OhioEPA
State of Ohio Environmental Protection Agency

STREET ADDRESS:
1800 WaterMark Drive
Columbus, OH 43215-1099

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

MAILING ADDRESS:
P.O. Box 1049
Columbus, OH 43216-1049

Re: Permit to Install
Stark County
Application No: 15-1314
NSPS
PSD
TOXIC REVIEW

CERTIFIED MAIL

June 17, 1998

JUN 22 1998

REPUBLIC ENGINEERED STEELS INC - CANTON
ERIC HOWLAND
P.O. BOX 24700
CANTON, OH 44701

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

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

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

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

Very truly yours,

Thomas G. Rigo

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

cc: US EPA
CANTON AIR POLLUTION CONTROL

cc: STARK COUNTY AREA TRANS STUDY

State of Ohio Environmental Protection Agency

Permit to Install
Terms and Conditions

Application No. 15-1314
APS Premise No. 1576050694
Permit Fee: $3400.00

Name of Facility: REPUBLIC ENGINEERED STEELS INC - CANTON

Person to Contact: ERIC HOWLAND

Address: P.O. BOX 24700
CANTON, OH 44701

Location of proposed source(s): 2633 EIGHTH STREET NE
CANTON, OHIO

Description of proposed source(s):
UPGRADES TO INCREASE THE PRODUCTIVITY OF 2 EAFS, LADLE PREHE ATER, REMOVAL OF PRODUCTION LIMITS ON LMF & REHEAT FURNACE.

Date of Issuance: June 17, 1998

Effective Date: June 17, 1998

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Donald R Schregardus

Director

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 expressed, 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

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.

Facility Name: **Republic Engineered Steels Inc. - Canton Works**
Application Number: **15-1314**
Date: **June 17, 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 a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies.

Facility Name: **Republic Engineered Steels Inc. - Canton Works**
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Date: **June 17, 1998**

AIR EMISSION SUMMARY

The air contaminant emissions units listed below comprise the Permit to Install for **Republic Engineered Steels Inc - Canton Works** 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.

Ohio EPA Source Number	Source Identification Description	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements
P905 (Mod)	85 tons/hour Electric Arc Furnace (EAF No. 7) with direct evacuation control (DEC) and a building evacuation system for capture and a baghouse for control MODIFICATION - process and maintenance improvements which promoted an increase in the actual production rate	Use of a direct evacuation control (DEC) and building evacuation system for capture, a baghouse for control, compliance with the terms of this permit, and compliance with the Ohio EPA's Air Toxics Policy	3745-17-07 (A)(1) (6/14/91) 3745-17-11 (6/14/91) 3745-18-06 (E)(1) (10/31/96) NSPS 40 CFR Part 60 Subpart AAa (10/31/84) 3745-31-05 3745-31-10 through 3745-31-20 (4/12/96)	BAT is more restrictive particulate: 56.8 pounds/hour* 249 tons/year* BAT is more restrictive BAT is more restrictive For Visible Emissions Limits See ** below particulate 0.0032 GR/DSCF PM_{10} (76 percent of PM): 43.17

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Ohio EPA Source Number	Source Identification Number	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements
P905 (Mod) Cont'd				pounds/hour* 189.24 tons/year* sulfur dioxide: 5.95 pounds/hour and 26.1 tons/year nitrogen oxides: 8.5 pounds/hour and 37.2 tons/year carbon monoxide: 340 pounds/hour and 1,489.2 tons/year volatile organic compounds: 29.75 pounds/hour and 130.3 tons/year lead (combined emissions from P905 and P907): 0.024 pound/hour 0.1 ton/year see *** for clarification of hourly and annual limits

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Ohio EPA Source Number	Source Identification Number	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements
P907 (Mod)	165 tons/hour Electric Arc Furnace (EAF No. 9) with direct evacuation control (DEC) and building evacuation system for capture and a baghouse for control MODIFICATION - transformer upgrade, process improvements and maintenance improvements which promoted an increase in the actual production rate	Use of a direct evacuation control (DEC) and building evacuation system for capture, a baghouse for control, compliance with the terms of this permit, and compliance with the Ohio EPA's Air Toxics Policy	3745-17-07 (A)(1) (6/14/91) 3745-17-11 (6/14/91) 3745-18-06 (E)(1) (10/31/96) NSPS 40 CFR Part 60 Subpart AAa (10/31/84) 3745-31-05 3745-31-10 through 3745-31-20 (4/12/96)	BAT is more restrictive particulate: 56.8 pounds/hour* 249 tons/year* BAT is more restrictive BAT is more restrictive For Visible Emissions Limits See ** below particulate: 0.0032 GR/DSCF PM_{10} (76 percent of PM): 43.17 pounds/hour* 189.24 tons/year* sulfur dioxide: 11.55 pounds/hour and 50.6 tons/year nitrogen oxides:

