

2 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

GENERAL PERMIT CONDITIONS

TERMINATION OF PERMIT TO INSTALL

Substantial construction for installation must take place within 18 months of the effective date of this permit. 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.

NOTICE OF INSPECTION

The Director of the Ohio Environmental Protection Agency, or his authorized representatives, may enter upon the premises of the above-named applicant during construction and operation at any reasonable time for the purpose of making inspections, conducting tests, or to examine records or reports pertaining to the construction, modification or installation of the source(s) of environmental pollutants identified within this permit.

CONSTRUCTION OF NEW SOURCE(S)

The proposed source(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 source(s) has already begun or has been completed prior to the date the Director of the Ohio 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

3 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

approval constitutes a violation of Ohio Administrative Code (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.

PERMIT TO INSTALL FEE

In accordance with Ohio Revised Code 3745.11, the specified Permit to Install fee must be remitted within 15 days of the effective date of this permit to install.

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.

APPLICABILITY

This Permit to Install is applicable only to the contaminant sources identified. Separate application must be made to the Director for the installation or modification of any other contaminant sources.

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.

4 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

PERMIT TO OPERATE APPLICATION

A Permit to Operate application must be submitted to the appropriate field office for each air contaminant source in this Permit to Install. In accordance with OAC Rule 3745-35-02, the application shall be made at least 90 days prior to start-up of the source.

NINETY DAY OPERATING PERIOD

The facility will be permitted to operate during a 90-day period in accordance with OAC Rule 3745-35-02(C)(4)(b). The purpose of this period of operation is to fulfill the performance tests conditions used in the determination of compliance with the provisions of this Permit to Install or other applicable Ohio EPA rules.

SOURCE OPERATION AFTER COMPLETION OF CONSTRUCTION

This facility is permitted to operate each source described by this permit to install for 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.

5 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

AIR EMISSION SUMMARY

The air contaminant emissions units listed below comprise the Permit to Install for **PELTECH1** located in **Stark** County. The emissions units listed below shall not exceed the emission limits/control requirements contained in the table. This condition in no way limits the applicability of any other state or federal regulations. Additionally, this condition does not limit the applicability of additional special terms and conditions of this permit.

<u>Ohio EPA Source Number</u>	<u>Source Identification Description</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P001	Reactor - Phase I with wet scrubber and HEPA filter	Wet scrubber and HEPA filter	3745-17-07 (A)(1) (1/31/98)	BAT is more restrictive
			3745-17-11 (1/31/98)	BAT is more restrictive
			3745-18-06 (E)(1) (10/31/96)	BAT is more restrictive
			3745-31-05 (4/8/98)	PM/PM ₁₀ : 0.001 gr/ACFM; 0.07 pound/hour (based on an airflow of 8,000 ACFM) and 0.24 ton/year (based on 6,912 hours/year) sulfur dioxide: 1.36 pounds/hour and 4.7 tons/year (based on 6,912 hours/year)

Facility Name: **PELTECH1**
 Application Number: **15-1336**
 Date: **JULY 22, 1998**

<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P001 Cont'd				nitrogen oxides: 0.12 pound/hour and 0.4 ton/year (based on 6,912 hours/year)
				carbon monoxide: 0.32 pound/hour and 1.12 tons/year (based on 6,912 hours/year)
				volatile organic compounds: 0.17 pound/hour and 0.6 ton/year (based on 6,912 hours/year)
				There shall be no visible particulate emissions
P002	Reactor - Phase IA with wet scrubber and HEPA filter	Wet scrubber and HEPA filter	3745-17-07 (A)(1) (1/31/98)	BAT is more restrictive
			3745-17-11 (1/31/98)	BAT is more restrictive
			3745-18-06 (E)(1) (10/31/96)	BAT is more restrictive

Facility Name: **PELTECH1**
 Application Number: **15-1336**
 Date: **JULY 22, 1998**

<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P002 Cont'd			3745-31-05 (4/8/98)	PM/PM ₁₀ : 0.001 gr/ACFM; 0.007 pound/hour (based on an airflow of 850 ACFM) and 0.016 ton/year (based on 4,608 hours/year) sulfur dioxide: 0.22 pound/hour and 0.5 ton/year (based on 4,608 hours/year) nitrogen oxides: 0.01 pound/hour and 0.02 ton/year (based on 4,608 hours/year) carbon monoxide: 0.03 pound/hour and 0.07 ton/year (based on 4,608 hours/year) volatile organic compounds: 0.02 pound/hour and 0.05 ton/year (based on 4,608 hours/year)

Facility Name: **PELTECH1**
 Application Number: **15-1336**
 Date: **JULY 22, 1998**

<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P002 Cont'd				There shall be no visible particulate emissions
P003	Reactor - Phase III with wet scrubber and HEPA filter	Wet scrubber and HEPA filter	3745-17-07 (A)(1) (6/14/91)	BAT is more restrictive
			3745-17-11 (6/14/91)	BAT is more restrictive
			3745-18-06 (E)(1) (10/31/96)	BAT is more restrictive
			3745-31-05 (4/8/98)	PM/PM ₁₀ : 0.001 gr/ACFM; 0.07 pound/hour (based on an airflow of 8,000 ACFM) and 0.24 ton/year (based on 6,912 hours/year)
				sulfur dioxide: 0.84 pound/hour and 2.9 tons/year (based on 6,912 hours/year)
				nitrogen oxides: 0.04 pound/hour and 0.11 ton/year (based

Facility Name: **PELTECH1**Application Number: **15-1336**Date: **JULY 22, 1998**

<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P003 Cont'd				on 6,912 hours/year) carbon monoxide: 0.15 pound/hour and 0.52 ton/year (based on 6,912 hours/year) volatile organic compounds: 0.13 pound/hour and 0.46 ton/year (based on 6,912 hours/year) There shall be no visible particulate emissions
P004	Reactor No. 1 - Phase II with wet scrubber and HEPA filter	Wet scrubber and HEPA filter	3745-17-07 (A)(1) (1/31/98)	BAT is more restrictive
			3745-17-11 (1/31/98)	BAT is more restrictive
			3745-18-06 (E)(1) (10/31/96)	BAT is more restrictive
			3745-31-05 (4/8/98)	PM/PM ₁₀ : 0.001 gr/ACFM; 0.07 pound/hour

Facility Name: **PELTECH1**
 Application Number: **15-1336**
 Date: **JULY 22, 1998**

<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P004 Cont'd				<p>(based on an airflow of 8,000 ACFM) and 0.24 ton/year (based on 6,912 hours/year)</p> <p>sulfur dioxide: 1.03 pounds/hour and 3.55 tons/year (based on 6,912 hours/year)</p> <p>nitrogen oxides: 0.04 pound/hour and 0.11 ton/year (based on 6,912 hours/year)</p> <p>carbon monoxide: 0.15 pound/hour and 0.52 ton/year (based on 6,912 hours/year)</p> <p>volatile organic compounds: 0.13 pound/hour and 0.46 ton/year (based on 6,912 hours/year)</p>

Facility Name: **PELTECH1**Application Number: **15-1336**Date: **JULY 22, 1998**

<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P004 Cont'd				There shall be no visible particulate emissions
P005	Reactor No. 2 - Phase II with wet scrubber and HEPA filter	Wet scrubber and HEPA filter	3745-17-07 (A)(1) (1/31/98)	BAT is more restrictive
			3745-17-11 (1/31/98)	BAT is more restrictive
			3745-18-06 (E)(1) (10/31/96)	BAT is more restrictive
			3745-31-05 (4/8/98)	PM/PM ₁₀ : 0.001 gr/ACFM; 0.07 pound/hour (based on an airflow of 8,000 ACFM) and 0.24 ton/year (based on 6,912 hours/year)
				sulfur dioxide: 1.03 pounds/hour and 3.55 tons/year (based on 6,912 hours/year)
				nitrogen oxides: 0.04 pound/hour and 0.11 ton/year (based

Facility Name: **PELTECH1**Application Number: **15-1336**Date: **JULY 22, 1998**

<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P005 Cont'd				on 6,912 hours/year) carbon monoxide: 0.15 pound/hour and 0.52 ton/year (based on 6,912 hours/year) volatile organic compounds: 0.13 pound/hour and 0.46 ton/year (based on 6,912 hours/year) There shall be no visible particulate emissions
P006	Reactor No. 3 - Phase II with wet scrubber and HEPA filter	Wet scrubber and HEPA filter	3745-17-07 (A)(1) (1/31/98)	BAT is more restrictive
			3745-17-11 (1/31/98)	BAT is more restrictive
			3745-18-06 (E)(1) (10/31/96)	BAT is more restrictive
			3745-31-05 (4/8/98)	PM/PM ₁₀ : 0.001 gr/ACFM; 0.07 pound/hour

