monitoring requirements established per Conditions III.1 shall be checked during the emissions test.
- f. Sulfur content (and levels of other potential contaminants) shall be quantified in feed materials. As practical, feed materials with differing sulfur contents shall be segregated for separate campaigns for sensitivity testing.
- g. The feed rates to this emissions unit of all materials shall be measured.
- 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.

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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).

F. Miscellaneous Requirements

1. None

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

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>
Product finishing Train #1- Phase IV with HEPA filters; atomize molten magnetite, shape, sort, grind and package magPEL products	OAC rule 3745-31-05	There shall be no visible particulate emissions from any stack. PM/PM ₁₀ : 0.14 pound/hour (based on an airflow of 16,600 ACFM combined for 3 HEPA filters) and 0.62 ton/year The control efficiency of each of the three HEPA fabric filters shall be sufficient enough to reduce PM/PM ₁₀ emissions to no more than 0.001 gr/ACFM.
	OAC rule 3745-17-07(A)(1)	BAT is more restrictive
	OAC rule 3745-17-11	BAT is more restrictive

2. **Additional Terms and Conditions**

- 2.a None

B. Operational Restrictions

1. This emissions unit consists of an air atomizer and equipment for sizing, sorting, classifying, grinding (dry and wet), and packaging magPEL products.
2. The emissions from this emissions unit shall be vented through HEPA Fabric Filters.
3. The pressure drop across each of the three HEPA filters servicing this emissions unit shall be

maintained within the range of 1 to 3 inches of water while the emissions unit is in operation. Alternatively, the pressure drop across each of the three HEPA filters shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the filter manufacturer.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across each of the three HEPA filters servicing this emissions unit while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each of the three HEPA filters on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across any of the three HEPA filters did not comply with the allowable range specified above.
2. The permittee shall submit reports to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton, OH 44702.

E. Testing Requirements

1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):

- a. **Emission Limitation**

0.001 gr/ACFM, 0.14 pound/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A. This permit has no requirement for testing.

- b. **Emission Limitation**

There shall be no visible particulate emissions from any stack.

Applicable Compliance Method

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

If required, the permittee shall demonstrate with the above visible emissions limitation pursuant to OAC rule 3745-15-04(A).

c. Emission Limitation

0.62 ton PM/PM₁₀/yr

Applicable Compliance Method

Multiply the hourly allowable times 8,760.

2. 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 no later than 90 days after this emissions unit has been brought up to a steady state, full production mode.

b. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division (Canton Local Air Agency.)

c. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for PM/PM₁₀ of 0.001 grains/ACFM . All three of the emissions egress points serving this emissions unit shall be tested.

d. The following test method shall be employed to demonstrate compliance with the allowable mass emission rates:

<u>Pollutant</u>	<u>Test Methods</u>	<u>Location</u>
PM/PM ₁₀	Method 5	40 CFR Part 60 Appendix A

e. The parametric monitoring requirements established per Conditions B.3 shall be checked during

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the emissions test.

- f. 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).

F. Miscellaneous Requirements

1. None

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

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>
Product finishing Train #2-Phase IV with HEPA filters; atomize molten magnetite, shape, sort, grind and package magPEL products	OAC rule 3745-31-05	There shall be no visible particulate emissions from any stack. PM/PM ₁₀ : 0.14 pound/hour (based on an airflow of 16,600 ACFM combined for 3 HEPA filters) and 0.62 ton/year The control efficiency of each of the three HEPA fabric filters shall be sufficient enough to reduce PM/PM ₁₀ emissions to no more than 0.001 gr/ACFM.
	OAC rule 3745-17-07(A)(1)	BAT is more restrictive
	OAC rule 3745-17-11	BAT is more restrictive

2. Additional Terms and Conditions

2.a None

B. Operational Restrictions

1. This emissions unit consists of an air atomizer and equipment for sizing, sorting, classifying, grinding (dry and wet), and packaging magPEL products.
2. The emissions from this emissions unit shall be vented through HEPA Fabric Filters.
3. The pressure drop across each of the three HEPA filters servicing this emissions unit shall be maintained within the range of 1 to 3 inches of water while the emissions unit is in operation. Alternatively, the pressure drop across each of the three HEPA filters shall be maintained within a range established either during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the filter manufacturer.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across each of the three HEPA filters servicing this emissions unit while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each of the three HEPA filters on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across any of the three HEPA filters did not comply with the allowable range specified above.
2. The permittee shall submit reports to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton, OH 44702.

E. Testing Requirements

1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):

a. **Emission Limitation**

0.001 gr/ACFM, 0.14 pound/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A. This permit has no requirement for testing.

b. Emission Limitation

There shall be no visible particulate emissions from any stack.

Applicable Compliance Method

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

If required, the permittee shall demonstrate with the above visible emissions limitation pursuant to OAC rule 3745-15-04(A).

c. Emission Limitation

0.62 ton PM/PM₁₀/yr

Applicable Compliance Method

Multiply the hourly allowable times 8,760.

2. 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 no later than 90 days after this emissions unit has been brought up to a steady state, full production mode.

b. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division (Canton Local Air Agency.)

c. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for PM/PM₁₀ of 0.001 grains/ACFM. All three of the emissions egress points serving this emissions unit shall be tested.

d. The following test method shall be employed to demonstrate compliance with the allowable mass emission rates:

<u>Pollutant</u>	<u>Test Methods</u>	<u>Location</u>
PM/PM ₁₀	Method 5	40 CFR Part 60 Appendix A

e. The parametric monitoring requirements established per Conditions B.3 shall be checked during

the emissions test.

- f. 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).

F. Miscellaneous Requirements

1. None