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Ohio EPA Source Number	Source Identification Number	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements
P907 (Mod) Cont'd				16.5 pounds/hour and 72.3 tons/year carbon monoxide: 660 pounds/hour and 2,890.8 tons/year volatile organic compounds: 57.75 pounds/hour and 252.9 tons/year lead (combined emissions from P905 and P907): 0.024 pound/hour 0.1 ton/year see *** for clarification of hourly and annual limits
P123 (Mod)	Ladle metallurgy facility with fabric filter	Fabric filter with an outlet grain loading of no more than 0.005 gr/DSCF	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

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Ohio EPA Source Number	Source Identification Number	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements
P123 (Mod) Cont'd			3745-31-05 (4/12/96) 3745-31-10 through 3745-31-20	particulate: 0.005 GR/DSCF 3.12 pounds/hour based on 72,800 DSCF/minute 13.67 tons/year
			See Section E in Additional Terms and Conditions	PM_{10}: 2.44 pounds/hour 10.69 tons/year
				Visible particulate emissions shall not exceed 5 percent opacity as a 6-minute average
				sulfur dioxide: 525 pounds/3-hour period 1,748 pounds/day 318.94 tons/year
				sulfur usage limit: 656 pounds/3-hour period 2,185 pounds/24-hour period 399 tons/year (These usage limits are based on an emission factor of 0.8 pound SO_2/pound

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Date: **June 17, 1998**

Ohio EPA Source Number	Source Identification Number	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements
P123 Cont'd				sulfur added. These numbers may be adjusted based on the results of future emission tests) The BH serving this emissions unit also serves emissions units P128 and P129. The above limits are for the combined emissions from all three of these emissions units.
P126 (Mod)	196.2 MMBTU/hour natural gas fired bloom reheat furnace	Low No_x burners that are below 0.112 pound No_x/ MMBtu and compliance with the terms of this permit	3745-17-07 (A)(1) (6/14/91)	BAT is more restrictive
			3745-17-11 (6/14/91)	BAT is more restrictive
			3745-31-05 (4/12/96) 3745-31-10 through 3745-31-20	nitrogen oxides: 0.112 pound/MMBTU 22 pounds/hour and 96.2 tons/year
			See Section E in Additional	carbon monoxide: 7.8 pounds/hour

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Ohio EPA Source Number	Source Identification Number	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements
P126 (Mod) Cont'd			Terms and Conditions	and 34.3 tons/year volatile organic compounds: 0.33 pound/hour and 1.44 tons/year PM/PM_{10}: 1 pound/hour 4.4 tons/year sulfur dioxide: 0.12 pound/hour 0.52 ton/year Visible particulate emissions shall not exceed 5 percent opacity as a 6-minute average
P130	14 MMBTU/hour natural gas fired eccentric bottom tapping ladle preheater furnace	Low No_x burners that are below 0.089 pound No_x/ MMBtu and compliance with the terms of this permit	3745-17-07 (6/14/91) 3745-17-11 (6/14/91) 3745-31-05 3745-31-10 through 3745-31-20 (4/12/96)	BAT is more restrictive BAT is more restrictive nitrogen oxides: 0.089 pound/MMBTU 1.25 pounds/hour and 5.5 tons/year

Facility Name: **Republic Engineered Steels Inc. - Canton Works**
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Ohio EPA Source Number	Source Identification Number	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements
				carbon monoxide: 0.49 pound/hour and 2.15 tons/year PM/PM_{10}: 0.196 pound/hour 0.86 ton/year Visible particulate emissions shall not exceed 5 percent opacity as a 6 minute average.

* Combined limit for emissions from the baghouse servicing P905, P907, and P106. This limit is based upon considering P905, P907, and P106 as similar sources and using Figure II and an uncontrolled MRE of 7,232 pounds/hour based on an emission factor of 11.3 pounds PM/ton. 56.8 pounds/hour x 8,760 hours/year x 1 ton/2,000 pounds = 249 tons/year.

** The following standards are requirements of the NSPS Subpart AAa, BACT and BAT. Visible emissions shall not exceed the following limits during a six-minute average:

3 percent opacity from the baghouse exit;

6 percent opacity from the melt shop [This limit is more restrictive than the NSPS limit which only limits emissions due solely to the operation of an EAF(s) or AOD vessel(s).]; and,

10 percent opacity from the dust handling equipment.

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*** The hourly emissions limits established for sulfur dioxide, nitrogen oxide, and carbon monoxide are based on the maximum hourly production rate of 85 tons of steel produced per hour.

**** The hourly emissions limits established for sulfur dioxide, nitrogen oxide, and carbon monoxide are based on the maximum hourly production rate of 165 tons of steel produced per hour.

SUMMARY
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

Pollutant	Tons/Year
PM	267.93
PM_{10}	205.19
SO_2	396.16
No_x	211.20
CO	4,416.45
VOC	384.64
Pb	0.10

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

NSPS REQUIREMENTS

The following sources are subject to the applicable provisions of the New Source Performance Standards (NSPS) as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60.

Source Number	Source Description	NSPS Regulation (Subpart)
P905	85 tons/hour EAF	AAa
P907	165 tons/hour EAF	AAa

The application and enforcement of these standards are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable.