Facility Name: **PELTECH1**
 Application Number: **15-1336**
 Date: **JULY 22, 1998**

<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P006 Cont'd				<p>(based on an airflow of 8,000 ACFM) and 0.24 ton/year (based on 6,912 hours/year)</p> <p>sulfur dioxide: 1.03 pounds/hour and 3.55 tons/year (based on 6,912 hours/year)</p> <p>nitrogen oxides: 0.04 pound/hour and 0.11 ton/year (based on 6,912 hours/year)</p> <p>carbon monoxide: 0.15 pound/hour and 0.52 ton/year (based on 6,912 hours/year)</p> <p>volatile organic compounds: 0.13 pound/hour and 0.46 ton/year (based on 6,912 hours/year)</p>

Facility Name: **PELTECH1**Application Number: **15-1336**Date: **JULY 22, 1998**

<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P006 Cont'd				There shall be no visible particulate emissions
P007	Reactor No. 4 - Phase II with wet scrubber and HEPA filter	Wet scrubber and HEPA filter	3745-17-07 (A)(1) (1/31/98)	BAT is more restrictive
			3745-17-11 (1/31/98)	BAT is more restrictive
			3745-18-06 (E)(1) (10/31/96)	BAT is more restrictive
			3745-31-05 (4/8/98)	PM/PM ₁₀ : 0.001 gr/ACFM; 0.07 pound/hour (based on an airflow of 8,000 ACFM) and 0.24 ton/year (based on 6,912 hours/year)
				sulfur dioxide: 1.03 pounds/hour and 3.55 tons/year (based on 6,912 hours/year)
				nitrogen oxides: 0.04 pound/hour and 0.11 ton/year (based

Facility Name: **PELTECH1**Application Number: **15-1336**Date: **JULY 22, 1998**

<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P007 Cont'd				on 6,912 hours/year) carbon monoxide: 0.15 pound/hour and 0.52 ton/year (based on 6,912 hours/year) volatile organic compounds: 0.13 pound/hour and 0.46 ton/year (based on 6,912 hours/year) There shall be no visible particulate emissions
P008	Reactor - Phase IB with wet scrubber and HEPA filter	Wet scrubber and HEPA filter	3745-17-07 (A)(1) (1/31/98)	BAT is more restrictive
			3745-17-11 (1/31/98)	BAT is more restrictive
			3745-18-06 (E)(1) (10/31/96)	BAT is more restrictive
			3745-31-05 (4/8/98)	PM/PM ₁₀ : (fugitive) 0.001 gr/ACFM;

Facility Name: **PELTECH1**
 Application Number: **15-1336**
 Date: **JULY 22, 1998**

<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P008 Cont'd				0.07 pound/hour (based on an airflow of 8,000 ACFM) and 0.24 ton/year (based on 6,912 hours/year) sulfur dioxide: 0.06 pound/hour and 0.2 ton/year (based on 6,912 hours/year) nitrogen oxides: 0.03 pound/hour and 0.11 ton/year (based on 6,912 hours/year) carbon monoxide: 0.15 pound/hour and 0.52 ton/year (based on 6,912 hours/year) volatile organic compounds: 0.13 pound/hour and 0.46 ton/year (based on 6,912 hours/year)

Facility Name: **PELTECH1**Application Number: **15-1336**Date: **JULY 22, 1998**

<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P008 Cont'd				There shall be no visible particulate emissions
P009	Product finishing Phase I with HEPA filters	HEPA filters	3745-17-07 (A)(1) (1/31/98)	BAT is more restrictive
	Atomize molten magnetite, shape, sort, grind and package magPEL products		3745-17-11 (1/31/98)	BAT is more restrictive
			3745-31-05 (4/8/98)	PM/PM ₁₀ : 0.001 gr/ACFM for each of 3 HEPA filters; 0.032 pound/hour (based on an airflow of 3,700 ACFM combined limit for 3 HEPA filters) and 0.14 ton/year)
				There shall be no visible particulate emissions
P010	Product finishing Phase IA with HEPA filters	HEPA filters	3745-17-07 (A)(1) (1/31/98)	BAT is more restrictive
	Atomize, water launder or cast molten magnetite for		3745-17-11 (1/31/98)	BAT is more restrictive

18 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P010 Cont'd	research and development of magPEL products		3745-31-05 (4/8/98)	PM/PM ₁₀ : 0.001 gr/ACFM 0.015 pound/hour (based on an airflow of 1,700 ACFM) and 0.07 ton/year There shall be no visible particulate emissions
P011	Product Finishing - Phase III with HEPA filters	HEPA Filters	3745-17-07 (A)(1) (1/31/98)	BAT is more restrictive
	Atomize molten magnetite, shape, sort, grind and package magPEL products		3745-17-11 (1/31/98)	BAT is more restrictive
			3745-31-05 (4/8/98)	PM/PM ₁₀ : 0.001 gr/ACFM for each of 3 HEPA filters; 0.032 pound/hour (based on an airflow of 3,700 ACFM combined limit for 3 HEPA filters) and 0.14 ton/year There shall be no visible particulate emissions

Facility Name: **PELTECH1**Application Number: **15-1336**Date: **JULY 22, 1998**

<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P012	Product Finishing No. 1 - Phase II with HEPA filters	HEPA Filters	3745-17-07 (A)(1) (1/31/98)	BAT is more restrictive
			3745-17-11 (1/31/98)	BAT is more restrictive
			3745-31-05 (4/8/98)	PM/PM ₁₀ : 0.001 gr/ACFM for each of 3 HEPA filters; 0.032 pound/hour (based on an airflow of 3,700 ACFM combined limit for 3 HEPA filters) and 0.14 ton/year)
				There shall be no visible particulate emissions
P013	Product Finishing No. 2 - Phase II with HEPA filters	HEPA Filters	3745-17-07 (A)(1) (1/31/98)	BAT is more restrictive
			3745-17-11 (1/31/98)	BAT is more restrictive
			3745-31-05 (4/8/98)	PM/PM ₁₀ : 0.001 gr/ACFM for each of 3 HEPA filters; 0.032 pound/hour (based on an

Facility Name: **PELTECH1**
 Application Number: **15-1336**
 Date: **JULY 22, 1998**

<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P013 Cont'd				airflow of 3,700 ACFM combined limit for 3 HEPA filters) and 0.14 ton/year) There shall be no visible particulate emissions
P014	Product Finishing No. 3 - Phase II with HEPA filters	HEPA Filters	3745-17-07 (A)(1) (1/31/98)	BAT is more restrictive
	Atomize molten magnetite, shape, sort, grind and package magPEL products		3745-17-11 (1/31/98)	BAT is more restrictive
			3745-31-05 (4/8/98)	PM/PM ₁₀ : 0.001 gr/ACFM for each of 3 HEPA filters; 0.032 pound/hour (based on an airflow of 3,700 ACFM combined limit for 3 HEPA filters) and 0.14 ton/year) There shall be no visible particulate emissions

Facility Name: **PELTECH1**
 Application Number: **15-1336**
 Date: **JULY 22, 1998**

<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P015	Product Finishing No. 4 - Phase II with HEPA filters	HEPA Filters	3745-17-07 (A)(1) (1/31/98)	BAT is more restrictive
			3745-17-11 (1/31/98)	BAT is more restrictive
			3745-31-05 (4/8/98)	PM/PM ₁₀ : 0.001 gr/ACFM for each of 3 HEPA filters; 0.032 pound/hour (based on an airflow of 3,700 ACFM combined limit for 3 HEPA filters) and 0.14 ton/year)
				There shall be no visible particulate emissions
P016	Product Finishing Phase IB with HEPA filters	HEPA Filters	3745-17-07 (A)(1) (1/31/98)	BAT is more restrictive
			3745-17-11 (1/31/98)	BAT is more restrictive
			3745-31-05 (4/8/98)	PM/PM ₁₀ : 0.001 gr/ACFM for each of 3 HEPA filters; 0.032 pound/hour (based on an

Facility Name: **PELTECH1**
 Application Number: **15-1336**
 Date: **JULY 22, 1998**