Pursuant to the NSPS, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:

a. construction date (no later than 30 days after such date);
b. anticipated start-up date (not more than 60 days or less than 30 days prior to such date);
c. actual start-up date (within 15 days after such date); and
d. date of performance testing (If required, at least 30 days prior to testing).

Reports are to be sent to:

Ohio Environmental Protection Agency
DAPC - Permit Management Unit
P.O. Box 163669
Columbus, OH 43216-3669

and **Canton City Health Department**
Air Pollution Control Division
420 Market Avenue North
Canton, OH 44702-1544

PSD REQUIREMENTS

The source described in this Permit to Install is subject to the applicable provisions of the Prevention of Significant Deterioration (PSD) regulations as promulgated by the United States Environmental Protection Agency 40 CFR 52.21. The authority to apply and enforce the PSD regulations has been delegated to the Ohio Environmental Protection Agency. The terms and conditions of this permit and the requirements of the PSD regulations are also enforceable by the United States Environmental Protection Agency.

In accordance with 40 CFR 124.15, 124.19 and 124.20, the following shall apply: (1) the effective date of this permit shall be 30 days after the service of notice to any public commentors of the final decision to issue, modify, or revoke and re-issue the permit, unless the service of notice is by mail, in which case the effective date of the permit shall be 33 days after the service of notice; and (2) if an appeal is made to the Administrator of the United States Environmental Protection Agency, the effective date of the permit is suspended until such time as the appeal is resolved or denied.

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 City Health Department - Air Pollution Control Division, 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 City Health Department - Air Pollution Control Division, 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.

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. Emissions Unit P905 - 85 tons/hr Electric Arc Furnace

A. Operational Restrictions (905)

1. The emissions from P905 shall be vented to the No. 4 Melt Shop Baghouse. This baghouse shall have a minimum control efficiency of 99 percent. In addition, the system shall achieve a minimum capture efficiency that is sufficient to prevent violations of the 6 percent opacity limit for fugitive emissions from the melt shop. The capture system for the emissions unit shall include a common canopy hood and a roof control system, both of which vent to the No. 4 Melt Shop Baghouse.

2. This emissions unit shall achieve a minimum capture efficiency of 99 percent for carbon monoxide emissions.

3. This emissions unit shall achieve a minimum capture efficiency of 99 percent for volatile organic compound emissions.

4. No more than 85 tons of steel per hour shall be processed in P905. This production rate is an average hourly rate determined by dividing the tons of steel produced per day by the number of operating hours per day.

5. Prior to the modification of this emissions unit, the permittee shall submit a Scrap Management Plan (SMP) to the Canton Local Air Agency for review and approval. The SMP shall be implemented immediately after approval by the Canton LAA. The main focus of the SMP will be to ensure that the purchase of excessively oily scrap and other combustible material will be minimized to the greatest extent possible. All grades of scrap shall be free of excessive dirt, oil, and grease. Heavily oiled scrap shall not be used. As part of the SMP, the permittee shall install a radionuclide detector which will be used to inspect all incoming scrap material into the facility. Radioactive scrap material shall not be used at this facility. Any scrap material which is determined to be radioactive shall be disposed of pursuant to Republic's Radiation Management Program.

6. The permittee shall develop a parametric monitoring and recordkeeping plan in order to confirm that the Melt Shop Baghouse servicing this emissions unit is operating properly. This plan shall be developed prior to the modification of this emissions unit and shall be consistent with the Title V and CAM requirements. The monitoring equipment (if necessary) shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). This plan is subject to approval by Canton Air Pollution Control Agency.

B. <u>Monitoring and/or Recordkeeping Requirements (P905)</u>

1. The following are requirements of the NSPS Subpart AAa. Observations of the opacity of the visible emissions from the control devices shall be performed by a certified visible emission observer as follows:

   a. visible emission observations shall be conducted at least once per day of operation. The observations shall occur when the furnace is operating in the charging, melting, tapping and refining period. These observations shall be taken in accordance with Method 9 of 40 CFR Part 60, Appendix A and, for at least three 6-minute periods, the opacity shall be recorded for point(s) where the greatest opacity visible emissions are observed, and that

portion of the plume where the condensed water phase is not present in accordance with the procedures listed in Method 9 of 40 CFR Part 60, Appendix A. Where it is possible to determine that a number of visible emission sites relate to only one incident of the visible emission, only one set of three 6-minute observations will be required. In this case, Method 9 observations must be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. Records shall be maintained of any 6-minute average that is in excess of the opacity limits specified in the footnotes for the Air Emission Summary above.

The appropriate records shall be maintained in the permittee's files to identify the persons responsible for conducting the opacity readings and to verify that the Method 9 certifications are up to date for the responsible individuals.

2. The permittee shall monitor the operation of the furnace control systems and maintain records in accordance with the following requirements:

   a. the permittee shall install, calibrate, and maintain a monitoring device that allows the pressure in the free space inside the EAF to be monitored. The monitoring device may be installed in any appropriate location in the EAF ducts prior to the introduction of ambient air such that reproducible results will be obtained. The pressure monitoring device shall have an accuracy of plus or minus 5 mm of water gauge over its normal operating range and shall be calibrated according to the manufacturer's instructions. The pressure determined during the most recent compliance demonstration shall be maintained at all times when the EAF is operating in a meltdown and refining period. Operation at higher pressures will be considered by the Ohio EPA, Division of Air Pollution Control (DAPC) to be unacceptable operation and maintenance of the control system. The permittee may petition the Ohio EPA for reestablishment of the 15-minute integrated average of the pressure

whenever the permittee can demonstrate to the Agency's satisfaction that EAF operating conditions upon which the pressures were previously established are no longer applicable;

b. the permittee shall check and record on a once-per-shift basis the furnace static pressure and either (1) check and record the control system fan motor amperes and damper positions on a once-per-shift basis; or (2) install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate through each separately ducted hood. The monitoring device may be installed in any appropriate location in the exhaust duct such that reproducible flow rate monitoring will result. The flow rate monitoring devices shall have an accuracy of plus or minus 10 percent over their normal operating range and shall be calibrated according to the manufacturer's instructions. The Ohio EPA, DAPC may require the permittee to demonstrate the accuracy of the monitoring devices relative to Methods 1 and 2 of Appendix A of 40 CFR, Part 60. The values of these parameters as determined during the most recent demonstration of compliance shall be maintained at the appropriate levels for each applicable period. Operation at other than baseline values will be considered by the Ohio EPA, DAPC to be unacceptable operation and maintenance of the control system. The permittee may petition the Ohio EPA for reestablishment of these parameters whenever the permittee can demonstrate to the Agency's satisfaction that the operating conditions upon which the parameters were previously established are no longer applicable;

c. the permittee shall perform monthly operational status inspections of the equipment that is important to the performance of the total capture systems (i.e., pressure sensors, dampers, and damper switches). This inspection shall include observations of the physical appearance of the equipment (e.g., presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork, and fan erosion.) Any

deficiencies shall be recorded and proper maintenance performed. The permittee may petition the Ohio EPA, DAPC to approve any alternative to monthly operational status inspections that will provide a continuous record of the operation of each emission capture system; and,

d. upon approval by the USEPA, an alternative method may be established to replace the monitoring and recordkeeping requirements found in B.2.a, B.2.b, and B.2.c above.

3. The permittee shall maintain daily production records for this emissions unit. These records, at a minimum, shall contain the following information:

   a. the number of hours this emissions unit was in operation;

   b. the tons of steel produced; and,

   c. the average hourly production rate in tons of steel per hour determined by dividing B.3.b by B.3.a.

4. The permittee shall maintain monthly records of the tons of steel produced during each calendar month.

5. The permittee shall perform the appropriate parametric monitoring and recordkeeping as identified in the plan established in Condition A.6 for the No. 4 Melt Shop Baghouse.

C. <u>Reporting Requirements (P905)</u>

1. The permittee shall submit quarterly written deviation (excursion) reports of all exceedances of the opacity restrictions contained in the footnotes for the Air Emission Summary above. For the purposes of these reports, exceedances are defined as all 6-minute periods during which the average opacity exceeds these limits.

2. The permittee shall submit quarterly written deviation (excursion) reports that identify all exceedances of the values established in B.2.a above and either operation of control system fan motor amperes at values exceeding plus 15 percent of the values established under B.2.b above or

operation at flow rates lower than those established under B.2.b above.

3. The permittee shall submit quarterly written deviation (excursion) reports that identify any day in which the average hourly production rate of this EAF exceeded 85 tons/hr.

4. The permittee shall submit quarterly written deviation (excursion) reports that identify all periods of time during which the parameters established in the parametric monitoring plan for the Melt Shop Baghouse did not comply with the allowable range specified in the plan.

5. The reports identified above shall be submitted to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton Ohio 44702. These reports shall identify the probable cause of such deviations and any corrective actions or preventive measures taken. These reports shall be submitted quarterly, i.e., by January 15, April 15, July 15 and October 15 of each year for the previous calendar quarters. If no deviations occurred during a calendar quarter, a quarterly report shall be submitted which states that no deviations occurred during that period. (Any malfunctions must be reported in accordance with the procedures specified in OAC rule 3745-15-06.)

D. <u>Compliance Methods and Testing Requirements (P905)</u>

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

a. <u>Emission Limitation</u>

56.8 pounds per hour of PM for the combined emissions from P905, P907 and P106. 43.17 pounds per hour of PM_{10} for the combined emissions from P905, P907 and P106. BACT limit of 0.0032 GR/DSCF from No. 4 Melt Shop Baghouse.

<u>Applicable Compliance Method</u>

For PM, Method 5, 40 CFR Part 60, Appendix A. For PM_{10}, Method 201, 40 CFR Part 60, Appendix A.

b. Emission limitation

3 percent opacity from the baghouse exit; 6 percent opacity from the melt shop; and 10 percent from the dust-handling system.