<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P016 Cont'd				airflow of 3,700 ACFM combined limit for 3 HEPA filters) and 0.14 ton/year) There shall be no visible particulate emissions
P017	Secondary swarf processing with HEPA filter Phase I, III, and IB	HEPA filter	3745-17-07 (A)(1) (1/31/98)	BAT is more restrictive
			3745-17-11 (1/31/98)	BAT is more restrictive
			3745-18-09 (E)(1) (10/31/96)	BAT is more restrictive
			3745-31-05 (4/8/98)	PM/PM ₁₀ : 0.001 gr/ACFM 0.034 pound/hour (based on an airflow of 4,000 ACFM) and 0.12 ton/year (based on 6,912 hours/year)
				nitrogen oxides: 0.04 pound/hour and 0.14 ton/year (based on 6,912

Facility Name: **PELTECH1**Application Number: **15-1336**Date: **JULY 22, 1998**

<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P017 Cont'd				hours/year) carbon monoxide: 0.06 pound/hour and 0.2 ton/year (based on 6,912 hours/year) volatile organic compounds: 0.6 pound/hour and 2.07 tons/year (based on 6,912 hours/year) sulfur dioxide: 0.01 pound/hour and 0.035 ton/year (based on 6,912 hours/year) There shall be no visible particulate emissions from this emissions units
P018	Secondary swarf processing with HEPA filter Phase II	HEPA filter	3745-17-07 (A)(1) (1/31/98) 3745-17-11 (1/31/98)	BAT is more restrictive BAT is more restrictive

Facility Name: **PELTECH1**
 Application Number: **15-1336**
 Date: **JULY 22, 1998**

<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P018 Cont'd			3745-18-09 (E)(1) (10/31/96)	BAT is more restrictive
			3745-31-05 (4/8/98)	PM/PM ₁₀ : 0.001 gr/ACFM 0.034 pound/hour (based on an airflow of 4,000 ACFM) and 0.12 ton/year (based on 6,912 hours/year) nitrogen oxides: 0.04 pound/hour and 0.14 ton/year (based on 6,912 hours/year) carbon monoxide: 0.06 pound/hour and 0.2 ton/year (based on 6,912 hours/year) volatile organic compounds: 0.6 pound/hour and 2.07 tons/year (based on 6,912 hours/year)

Facility Name: **PELTECH1**
 Application Number: **15-1336**
 Date: **JULY 22, 1998**

<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P018 Cont'd				sulfur dioxide: 0.01 pound/hour and 0.035 ton/year (based on 6,912 hours/year) There shall be no visible particulate emissions from this emissions units

SUMMARY
 TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons/Year</u>
PM/PM ₁₀	2.986
SO ₂	22.57
NO _x	1.36
CO	4.71
VOC	7.55

Note: The information contained under the Summary of Emissions section of the Permit to Install is for informational purposes only and is not enforceable.

26 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

RECORD(S) RETENTION AND AVAILABILITY

All records required by this Permit to Install shall be retained on file for a period of not less than three years unless otherwise indicated by Ohio Environmental Protection Agency. All records shall be made available to the Director, or any representative of the Director, for review during normal business hours.

REPORTING REQUIREMENTS

Unless otherwise specified, reports required by the Permit to Install need only be submitted to **Canton Air Pollution Control, 420 Market Avenue North, Canton, OH 44702-1544.**

WASTE DISPOSAL

The owner/operator shall comply with any applicable state and federal requirements governing the storage, treatment, transport and disposal of any waste material generated by the operation of the sources.

MAINTENANCE OF EQUIPMENT

This source and its associated air pollution control system(s) shall be maintained regularly in accordance with good engineering practices and the recommendations of the respective manufacturers in order to minimize air contaminant emissions.

MALFUNCTION/ABATEMENT

In accordance with OAC RULE 3745-15-06, any malfunction of the source(s) or associated air pollution control system(s) shall be reported immediately to the **Canton Air Pollution Control, 420 Market Avenue North, Canton, OH 44702-1544.**

Except as provided by OAC Rule 3745-15-06(A)(3), scheduled maintenance of air pollution control equipment that requires the shutdown or bypassing of air pollution control system(s) must be accompanied by the shutdown of the associated air pollution sources.

27 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

AIR POLLUTION NUISANCES PROHIBITED

The air contaminant source(s) identified in this permit may not cause a public nuisance in violation of OAC Rule 3745-15-07.

CONSTRUCTION COMPLIANCE CERTIFICATION

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

ADDITIONAL SPECIAL TERMS AND CONDITIONS

I. Facility

- A. All plant roadways and parking lots shall be paved.
- B. Electric Arc Furnace Dust (EAFD) shall be delivered in closed containers. Under all circumstances the unloading of EAFD into the EAFD storage hopper(s) shall be controlled with bin filter(s).
- C. The following emission points are to be installed at this facility but are exempt from needing air permits:
 1. EAF Dust Silo;
 2. EAF Dust Daybin;
 3. Other Feeds Additives;
 4. Swarf Storage Pit Area;
 5. Defluidization Expeller;
 6. Spent Fluids Tank;
 7. Emergency Generator;
 8. Firefighting Pump;

28 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

9. Natural Gas-fired Space Heaters;
 10. Lab Equipment/fume Hoods; and,
 11. Solvent Cold Cleaners
- D. This facility will be developed in a series of five phases, as described below:
1. Phase I - Site development, infrastructure, and Phase I building. The building will house the PELtech1 corporate headquarters, a laboratory, a "semi-commercial" processing plant capable of producing 7,500 to 9,000 TPY of magPEL™, and a shipping facility with capacity for Phases I and III.
 2. Phase IA - Research and development equipment capable of producing 5 TPD of output. The R&D plant will be used to further develop the PEL technology.
 3. Phase IB - Processing facility that uses grinding swarf as the only reused feed material. The plant will be capable of producing 7,500 to 9,000 TPY of magPEL™. This should be the last Phase completed.
 4. Phase II - Full scale commercial processing plant capable of producing 30,000 to 36,000 TPY of magPEL™.
 5. Phase III - Conversion of the Phase I process to a commercial processing plant capable of producing a total of 14,000 to 17,000 TPY of magPEL™. Phase III is scheduled to come on line before Phase IB and Phase II.

This permit will cover all five of the above phases.

II. Emissions Unit P001 - Reactor - Phase I

A. Operational Restrictions (P001)

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

29 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

percent 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 enough to reduce emissions to no more than 1.36 pounds/hour based on a 24-hour daily average.

2. This emissions unit consists of an active reactor furnace, a drop-out box, a quench chamber, an LZO collector, an acid gas wet scrubber, a HEPA filter, an I.D. fan, a standby reactor furnace, a quench air fan pre-heat baghouse, an I.D. fan, and a common stack.
3. 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.
4. 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.
5. 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.
6. 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.

7. Operating hours shall be measured as the time that EAFD is in the reactor at temperatures above 2,500 degrees F (100 degrees Fahrenheit cooler than the minimum temperature for the reaction). Operating hours shall be limited to 576 per month.
8. The weight of each shipment shall be recorded for the EAF delivered 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 daily, rolling average of the sulfur content 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.
9. 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.

B. Monitoring and/or Recordkeeping Requirements (P001)

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

31 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

- 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; and,
 - d. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
3. The permittee shall maintain monthly records of the operating hours of this emissions unit.
 4. 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.

C. Reporting Requirements (P001)

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.

32 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

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. The permittee shall submit deviation (excursion) reports that identify any month when this emissions unit operated more than 576 hours.
7. The permittee shall submit reports in the following manner:
 - a. reports shall be submitted to the Canton City Health Department; Air Pollution Control Division; 420 Market Avenue N.; Canton, OH 44702; and,
 - b. quarterly written reports of any deviation from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the monitoring and recordkeeping requirements specified in this permit, the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be promptly made to the Canton Local Air Agency. If no deviations occurred during the calendar quarter, a quarterly report shall be submitted which states that no deviations occurred during that quarter. The reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (Any malfunctions must be reported in accordance with the procedures specified in OAC rule 3745-15-06).

D. Compliance Methods and Testing Requirements (P001)

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

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

b. **Emission Limitation**

1.36 pounds SO₂/hour

Applicable Compliance Method

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

c. **Emission Limitation**

0.12 pound NO_x/hour

Applicable Compliance Method

The burner size is 5 MMBtu/hr. This burner is capable of burning up to 5,000 CF of natural gas per hour. Multiplying the AP-42 emission factor of 17 pounds NO_x/10⁶cf times 5,000 cf/hr equals 0.085 pound/hr.

d. **Emission Limitation**

0.32 pound CO/hour

Applicable Compliance Method

Burner size is 5 MMBtu/hr which burn up to 5,000 CF of natural gas per hour. Multiplying the AP-42 emission factor of 27 pounds CO/10⁶cf times 5,000 cf/hr equals 0.135 pound/hour

34 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

e. **Emission Limitation**

0.17 pound VOC/hour

Applicable Compliance Method

Burner size is 5 MMBtu/hr which burn up to 5,000 CF of natural gas per hour. Multiplying the AP-42 emission factor of 8 pounds VOC/10⁶cf times 5,000 cf/hr equals 0.04 pound/hour.

f. **Emission Limitation**

No visible particulate emissions

Applicable Compliance Method

Method 22, 40 CFR Part 60 Appendix A

g. **Emission Limitation**

0.24 ton PM-PM₁₀/year
4.7 tons SO₂/year
0.4 ton NO_x/year
1.12 tons CO/year
0.6 ton VOC/year

Applicable Compliance Method

Multiply the hourly emission limit times 6,912 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);

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

- c. the emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for SO₂ 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

- e. the parametric monitoring requirements established per Conditions B.1 and B.4 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 percent);
- g. the feed rates to the reactor of all materials shall be measured;
- h. products produced during the testing period (magnetite and lead-zinc oxide) shall be collected and chemically analyzed; and,
- 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

36 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

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).

E. Miscellaneous Requirements (P001)

1. None.

III. Emissions Unit P002 - Reactor - Phase IA

A. Operational Restrictions (P002)

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 percent 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 enough to reduce emissions to no more than 0.22 pound/hour.

37 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

2. This emissions unit consists of a reactor furnace, a drop-out box, a quench chamber, an LZO collector, an acid gas wet scrubber, a HEPA filter, an I.D. fan, and a stack.
3. 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.
4. 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.
5. 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.
6. 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.
7. Operating hours shall be measured as the time that EAFD is in the reactor at temperatures above 2500 degrees F (100 degrees Fahrenheit cooler than the minimum temperature for the reaction). Operating hours shall be limited to 384 per month.
8. 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

38 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

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.

9. Because this emissions unit is a research and development reactor, PELtech1 will occasionally use it to test new feed materials. Before processing feed materials that have the potential to produce hazardous air pollutants other than those addressed elsewhere in this permit, PELtech1 shall provide an operational plan for such processing to the Canton Local Air Agency for review and approval.

B. Monitoring and/or Recordkeeping Requirements (P002)

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.
2. 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, on a once/shift basis; and,
 - d. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

39 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

3. The permittee shall maintain monthly records of the operating hours of this emissions unit.
4. 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.

C. Reporting Requirements (P002)

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. The permittee shall submit deviation (excursion) reports that identify any month when this emissions unit operated more than 384 hours.

40 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

7. The permittee shall submit reports in the following manner:
 - a. reports shall be submitted to the Canton City Health Department; Air Pollution Control Division; 420 Market Avenue N.; Canton, OH 44702; and,
 - b. quarterly written reports of any deviation from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the monitoring and recordkeeping requirements specified in this permit, the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be promptly made to the Canton Local Air Agency. If no deviations occurred during the calendar quarter, a quarterly report shall be submitted which states that no deviations occurred during that quarter. The reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (Any malfunctions must be reported in accordance with the procedures specified in OAC rule 3745-15-06).

D. Compliance Methods and Testing Requirements (P002)

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 0.007 pound/hour of PM/PM₁₀

Applicable Compliance Method

No visible emissions should indicate that this emissions limit is operating in compliance.

41 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

b. **Emission Limitation**

0.22 pound SO₂/hour

Applicable Compliance Method

Proper operation of the scrubber should ensure compliance.

c. **Emission Limitation**

0.01 pound NO_x/hour

Applicable Compliance Method

None

d. **Emission Limitation**

0.03 pound CO/hour

Applicable Compliance Method

None

e. **Emission Limitation**

0.02 pound VOC/hour

Applicable Compliance Method

None

f. **Emission Limitation**

No visible particulate emissions

Applicable Compliance Method

Method 22, 40 CFR Part 60 Appendix A

g. **Emission Limitation**

0.016 ton PM-PM₁₀/year

0.50 ton SO₂/year

0.02 ton NO_x/year

0.07 ton CO/year

0.05 ton VOC/year

Applicable Compliance Method

Multiply the hourly emission limit times 4,608 hours/year.

E. Miscellaneous Requirements (P002)

1. None.

IV. Emissions Unit P003 - Reactor - Phase III

A. Operational Restrictions (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 percent 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 enough to reduce emissions to no more than 0.84 pound/hour.
2. This emissions unit consists of a reactor furnace, a drop-out box, a quench chamber, an LZO collector, an acid gas wet scrubber, a HEPA filter, an I.D. fan, and a common stack.
3. 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 emission unit was in compliance, or by the scrubber manufacturer.
4. The pH of the scrubber liquor shall be maintained at or above 7. Alternatively, the pH of the

43 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

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 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.
6. 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.
7. Operating hours shall be measured as the time that EAFD is in the reactor at temperatures above 2500 degrees F (100 degrees Fahrenheit cooler than the minimum temperature for the reaction). Operating hours shall be limited to 576 per month.
8. The weight of each shipment shall be recorded for the EAF delivered 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 daily, rolling average of the sulfur content 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.
9. 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.

B. Monitoring and/or Recordkeeping Requirements (P003)

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.
2. 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, on a once/shift basis; and,
 - d. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
3. The permittee shall maintain monthly records of the operating hours of this emissions unit.
4. 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.

45 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

C. Reporting Requirements (P003)

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. The permittee shall submit deviation (excursion) reports that identify any month when this emissions unit operated more than 576 hours.
7. The permittee shall submit reports in the following manner:
 - a. reports shall be submitted to the Canton City Health Department; Air Pollution Control Division; 420 Market Avenue N.; Canton, OH 44702; and,
 - b. quarterly written reports of any deviation from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the monitoring and recordkeeping requirements specified in this permit, the

46 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

probable cause of such deviations, and any corrective actions or preventative measures taken, shall be promptly made to the Canton Local Air Agency. If no deviations occurred during the calendar quarter, a quarterly report shall be submitted which states that no deviations occurred during that quarter. The reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (Any malfunctions must be reported in accordance with the procedures specified in OAC rule 3745-15-06).

D. Compliance Methods and Testing Requirements (P003)

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

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

- b. **Emission Limitation**

0.84 pound SO₂/hour

Applicable Compliance Method

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

- c. **Emission Limitation**

0.04 pound NO_x/hour

Applicable Compliance Method

The burner size is 5 MMBtu/hr. This burner is capable of burning up to 5,000 CF of natural gas per hour. Multiplying the AP-42

47 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

emission factor of 17 pounds NO_x/10⁶cf times
5,000 cf/hr equals 0.085 pound/hour

d. **Emission Limitation**

0.15 lb CO/hr

Applicable Compliance Method

The burner size is 5 MMBtu/hr. This burner is capable of burning up to 5,000 CF of natural gas per hour. Multiplying the AP-42 emission factor of 27 pounds CO/10⁶cf times 5,000 cf/hour equals 0.135 pound/hour

e. **Emission Limitation**

0.13 pound VOC/hour

Applicable Compliance Method

The burner size is 5 MMBtu/hour. This burner is capable of burning up to 5,000 CF of natural gas per hour. Multiplying the AP-42 emission factor of 8 pounds VOC/10⁶cf times 5,000 cf/hour equals 0.04 pound/hour.

f. **Emission Limitation**

No visible particulate emissions

Applicable Compliance Method

Method 22, 40 CFR Part 60 Appendix A

g. **Emission Limitation**

0.24 ton PM-PM₁₀/year
2.9 tons SO₂/year
0.11 ton NO_x/year
0.52 ton CO/year
0.46 ton VOC/year

Applicable Compliance Method

Multiply the hourly emission limit times
6,912 hours/yr.

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

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 and PM;
 - 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	Method 5	40 CFR Part 60 Appendix A
SO ₂	Method 6	40 CFR Part 60 Appendix A

- e. the parametric monitoring requirements established per Conditions B.1 & B.4 shall be checked during the emissions test; and,
- 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 percent);

49 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

- g. the feed rates to the reactor of all materials shall be measured;
- h. products produced during the testing period (magnetite and lead-zinc oxide) shall be collected and chemically analyzed; and,
- 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).

E. Miscellaneous Requirements (P003)

- 1. None.

50 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

V. Emissions Unit P004 - Reactor No. 1 - Phase II

A. Operational Restrictions (P004)

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 percent 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 enough to reduce emissions to no more than 1.03 pounds/hour.
2. This emissions unit consists of a reactor furnace, a drop-out box, a quench chamber, an LZO collector, an acid gas wet scrubber, a HEPA filter, an I.D. fan, and a common stack.
3. 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.
4. 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.
5. 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.