Applicable Compliance Method

Method 9, 40 CFR Part 60, Appendix A and the procedures of 40 CFR Part 60.11 shall be used to determine opacity as outlined in Condition B.1.a.

c. Emission Limitation

5.95 lbs/hour of sulfur dioxide

Applicable Compliance Method

Method 6, 40 CFR Part 60, Appendix A

d. Emission Limitation

8.5 lbs/hour of nitrogen oxides

Applicable Compliance Method

Initial compliance shall be demonstrated using Method 7, 40 CFR Part 60, Appendix A. Thereafter, provided compliance is achieved during the stack test, multiply the nitrogen oxide emission factor, in lb NO_x per ton of steel produced, established during the stack test (not to exceed 0.1 lb/ton steel) by the actual average hourly steel processing rate (tons/hour).

e. Emission Limitation

340 lbs/hour of carbon monoxide

Applicable Compliance Method

Initial compliance shall be demonstrated using Method 10, 40 CFR Part 60, Appendix A. Thereafter, provided compliance is achieved during the stack test, multiply the carbon monoxide emission factor, in pound(s) CO per ton of steel produced, established during the

stack test (not to exceed 4 lbs CO/ton steel) by the actual average hourly steel processing rate (tons/hour).

f. Emission Limitation

29.75 lbs/hour of volatile organic compounds (VOC)

Applicable Compliance Method

Initial compliance shall be determined by Method 25 or Method 25A, 40 CFR Part 60, Appendix A shall be used. An emission factor of 0.35 lb VOC/ton of steel comes from FIRE Version 5.0 SCC. 0.35 lb VOC/ton X 85 tons/hr = 29.75 lbs VOC/hr.

g. Emission Limitation

0.024 lb/hour of lead (combined emissions from P905 & P907)

Applicable Compliance Method

Initial compliance shall be determined by Method 12, 40 CFR Part 60, Appendix A.

h. Emission Limitation

249 tons PM/yr
189.24 tons PM_{10}/yr
26.1 tons SO_2/yr
37.2 tons NO_x/yr
1,489.2 tons CO/yr
130.3 tons VOC/yr
0.1 ton Pb/yr

Applicable Compliance Method

The ton-per-year limitations were developed by multiplying the pound/hour limitations by the maximum operating schedule of 8,760 hours/year and dividing by 2,000 pounds/ton. Therefore, provided compliance is shown with the hourly limitations, compliance will also be shown with the annual limitations.

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 the modifications have been completed but no later than March 31, 1999;

   b. the test(s) shall be conducted while emissions units P106, P905, and P907 are all operating at or near their maximum capacities, unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division;

      A particulate emissions test also shall be conducted on the inlet to the control device to determine the combined uncontrolled mass rate of emission for P905, P907 & P106, for purposes of applying Figure II of OAC rule 3745-17-11. For this testing, Method 5 of 40 CFR Part 60, Appendix A shall be employed;

   c. the parametric monitoring requirements established per Condition A.6 shall be checked during the emissions test;

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

Pollutant	Test Method	Location
PM	Method 5	40 CFR Part 60 Appendix A
SO_2	Method 6	40 CFR Part 60 Appendix A
CO	Method 10	40 CFR Part 60 Appendix A
NO_x	Method 7	40 CFR Part 60 Appendix A
VOC	Method 25	40 CFR Part 60 Appendix A

Pb	Method 12	40 CFR Part 60 Appendix A

Alternate test methods may be substituted with prior approval of the Canton Local Air Agency.

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 appropriate Canton Local Air Agency within 30 days following completion of the test(s);

e. the permittee shall determine compliance with the particulate matter standards as follows:

   i. Method 5D shall be used for positive-pressure fabric filters to determine the particulate matter concentration and volumetric flow rate of the effluent gas. The sampling time and sample volume for each run shall be at least 4 hours and 4.50 dscm (160 DSCF) and, when a single EAF is sampled, the sampling time shall include an integral number of heats;

ii. Method 9 and the procedures of 40 CFR Part 60.11 shall be used to determine opacity;

iii. the test runs shall be conducted concurrently, unless inclement weather interferes;

iv. if the test results show particulate emissions exceed the PM_{10} emission limit, then the permittee shall perform a particle size distribution to determine the fraction of the PM_{10} present in the composite sample which was collected;

f. during the particulate matter runs, the permittee shall obtain the following additional information:

i. the pressure in the free space inside the furnace shall be determined during the melting and refining period(s) using the monitoring devices required under Condition No. B.2.a of this permit;

ii. the control system fan motor amperes and all damper positions or the volumetric flow rate through each separately ducted hood shall be determined during all periods in which a hood is operated for the purpose of capturing emissions from the EAFs; and,

g. during performance tests, the permittee shall not add gaseous diluents to the effluent gas stream after the fabric in any pressurized fabric filter collector unless the amount of dilution is separately determined and considered in the determination of emissions.

E. <u>Miscellaneous Requirements (905)</u>

An evaluation of air toxic emissions was performed by the permittee. With the exception of aluminum and zinc, emissions of other air toxic pollutants did not exceed one (1) ton per year. The air toxics analyses for Zn showed concentrations of only 1 percent of the MAGLC and for Al only 3 percent of the MAGLC. In the event

that additional air toxic emissions should exceed one ton per year in the future, the permittee shall perform an evaluation to determine compliance with Ohio EPA's Air Toxics Policy.