51 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

6. 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.
7. Operating hours shall be measured as the time that EAFD is in the reactor at temperatures above 2500 degrees F (100 degrees Fahrenheit cooler than the minimum temperature for the reaction). Operating hours shall be limited to 576 per month.
8. The weight of each shipment shall be recorded for the EAF delivered 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 daily rolling average of the sulfur content 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.
9. 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.

B. Monitoring and/or Recordkeeping Requirements (P004)

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,

52 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

2. 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, on a once/shift basis; and,
 - d. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
3. The permittee shall maintain monthly records of the operating hours of this emissions unit.
4. 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 weekly basis.

C. Reporting Requirements (P004)

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.

53 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

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. The permittee shall submit deviation (excursion) reports that identify any month when this emissions unit operated more than 576 hours.
7. The permittee shall submit reports in the following manner:
 - a. reports shall be submitted to the Canton City Health Department; Air Pollution Control Division; 420 Market Avenue N.; Canton, OH 44702; and,
 - b. quarterly written reports of any deviation from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the monitoring and recordkeeping requirements specified in this permit, the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be promptly made to the Canton Local Air Agency. If no deviations occurred during the calendar quarter, a quarterly report shall be submitted which states that no deviations occurred during that quarter. The reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (Any malfunctions must

54 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

be reported in accordance with the procedures specified in OAC rule 3745-15-06).

D. Compliance Methods and Testing Requirements (P004)

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

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

b. **Emission Limitation**

1.03 pounds SO₂/hour

Applicable Compliance Method

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

c. **Emission Limitation**

0.04 pound NO_x/hour

Applicable Compliance Method

The burner size is 5 MMBtu/hr. This burner is capable of burning up to 5,000 CF of natural gas per hour. Multiplying the AP-42 emission factor of 17 pounds NO_x/10⁶cf times 5,000 cf/hr equals 0.085 pound/hour.

d. **Emission Limitation**

0.15 pound CO/hour

Applicable Compliance Method

The burner size is 5 MMBtu/hr. This burner is capable of burning up to 5,000 CF of

55 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

natural gas per hour. Multiplying the AP-42 emission factor of 27 pounds CO/10⁶cf times 5,000 cf/hr equals 0.135 pound/hour

e. **Emission Limitation**

0.13 lb VOC/hr

Applicable Compliance Method

The burner size is 5 MMBtu/hr. This burner is capable of burning up to 5,000 CF of natural gas per hour. Multiplying the AP-42 emission factor of 8 pounds VOC/10⁶cf times 5,000 cf/hour equals 0.04 pound/hour.

f. **Emission Limitation**

No visible particulate emissions

Applicable Compliance Method

Method 22, 40 CFR Part 60 Appendix A

g. **Emission Limitation**

0.24 ton PM-PM₁₀/year
3.55 tons SO₂/year
0.11 ton NO_x/year
0.52 ton CO/year
0.46 ton VOC/year

Applicable Compliance Method

Multiply the hourly emission limit times 6,912 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

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

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 and PM;
- 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	Method 5	40 CFR Part 60 Appendix A
SO ₂	Method 6	40 CFR Part 60 Appendix A

- e. the parametric monitoring requirements established per Conditions B.1 & B.4 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 percent);
- g. the feed rates to the reactor of all materials shall be measured;
- h. products produced during the testing period (magnetite and lead-zinc oxide) shall be collected and chemically analyzed; and,
- i. a sulfur dioxide emission test also shall be conducted at the inlet of the scrubber to determine the control efficiency of the scrubber.

57 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

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).

E. Miscellaneous Requirements (P004)

1. None.

VI. Emissions Unit P005 - Reactor No. 2 - Phase II

A. Operational Restrictions (P005)

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 percent 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

58 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

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 enough to reduce emissions to no more than 1.03 pounds/hour.

2. This emissions unit consists of a reactor furnace, a drop-out box, a quench chamber, an LZO collector, an acid gas wet scrubber, a HEPA filter, an I.D. fan, and a common stack.
3. 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.
4. 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.
5. 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.
6. 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.
7. Operating hours shall be measured as the time that EAFD is in the reactor at temperatures above 2500 degrees Fahrenheit (100 degrees Fahrenheit

cooler than the minimum temperature for the reaction). Operating hours shall be limited to 576 per month.

8. The weight of each shipment shall be recorded for the EAF delivered 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 daily, rolling average of the sulfur content 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.
9. 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.

B. Monitoring and/or Recordkeeping Requirements (P005)

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.
2. 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;

60 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

- b. the pressure drop across the scrubber, in inches of water, on a once/shift basis;
 - c. the water flow rate, in gpm, on a once/shift basis; and,
 - d. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
3. The permittee shall maintain monthly records of the operating hours of this emissions unit.
 4. 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 weekly basis.

C. Reporting Requirements (P005)

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.

61 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

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. The permittee shall submit deviation (excursion) reports that identify any month when this emissions unit operated more than 576 hours.
7. The permittee shall submit reports in the following manner:
 - a. reports shall be submitted to the Canton City Health Department; Air Pollution Control Division; 420 Market Avenue N.; Canton, OH 44702; and,
 - b. quarterly written reports of any deviation from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the monitoring and recordkeeping requirements specified in this permit, the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be promptly made to the Canton Local Air Agency. If no deviations occurred during the calendar quarter, a quarterly report shall be submitted which states that no deviations occurred during that quarter. The reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (Any malfunctions must be reported in accordance with the procedures specified in OAC rule 3745-15-06).

D. Compliance Methods and Testing Requirements (P005)

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

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

b. **Emission Limitation**

1.03 pounds SO₂/hour

Applicable Compliance Method

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

c. **Emission Limitation**

0.04 pound NO_x/hour

Applicable Compliance Method

The burner size is 5 MMBtu/hr. This burner is capable of burning up to 5,000 CF of natural gas per hour. Multiplying the AP-42 emission factor of 17 pounds NO_x/10⁶cf times 5,000 cf/hr equals 0.085 pound/hour.

d. **Emission Limitation**

0.15 pound CO/hour

Applicable Compliance Method

The burner size is 5 MMBtu/hr. This burner is capable of burning up to 5,000 CF of natural gas per hour. Multiplying the AP-42 emission factor of 27 pounds CO/10⁶cf times 5,000 cf/hour equals 0.135 pound/hour.

e. **Emission Limitation**

0.13 pound VOC/hour

63 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

Applicable Compliance Method

The burner size is 5 MMBtu/hour. This burner is capable of burning up to 5,000 CF of natural gas per hour. Multiplying the AP-42 emission factor of 8 pounds VOC/10⁶cf times 5,000 cf/hour equals 0.04 pound/hour.

f. **Emission Limitation**

No visible particulate emissions

Applicable Compliance Method

Method 22, 40 CFR Part 60 Appendix A

g. **Emission Limitation**

0.24 ton PM-PM₁₀/year
3.55 tons SO₂/year
0.11 ton NO_x/year
0.52 ton CO/year
0.46 ton VOC/year

Applicable Compliance Method

Multiply the hourly emission limit times 6,912 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 and PM;

- 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	Method 5	40 CFR Part 60 Appendix A
SO ₂	Method 6	40 CFR Part 60 Appendix A

- e. the parametric monitoring requirements established per Conditions B.1 and B.4 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 percent);
- g. the feed rates to the reactor of all materials shall be measured;
- h. products produced during the testing period (magnetite and lead-zinc oxide) shall be collected and chemically analyzed; and,
- 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

65 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

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).

E. Miscellaneous Requirements (P005)

1. None.

VII. Emissions Unit P006 - Reactor No. 3 - Phase II

A. Operational Restrictions (P006)

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 percent 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 enough to reduce emissions to no more than 1.03 pounds/hour.
2. This emissions unit consists of a reactor furnace, a drop-out box, a quench chamber, an LZO

66 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

collector, and acid gas wet scrubber, a HEPA filter, an I.D. fan, and a stack.

3. 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.
4. 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.
5. 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.
6. 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.
7. Operating hours shall be measured as the time that EAFD is in the reactor at temperatures above 2500 degrees F (100 degrees Fahrenheit cooler than the minimum temperature for the reaction). Operating hours shall be limited to 576 per month.
8. The weight of each shipment shall be recorded for the EAF delivered 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 daily, rolling average

of the sulfur content 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.

9. 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.

B. Monitoring and/or Recordkeeping Requirements (P006)

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.
2. 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, on a once/shift basis; and,
 - d. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

68 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

3. The permittee shall maintain monthly records of the operating hours of this emissions unit.
4. 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 weekly basis.

C. Reporting Requirements (P006)

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. The permittee shall submit deviation (excursion) reports that identify any month when this emissions unit operated more than 576 hours.

69 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

7. The permittee shall submit reports in the following manner:
 - a. reports shall be submitted to the Canton City Health Department; Air Pollution Control Division; 420 Market Avenue N.; Canton, OH 44702; and,
 - b. quarterly written reports of any deviation from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the monitoring and recordkeeping requirements specified in this permit, the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be promptly made to the Canton Local Air Agency. If no deviations occurred during the calendar quarter, a quarterly report shall be submitted which states that no deviations occurred during that quarter. The reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (Any malfunctions must be reported in accordance with the procedures specified in OAC rule 3745-15-06).

D. Compliance Methods and Testing Requirements (P006)

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
Initial compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A.
 - b. **Emission Limitation**
1.03 pounds SO₂/hour

70 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

Applicable Compliance Method

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

c. **Emission Limitation**

0.04 pound NO_x/hour

Applicable Compliance Method

The burner size is 5 MMBtu/hr. This burner is capable of burning up to 5,000 CF of natural gas per hour. Multiplying the AP-42 emission factor of 17 pounds NO_x/10⁶cf times 5,000 cf/hour equals 0.085 pound/hour.

d. **Emission Limitation**

0.15 pound CO/hour

Applicable Compliance Method

The burner size is 5 MMBtu/hour. This burner is capable of burning up to 5,000 CF of natural gas per hour. Multiplying the AP-42 emission factor of 27 pounds CO/10⁶cf times 5,000 cf/hour equals 0.135 pound/hour.

e. **Emission Limitation**

0.13 lb VOC/hr

Applicable Compliance Method

The burner size is 5 MMBtu/hr. This burner is capable of burning up to 5,000 CF of natural gas per hour. Multiplying the AP-42 emission factor of 8 pounds VOC/10⁶cf times 5,000 cf/hour equals 0.04 pound/hour.

f. **Emission Limitation**

No visible particulate emissions

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

Applicable Compliance Method

Method 22, 40 CFR Part 60 Appendix A

g. **Emission Limitation**

0.24 ton PM-PM₁₀/year

3.55 tons SO₂/year

0.11 ton NO_x/year

0.52 ton CO/year

0.46 ton VOC/year

Applicable Compliance Method

Multiply the hourly emission limit times 6,912 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 and PM;

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	Method 5	40 CFR Part 60 Appendix A
SO ₂	Method 6	40 CFR Part 60 Appendix A

72 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

- e. the parametric monitoring requirements established per Conditions B.1 & B.4 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 percent);
- g. the feed rates to the reactor of all materials shall be measured;
- h. products produced during the testing period (magnetite and lead-zinc oxide) shall be collected and chemically analyzed; and,
- 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

73 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

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).

E. Miscellaneous Requirements (P006)

1. None.

VIII. Emissions Unit P007 - Reactor No. 4 - Phase II

A. Operational Restrictions (P007)

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 percent 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 enough to reduce emissions to no more than 1.03 pounds/hour.
2. This emissions unit consists of a reactor furnace, a drop-out box, a quench chamber, an LZO collector, an acid gas wet scrubber, a HEPA filter, an I.D. fan, and a common stack.
3. 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.

74 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

4. 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.
5. 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.
6. 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.
7. Operating hours shall be measured as the time that EAFD is in the reactor at temperatures above 2500 degrees Fahrenheit (100 degrees Fahrenheit cooler than the minimum temperature for the reaction). Operating hours shall be limited to 576 per month.
8. The weight of each shipment shall be recorded for the EAF delivered 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 daily, rolling average of the sulfur content 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.
9. 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

75 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

emissions test that demonstrated that the emissions unit was in compliance, or by the filter manufacturer.

B. Monitoring and/or Recordkeeping Requirements (P007)

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.
2. 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, on a once/shift basis; and,
 - d. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
3. The permittee shall maintain monthly records of the operating hours of this emissions unit.
4. 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 weekly basis.

C. Reporting Requirements (P007)

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. The permittee shall submit deviation (excursion) reports that identify any month when this emissions unit operated more than 576 hours.
7. The permittee shall submit reports in the following manner:
 - a. reports shall be submitted to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton OH 44702; and,
 - b. quarterly written reports of any deviation from emission limitations, operational restrictions, and control device operating parameter limitations that have been

detected by the monitoring and recordkeeping requirements specified in this permit, the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be promptly made to the Canton Local Air Agency. If no deviations occurred during the calendar quarter, a quarterly report shall be submitted which states that no deviations occurred during that quarter. The reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (Any malfunctions must be reported in accordance with the procedures specified in OAC rule 3745-15-06).

D. Compliance Methods and Testing Requirements (P007)

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**

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

- b. **Emission Limitation**

- 1.03 pounds SO₂/hour

- Applicable Compliance Method**

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

- c. **Emission Limitation**

- 0.04 pound NO_x/hour

78 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

Applicable Compliance Method

The burner size is 5 MMBtu/hour. This burner is capable of burning up to 5,000 CF of natural gas per hour. Multiplying the AP-42 emission factor of 17 pounds NO_x/10⁶cf times 5,000 cf/hour equals 0.085 pound/hour.

d. **Emission Limitation**

0.15 pound CO/hour

Applicable Compliance Method

The burner size is 5 MMBtu/hour. This burner is capable of burning up to 5,000 CF of natural gas per hour. Multiplying the AP-42 emission factor of 27 pounds CO/10⁶cf times 5,000 cf/hour equals 0.135 pound/hour.

e. **Emission Limitation**

0.13 pound VOC/hour

Applicable Compliance Method

The burner size is 5 MMBtu/hour. This burner is capable of burning up to 5,000 CF of natural gas per hour. Multiplying the AP-42 emission factor of 8 pounds VOC/10⁶cf times 5,000 cf/hour equals 0.04 pound/hour.

f. **Emission Limitation**

No visible particulate emissions

Applicable Compliance Method

Method 22, 40 CFR Part 60 Appendix A

g. **Emission Limitation**

0.24 ton PM-PM₁₀/year
3.55 tons SO₂/year
0.11 ton NO_x/year
0.52 ton CO/year
0.46 ton VOC/year

Applicable Compliance Method

Multiply the hourly emission limit times 6,912 hours/yr.

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 and PM;
 - 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	Method 5	40 CFR Part 60 Appendix A
SO ₂	Method 6	40 CFR Part 60 Appendix A

- e. the parametric monitoring requirements established per Conditions B.1 & B.4 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,

80 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

additional sulfur shall be added to EAFD for testing at worst case conditions (estimated to be 0.9 percent);

- g. the feed rates to the reactor of all materials shall be measured;
- h. products produced during the testing period (magnetite and lead-zinc oxide) shall be collected and chemically analyzed; and,
- 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).

81 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

E. Miscellaneous Requirements (P007)

1. None.

IX. Emissions Unit P008 - Reactor - Phase IB

A. Operational Restrictions (P008)

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 percent 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 enough to reduce emissions to no more than 0.06 pound/hour.
2. This emissions unit consists of a reactor furnace, a drop-out box, a quench chamber, an LZO collector, an acid gas wet scrubber, a HEPA filter, an I.D. fan, and a stack.
3. 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.
4. 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.
5. The temperature of the scrubber liquor shall be maintained within a range established either

82 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

during the most recent emissions test that demonstrated that the emissions unit was in compliance, or by the scrubber manufacturer.

6. 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.
7. Operating hours shall be measured as the time that EAFD is in the reactor at temperatures above 2500 degrees Fahrenheit (100 degrees Fahrenheit cooler than the minimum temperature for the reaction). Operating hours shall be limited to 576 per month.
8. 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.

B. Monitoring and/or Recordkeeping Requirements (P008)

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.
2. 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;

83 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

- b. the pressure drop across the scrubber, in inches of water, on a once/shift basis;
 - c. the water flow rate, in gpm, on a once/shift basis; and,
 - d. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
3. The permittee shall maintain monthly records of the operating hours of this emissions unit.
 4. 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 weekly basis.

C. Reporting Requirements (P008)

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.

84 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

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. The permittee shall submit deviation (excursion) reports that identify any month when this emissions unit operated more than 576 hours.
7. The permittee shall submit reports in the following manner:
 - a. reports shall be submitted to the Canton City Health Department; Air Pollution Control Division; 420 Market Avenue N.; Canton, OH 44702; and,
 - b. quarterly written reports of any deviation from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the monitoring and recordkeeping requirements specified in this permit, the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be promptly made to the Canton Local Air Agency. If no deviations occurred during the calendar quarter, a quarterly report shall be submitted which states that no deviations occurred during that quarter. The reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (Any malfunctions must be reported in accordance with the procedures specified in OAC rule 3745-15-06).