II. Emissions Unit P907 - 165 tons/hr Electric Arc Furnace

A. Operational Restrictions (907)

1. The emissions from P907 shall be vented to the No. 4 Melt Shop Baghouse. This baghouse shall have a minimum control efficiency of 99 percent. In addition, the system shall achieve a minimum capture efficiency that is sufficient to prevent violations of the 6 percent opacity limit for fugitive emissions from the melt shop. The capture system for the emissions unit shall include a common canopy hood and a roof control system, both of which vent to the No. 4 Melt Shop Baghouse.

2. This emissions unit shall achieve a minimum capture efficiency of 99 percent for carbon monoxide emissions.

3. This emissions unit shall achieve a minimum capture efficiency of 99 percent for volatile organic compound emissions.

4. No more than 165 tons of steel per hour shall be processed in P907. This production rate is an average hourly rate determined by dividing the tons of steel produced per day by the number of operating hours per day.

5. Prior to the modification of this emissions unit, the permittee shall submit a Scrap Management Plan (SMP) to the Canton Local Air Agency for review and approval. The SMP shall be implemented immediately after approval by the Canton LAA. The main focus of the SMP will be to ensure that the purchase of excessively oily scrap and other combustible material will be minimized to the greatest extent possible. All grades of scrap shall be free of excessive dirt, oil, and grease. Heavily oiled scrap shall not be used. As part of the SMP, the permittee shall install a radionuclide detector which will be used to inspect all incoming scrap material into the facility. Radioactive scrap

material shall not be used at this facility. Any scrap material which is determined to be radioactive shall be disposed of pursuant to Republic's Radiation Management Program.

6. The permittee shall develop a parametric monitoring and recordkeeping plan in order to confirm that the Melt Shop Baghouse servicing this emissions unit is operating properly. This plan shall be developed prior to the modification of this emissions unit and shall be consistent with the Title V and CAM requirements. The monitoring equipment (if necessary) shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). This plan is subject to approval by Canton Air Pollution Control Agency.

B. <u>Monitoring and/or Recordkeeping Requirements (P907)</u>

1. The following are requirements of the NSPS Subpart AAa. Observations of the opacity of the visible emissions from the control devices shall be performed by a certified visible emission observer as follows:

   a. visible emission observations shall be conducted at least once per day of operation. The observations shall occur when the furnace is operating in the charging, melting, tapping and refining period. These observations shall be taken in accordance with Method 9 of 40 CFR Part 60, Appendix A and, for at least three 6-minute periods, the opacity shall be recorded for point(s) where the greatest opacity visible emissions are observed, and that portion of the plume where the condensed water phase is not present in accordance with the procedures listed in Method 9 of 40 CFR Part 60, Appendix A. Where it is possible to determine that a number of visible emission sites relate to only one incident of the visible emission, only one set of three 6-minute observations will be required. In this case, Method 9 observations must be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. Records shall be maintained of any 6-minute average that is in excess of the opacity

limits specified in the footnotes for the Air Emission Summary above.

The appropriate records shall be maintained in the permittee's files to identify the persons responsible for conducting the opacity readings and to verify that the Method 9 certifications are up to date for the responsible individuals.

2. The permittee shall monitor the operation of the furnace control systems and maintain records in accordance with the following requirements:

   a. the permittee shall install, calibrate, and maintain a monitoring device that allows the pressure in the free space inside the EAF to be monitored. The monitoring device may be installed in any appropriate location in the EAF ducts prior to the introduction of ambient air such that reproducible results will be obtained. The pressure monitoring device shall have an accuracy of plus or minus 5 mm of water gauge over its normal operating range and shall be calibrated according to the manufacturer's instructions. The pressure determined during the most recent compliance demonstration shall be maintained at all times when the EAF is operating in a meltdown and refining period. Operation at higher pressures will be considered by the Ohio EPA, Division of Air Pollution Control (DAPC) to be unacceptable operation and maintenance of the control system. The permittee may petition the Ohio EPA for reestablishment of the 15-minute integrated average of the pressure whenever the permittee can demonstrate to the Agency's satisfaction that EAF operating conditions upon which the pressures were previously established are no longer applicable;

   b. the permittee shall check and record on a once-per-shift basis the furnace static pressure and either (1) check and record the control system fan motor amperes and damper positions on a once-per-shift basis; or (2) install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate through each separately

ducted hood. The monitoring device may be installed in any appropriate location in the exhaust duct such that reproducible flow rate monitoring will result. The flow rate monitoring devices shall have an accuracy of plus or minus 10 percent over their normal operating range and shall be calibrated according to the manufacturer's instructions. The Ohio EPA, DAPC may require the permittee to demonstrate the accuracy of the monitoring devices relative to Methods 1 and 2 of Appendix A of 40 CFR Part 60. The values of these parameters as determined during the most recent demonstration of compliance shall be maintained at the appropriate levels for each applicable period. Operation at other than baseline values will be considered by the Ohio EPA, DAPC to be unacceptable operation and maintenance of the control system. The permittee may petition the Ohio EPA for reestablishment of these parameters whenever the permittee can demonstrate to the Agency's satisfaction that the operating conditions upon which the parameters were previously established are no longer applicable;

c. the permittee shall perform monthly operational status inspections of the equipment that is important to the performance of the total capture systems (i.e., pressure sensors, dampers, and damper switches). This inspection shall include observations of the physical appearance of the equipment (e.g., presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork, and fan erosion.) Any deficiencies shall be recorded and proper maintenance performed. The permittee may petition the Ohio EPA, DAPC to approve any alternative to monthly operational status inspections that will provide a continuous record of the operation of each emission capture system; and,

d. upon approval by the USEPA, an alternative method may be established to replace the monitoring and recordkeeping requirements found in B.2.a, B.2.b, and B.2.c above.