D. Compliance Methods and Testing Requirements (P008)

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

85 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

Applicable Compliance Method

Compliance shall be demonstrated using Method 5, 40 CFR Part 60, Appendix A. No testing is required by this permit.

b. **Emission Limitation**

0.06 pound SO₂/hour

Applicable Compliance Method

Compliance shall be demonstrated using Method 6, 40 CFR Part 60, Appendix A. No testing is required by this permit.

c. **Emission Limitation**

0.03 pound NO_x/hour

Applicable Compliance Method

The burner size is 5 MMBtu/hour. This burner is capable of burning up to 5,000 CF of natural gas per hour. Multiplying the AP-42 emission factor of 17 pounds NO_x/10⁶cf times 5,000 cf/hour equals 0.085 pound/hour.

d. **Emission Limitation**

0.15 pound CO/hour

Applicable Compliance Method

The burner size is 5 MMBtu/hour. This burner is capable of burning up to 5,000 CF of natural gas per hour. Multiplying the AP-42 emission factor of 27 pounds CO/10⁶cf times 5,000 cf/hour equals 0.135 pound/hour.

e. **Emission Limitation**

0.13 pound VOC/hour

Applicable Compliance Method

The burner size is 5 MMBtu/hour. This burner is capable of burning up to 5,000 CF of

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

natural gas per hour. Multiplying the AP-42 emission factor of 8 pounds VOC/10⁶cf times 5,000 cf/hour equals 0.04 pound/hour.

f. **Emission Limitation**

No visible particulate emissions

Applicable Compliance Method

Method 22, 40 CFR Part 60 Appendix A

g. **Emission Limitation**

0.24 ton PM-PM₁₀/year

0.20 ton SO₂/year

0.11 ton NO_x/year

0.52 ton CO/year

0.46 ton VOC/year

Applicable Compliance Method

Multiply the hourly emission limit times 6,912 hours/year.

E. Miscellaneous Requirements (P008):

1. None.

X. Emissions Unit P009 - Product Finishing - Phase I

A. Operational Restrictions (P009)

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 one of three HEPA Fabric Filters. 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.
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.

B. Monitoring and/or Recordkeeping Requirements (P009)

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 weekly basis.

C. Reporting Requirements (P009)

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 in the following manner:
 - a. reports shall be submitted to the Canton City Health Department; Air Pollution Control Division; 420 Market Avenue N.; Canton, OH 44702; and,
 - b. quarterly written reports of any deviation from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the monitoring and recordkeeping requirements specified in this permit, the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be promptly made to the Canton Local Air Agency. If no deviations occurred

88 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

during the calendar quarter, a quarterly report shall be submitted which states that no deviations occurred during that quarter. The reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (Any malfunctions must be reported in accordance with the procedures specified in OAC rule 3745-15-06).

D. Compliance Methods and Testing Requirements (P009)

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/DSCF and 0.032 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**

- No visible particulate emissions

- Applicable Compliance Method**

- Method 22, 40 CFR Part 60, Appendix A

- c. **Emission Limitation**

- 0.14 ton PM-PM₁₀/year

- Applicable Compliance Method**

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

E. Miscellaneous Requirements (P009)

1. None.

XI. Emissions Unit P010 - Product Finishing - Phase IA

A. Operational Restrictions (P010)

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 one of three HEPA Fabric Filters. 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.
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.

B. Monitoring and/or Recordkeeping Requirements (P010)

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 weekly basis.

C. Reporting Requirements (P010)

1. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop

90 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

across any of the three HEPA filters did not comply with the allowable range specified above.

2. The permittee shall submit reports in the following manner:
 - a. reports shall be submitted to the Canton City Health Department; Air Pollution Control Division; 420 Market Avenue N.; Canton, OH 44702; and,
 - b. quarterly written reports of any deviation from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the monitoring and recordkeeping requirements specified in this permit, the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be promptly made to the Canton Local Air Agency. If no deviations occurred during the calendar quarter, a quarterly report shall be submitted which states that no deviations occurred during that quarter. The reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (Any malfunctions must be reported in accordance with the procedures specified in OAC rule 3745-15-06).

D. Compliance Methods and Testing Requirements (P010)

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/DSCF and 0.015 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 testing requirement.

91 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

b. **Emission Limitation**

No visible particulate emissions

Applicable Compliance Method

Method 22, 40 CFR Part 60, Appendix A

c. **Emission Limitation**

0.07 ton PM-PM₁₀/year

Applicable Compliance Method

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

E. Miscellaneous Requirements (P010)

1. None.

XII. Emissions Unit P011 - Product Finishing - Phase III

A. Operational Restrictions (P011)

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 one of three HEPA Fabric Filters. 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.
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.

92 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

B. Monitoring and/or Recordkeeping Requirements (P011)

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 weekly basis.

C. Reporting Requirements (P011)

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 in the following manner:
 - a. reports shall be submitted to the Canton City Health Department; Air Pollution Control Division; 420 Market Avenue N.; Canton OH 44702; and,
 - b. quarterly written reports of any deviation from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the monitoring and recordkeeping requirements specified in this permit, the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be promptly made to the Canton Local Air Agency. If no deviations occurred during the calendar quarter, a quarterly report shall be submitted which states that no deviations occurred during that quarter. The reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (Any malfunctions must be reported in accordance with the

93 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

procedures specified in OAC rule 3745-15-06).

D. Compliance Methods and Testing Requirements (P011)

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/DSCF and 0.032 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 to test.

- b. **Emission Limitation**

- No visible particulate emissions

- Applicable Compliance Method**

- Method 22, 40 CFR Part 60, Appendix A

- c. **Emission Limitation**

- 0.14 ton PM-PM₁₀/year

- Applicable Compliance Method**

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

E. Miscellaneous Requirements (P011)

1. None.

XIII. Emissions Unit P012 - No. 1 Product Finishing - Phase II

A. Operational Restrictions (P012)

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

94 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

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

2. The emissions from this emissions unit shall be vented through one of three HEPA Fabric Filters. 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.
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.

B. Monitoring and/or Recordkeeping Requirements (P012)

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 weekly basis.

C. Reporting Requirements (P012)

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 in the following manner:
 - a. reports shall be submitted to the Canton City Health Department, Air Pollution

95 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

Control Division, 420 Market Avenue N.,
Canton OH 44702; and,

- b. quarterly written reports of any deviation from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the monitoring and recordkeeping requirements specified in this permit, the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be promptly made to the Canton Local Air Agency. If no deviations occurred during the calendar quarter, a quarterly report shall be submitted which states that no deviations occurred during that quarter. The reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (Any malfunctions must be reported in accordance with the procedures specified in OAC rule 3745-15-06).

D. Compliance Methods and Testing Requirements (P012)

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/DSCF and 0.032 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 to test.

- b. **Emission Limitation**

No visible particulate emissions

Applicable Compliance Method

Method 22, 40 CFR Part 60, Appendix A

c. Emission Limitation

0.14 ton PM-PM₁₀/year

Applicable Compliance Method

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

E. Miscellaneous Requirements (P012):

1. None.

XIV. Emissions Unit P013 - No. 2 Product Finishing - Phase II

A. Operational Restrictions (P013)

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 one of three HEPA Fabric Filters. 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.
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.

B. Monitoring and/or Recordkeeping Requirements (P013)

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 weekly basis.

C. Reporting Requirements (P013)

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 in the following manner:
 - a. reports shall be submitted to the Canton City Health Department; Air Pollution Control Division; 420 Market Avenue N.; Canton, OH 44702; and,
 - b. quarterly written reports of any deviation from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the monitoring and recordkeeping requirements specified in this permit, the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be promptly made to the Canton Local Air Agency. If no deviations occurred during the calendar quarter, a quarterly report shall be submitted which states that no deviations occurred during that quarter. The reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (Any malfunctions must be reported in accordance with the procedures specified in OAC rule 3745-15-06).

D. Compliance Methods and Testing Requirements (P013)

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

98 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

a. **Emission Limitation**

0.001 GR/DSCF and 0.032 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 to test.

b. **Emission Limitation**

No visible particulate emissions

Applicable Compliance Method

Method 22, 40 CFR Part 60, Appendix A

c. **Emission Limitation**

0.14 ton PM-PM₁₀/year

Applicable Compliance Method

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

E. Miscellaneous Requirements (P013)

1. None.

XV. Emissions Unit P014 - No. 3 Product Finishing - Phase II

A. Operational Restrictions (P014)

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 one of three HEPA Fabric Filters. 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.

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.