3. The permittee shall maintain daily production records for this emissions unit. These records, at a minimum, shall contain the following information:

   a. the number of hours this emissions unit was in operation;

   b. the tons of steel produced; and,

   c. the average hourly production rate in tons of steel per hour determined by dividing B.3.b by B.3.a.

4. The permittee shall maintain monthly records of the tons of steel produced during each calendar month.

5. The permittee shall perform the appropriate parametric monitoring and recordkeeping as identified in the plan established in Condition A.6 for the #4 Melt Shop Baghouse.

C. <u>Reporting Requirements (P907)</u>

1. The permittee shall submit quarterly written deviation (excursion) reports of all exceedances of the opacity restrictions contained in the footnotes to the Air Emission Summary above. For the purposes of these reports, exceedances are defined as all 6-minute periods during which the average opacity exceeds these limits.

2. The permittee shall submit quarterly written deviation (excursion) reports that identify all exceedances of the values established in B.2.a above and either operation of control system fan motor amperes at values exceeding plus 15 percent of the values established under B.2.b above or operation at flow rates lower than those established under B.2.b above.

3. The permittee shall submit quarterly written deviation (excursion) reports that identify any day in which the average hourly production rate of this EAF exceeded 165 tons/hr.

4. The permittee shall submit quarterly written deviation (excursion) reports that identify all periods of time during which the parameters

established in the parametric monitoring plan for the Melt Shop Baghouse did not comply with the allowable range specified in the plan.

5. The reports identified above shall be submitted to the Canton City Health Department, Air Pollution Control Division, 420 Market Avenue N., Canton Ohio 44702. These reports shall identify the probable cause of such deviations and any corrective actions or preventive measures taken. These reports shall be submitted quarterly, i.e., by January 15, April 15, July 15, and October 15 of each year for the previous calendar quarters. If no deviations occurred during the a calendar quarter, a quarterly report shall be submitted which states that no deviations occurred during that period. (Any malfunctions must be reported in accordance with the procedures specified in OAC Rule 3745-15-06.)

D. Compliance Methods and Testing Requirements (P907)

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

a. Emission Limitation

56.8 pounds per hour of PM for the combined emissions from P905, P907 and P106. 43.17 pounds per hour of PM_{10} for the combined emissions from P905, P907 and P106. BACT limit of 0.0032 GR/DSCF from No. 4 Melt Shop Baghouse.

Applicable Compliance Method

For PM, Method 5, 40 CFR Part 60, Appendix A. For PM_{10}, Method 201, 40 CFR Part 60, Appendix A.

b. Emission limitation

3 percent opacity from the baghouse exit; 6 percent opacity from the melt shop; and 10 percent from the dust-handling system.

Applicable Compliance Method

Method 9, 40 CFR Part 60, Appendix A and the procedures of 40 CFR Part 60.11 shall be used

to determine opacity as outlined in Condition B.1.a.

c. Emission Limitation

11.55 lbs/hour of sulfur dioxide

Applicable Compliance Method

An emission factor of 0.07 lb SO_2/ton of steel comes from FIRE Version 5.0 SCC. 0.07 lb/ton X 165 tons/hr = 11.55 lbs/hr.

d. Emission Limitation

16.5 lbs/hour of nitrogen oxides

Applicable Compliance Method

Initial compliance shall be demonstrated using Method 7, 40 CFR Part 60, Appendix A. Thereafter, provided compliance is achieved during the stack test, multiply the nitrogen oxide emission factor, in lb NO_x per ton of steel produced, established during the stack test (not to exceed 0.1 lb/ton steel) by the actual average hourly steel processing rate (tons/hour).

e. Emission Limitation

660 lbs/hour of carbon monoxide

Applicable Compliance Method

Initial compliance shall be demonstrated using Method 10, 40 CFR Part 60, Appendix A. Thereafter, provided compliance is achieved during the stack test, multiply the carbon monoxide emission factor, in pound(s) CO per ton of steel produced, established during the stack test (not to exceed 4 lbs CO/ton steel) by the actual average hourly steel processing rate (tons/hour).

f. Emission Limitation

57.75 lbs/hour of volatile organic compounds (VOC)

Applicable Compliance Method

Initial compliance shall be determined by Method 25 or Method 25A, 40 CFR Part 60, Appendix A shall be used. An emission factor of 0.35 lb VOC/ton of steel comes from FIRE Version 5.0 SCC. 0.35 lb VOC/ton X 165 tons/hr = 57.75 VOC lbs/hr.