B. Monitoring and/or Recordkeeping Requirements (P014)

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 weekly basis.

C. Reporting Requirements (P014)

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 in the following manner:
 - a. reports shall be submitted to the Canton City Health Department; Air Pollution Control Division; 420 Market Avenue N.; Canton, OH 44702; and,
 - b. quarterly written reports of any deviation from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the monitoring and recordkeeping requirements specified in this permit, the probable cause of such deviations, and any

100 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

corrective actions or preventative measures taken, shall be promptly made to the Canton Local Air Agency. If no deviations occurred during the calendar quarter, a quarterly report shall be submitted which states that no deviations occurred during that quarter. The reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (Any malfunctions must be reported in accordance with the procedures specified in OAC rule 3745-15-06).

D. Compliance Methods and Testing Requirements (P014)

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/DSCF and 0.032 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 to test.

- b. **Emission Limitation**

No visible particulate emissions

Applicable Compliance Method

Method 22, 40 CFR Part 60, Appendix A

- c. **Emission Limitation**

0.14 ton PM-PM₁₀/year

Applicable Compliance Method

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

101 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

E. Miscellaneous Requirements (P014)

1. None.

XVI. Emissions Unit P015 - No. 4 Product Finishing - Phase II

A. Operational Restrictions (P015)

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 one of three HEPA Fabric Filters. 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.
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.

B. Monitoring and/or Recordkeeping Requirements (P015)

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 weekly basis.

C. Reporting Requirements (P015)

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 in the following manner:
 - a. reports shall be submitted to the Canton City Health Department; Air Pollution Control Division; 420 Market Avenue N.; Canton, OH 44702; and,
 - b. quarterly written reports of any deviation from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the monitoring and recordkeeping requirements specified in this permit, the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be promptly made to the Canton Local Air Agency. If no deviations occurred during the calendar quarter, a quarterly report shall be submitted which states that no deviations occurred during that quarter. The reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (Any malfunctions must be reported in accordance with the procedures specified in OAC rule 3745-15-06).

D. Compliance Methods and Testing Requirements (P015)

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/DSCF and 0.032 pound/hour of PM/PM₁₀

103 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

Applicable Compliance Method

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

b. **Emission Limitation**

No visible particulate emissions

Applicable Compliance Method

Method 22, 40 CFR Part 60, Appendix A

c. **Emission Limitation**

0.14 ton PM-PM₁₀/year

Applicable Compliance Method

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

E. Miscellaneous Requirements (P015)

1. None.

XVII. Emissions Unit P016 - Product Finishing - Phase IB

A. Operational Restrictions (P016)

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 one of three HEPA Fabric Filters. 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.
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

104 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

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.

B. Monitoring and/or Recordkeeping Requirements (P016)

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 weekly basis.

C. Reporting Requirements (P016)

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 in the following manner:
 - a. reports shall be submitted to the Canton City Health Department; Air Pollution Control Division; 420 Market Avenue N.; Canton, OH 44702; and,
 - b. quarterly written reports of any deviation from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the monitoring and recordkeeping requirements specified in this permit, the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be promptly made to the Canton Local Air Agency. If no deviations occurred during the calendar quarter, a quarterly report shall be submitted which states that

105 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

no deviations occurred during that quarter. The reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (Any malfunctions must be reported in accordance with the procedures specified in OAC rule 3745-15-06).

D. Compliance Methods and Testing Requirements (P016)

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/DSCF and 0.032 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 to test.

- b. **Emission Limitation**

No visible particulate emissions

Applicable Compliance Method

Method 22, 40 CFR Part 60, Appendix A

- c. **Emission Limitation**

0.14 ton PM-PM₁₀/year

Applicable Compliance Method

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

E. Miscellaneous Requirements (P016)

1. None.

106 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

XVIII. Emissions Unit P017 - Secondary Swarf Processing - Phase I, III, IB

A. Operational Restrictions (P017)

1. This emissions unit removes remaining liquids from grinding swarf that has already been deliquidified by mechanical compression.
2. The emissions from this emissions unit shall be vented through a HEPA Fabric Filter. The control efficiency of this HEPA fabric filter shall be sufficient enough to reduce PM/PM₁₀ emissions to no more than 0.001 gr/ACFM.
3. The pressure drop across 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 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.
4. This emissions unit shall not be operated more than 576 hours in any one calendar month.

B. Monitoring and/or Recordkeeping Requirements (P017)

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 weekly basis.
2. The permittee shall maintain monthly records of the hours of operation of this emissions unit.

C. Reporting Requirements (P017)

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 deviation (excursion) reports that identify any month when this emissions unit operated more than 576 hours.
3. The permittee shall submit reports in the following manner:
 - a. reports shall be submitted to the Canton City Health Department; Air Pollution Control Division; 420 Market Avenue N.; Canton, OH 44702; and,
 - b. quarterly written reports of any deviation from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the monitoring and recordkeeping requirements specified in this permit, the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be promptly made to the Canton Local Air Agency. If no deviations occurred during the calendar quarter, a quarterly report shall be submitted which states that no deviations occurred during that quarter. The reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (Any malfunctions must be reported in accordance with the procedures specified in OAC rule 3745-15-06).

D. Compliance Methods and Testing Requirements (P017)

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

108 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

a. **Emission Limitation**

0.001 GR/DSCF and 0.034 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 to test.

b. **Emission Limitation**

0.04 pound/hour of NO_x

Applicable Compliance Method

None

c. **Emission Limitation**

0.06 pound/hour of CO

Applicable Compliance Method

None

d. **Emission Limitation**

0.6 pound/hour of VOC

Applicable Compliance Method

None

e. **Emission Limitation**

0.01 pound/hour SO₂

Applicable Compliance Method

None

f. **Emission Limitation**

No visible particulate emissions

109 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

Applicable Compliance Method

Method 22, 40 CFR Part 60, Appendix A

g. **Emission Limitation**

0.12 ton PM-PM₁₀/year

0.14 ton NO_x/year

0.2 ton CO/year

2.07 tons VOC/year

0.035 ton SO₂/year

Applicable Compliance Method

Multiply the hourly emission limit times
6,912 hours/yr.

E. Miscellaneous Requirements (P017)

1. None.

XIX. Emissions Unit P018 - Secondary Swarf Processing - Phase II

A. Operational Restrictions (P018)

1. This emissions unit removes remaining liquids from grinding swarf that has already been deliquified by mechanical compression.
2. The emissions from this emissions unit shall be vented through a HEPA Fabric Filter. The control efficiency of this HEPA fabric filter shall be sufficient enough to reduce PM/PM₁₀ emissions to no more than 0.001 gr/ACFM.
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 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.
4. This emissions unit shall not be operated more than 576 hours in any one calendar month.

B. Monitoring and/or Recordkeeping Requirements (P018)

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 weekly basis.
2. The permittee shall maintain monthly records of the hours of operation of this emissions unit.

C. Reporting Requirements (P018)

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 deviation (excursion) reports that identify any month when this emissions unit operated more than 576 hours.
3. The permittee shall submit reports in the following manner:
 - a. reports shall be submitted to the Canton City Health Department; Air Pollution Control Division; 420 Market Avenue N.; Canton, OH 44702; and,
 - b. quarterly written reports of any deviation from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the monitoring and recordkeeping requirements specified in this permit, the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be promptly made to the Canton Local Air Agency. If no deviations occurred

111 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

during the calendar quarter, a quarterly report shall be submitted which states that no deviations occurred during that quarter. The reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (Any malfunctions must be reported in accordance with the procedures specified in OAC rule 3745-15-06).

D. Compliance Methods and Testing Requirements (P018)

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/DSCF and 0.034 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 to test.

- b. **Emission Limitation**

0.04 pound/hour of NO_x

Applicable Compliance Method

None

- c. **Emission Limitation**

0.06 lb/hr of CO

Applicable Compliance Method

None

- d. **Emission Limitation**

0.6 pound/hour of VOC

112 of 112 Pages

Facility Name: **PELTECH1**

Application Number: **15-1336**

Date: **JULY 22, 1998**

Applicable Compliance Method

None

e. **Emission Limitation**

0.01 pound/hour SO₂

Applicable Compliance Method

None

f. **Emission Limitation**

No visible particulate emissions

Applicable Compliance Method

Method 22, 40 CFR Part 60, Appendix A

g. **Emission Limitation**

0.12 ton PM-PM₁₀/year

0.14 ton NO_x/year

0.2 ton CO/year

2.07 tons VOC/year

0.035 ton SO₂/year

Applicable Compliance Method

Multiply the hourly emission limit times
6,912 hours/year.

E. Miscellaneous Requirements (P018)

1. None.