g. Emission Limitation

0.024 lb/hour of lead (combined emissions from P905 & P907)

Applicable Compliance Method

Initial compliance shall be determined by Method 12, 40 CFR Part 60, Appendix A shall be used.

h. Emission Limitation

249 tons PM/yr
189.24 tons PM_{10}
50.6 tons SO_2/yr
72.3 tons NO_x/yr
2,890.8 tons CO/yr
252.9 tons VOC/yr
0.1 ton Pb/yr

Applicable Compliance Method

The ton-per-year limitations were developed by multiplying the pound/hour limitations by the maximum operating schedule of 8,760 hours/year and dividing by 2,000 pounds/ton. Therefore, provided compliance is shown with the hourly limitations, compliance will also be shown with the annual limitations.

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 the completion of the modification but no later than March 31, 1999;

b. the test(s) shall be conducted while emissions units P106, P905, and P907 are all operating

at or near their maximum capacities unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division.

A particulate emissions test also shall be conducted on the inlet to the control device to determine the combined uncontrolled mass rate of emission for P905, P907 & P106, for purposes of applying Figure II of OAC rule 3745-17-11. For this testing, Method 5 of 40 CFR Part 60, Appendix A shall be employed;

c. the parametric monitoring requirements established per Condition A.6 shall be checked during the emissions test;

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

Pollutant	Test Method	Location
PM	Method 5	40 CFR Part 60 Appendix A
SO_2	Method 6	40 CFR Part 60 Appendix A
CO	Method 10	40 CFR Part 60 Appendix A
NO_x	Method 7	40 CFR Part 60 Appendix A
VOC	Method 25	40 CFR Part 60 Appendix A
Pb	Method 12	40 CFR Part 60 Appendix A

Alternate test methods may be substituted with prior approval of the Canton Local Air Agency.

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 appropriate Canton Local Air Agency within 30 days following completion of the test(s);

e. the permittee shall determine compliance with the particulate matter standards as follows:

i. Method 5D shall be used for positive-pressure fabric filters to determine the particulate matter concentration and volumetric flow rate of the effluent gas. The sampling time and sample volume for each run shall be at least 4 hours and 4.50 dscm (160 DSCF) and, when a single EAF is sampled, the sampling time shall include an integral number of heats;

ii. Method 9 and the procedures of 40 CFR Part 60.11 shall be used to determine opacity;

iii. the test runs shall be conducted concurrently, unless inclement weather interferes; and,

iv. if the test results show particulate emissions exceed the PM_{10} emission limit, then the permittee shall perform a

particle size distribution to determine the fraction of the PM_{10} present in the composite sample which was collected;

f. during the particulate matter runs, the permittee shall obtain the following additional information:

i. the pressure in the free space inside the furnace shall be determined during the melting and refining period(s) using the monitoring devices required under Condition B.2.a of this permit, unless alternative monitoring is approved by USEPA; and,

ii. the control system fan motor amperes and all damper positions or the volumetric flow rate through each separately ducted hood shall be determined during all periods in which a hood is operated for the purpose of capturing emissions from the EAFs; and,

g. during performance tests, the permittee shall not add gaseous diluents to the effluent gas stream after the fabric in any pressurized fabric filter collector unless the amount of dilution is separately determined and considered in the determination of emissions.

E. <u>Miscellaneous Requirements (907)</u>

An evaluation of air toxic emissions was performed by the permittee. With the exception of aluminum and zinc, emissions of other air toxic pollutants did not exceed one (1) ton per year. The air toxics analyses for Zn showed concentrations of only 1 percent of the MAGLC and for Al only 3 percent of the MAGLC. In the event that additional air toxic emissions should exceed one ton per year in the future, the permittee shall perform an evaluation to determine compliance with Ohio EPA's Air Toxics Policy.

III. Emissions Unit P123 - Ladle Metallurgy Facility

A. <u>Operational Restrictions (P123)</u>

1. All sulfur additions in the LMF shall be done by injecting the material under the surface of the

molten steel. This may include, but is not limited to, wire injection.

2. No oxygen shall be used for heating molten steel or for carbon reduction of the molten steel at the LMF.

3. The LMF shall be equipped with a fabric filter baghouse control system which shall be designed at an average flow rate of 72,800 dry standard cubic feet per minute (DSCF) and operated at a sufficient volume flow rate to capture emissions generated by the LMF to achieve a maximum particulate emissions rate of 0.005 grain per dry standard cubic foot of exhaust gas (gr/DSCF).

4. The SO_2 mass emission limitations for this emissions unit in the air emissions summary and sulfur addition restrictions in the Additional Special Terms and Conditions are based on an emission factor of 0.80 ton SO_2 emissions/ton sulfur added to the steel, as determined by mass balance and based on the assumption that all the excess sulfur is converted to SO_2. Some additional SO_2 is also generated from the sulfur already present in the steel prior to sulfur additions at this emissions unit. Based on the analyses required in term III.D.2.g, this emission factor may be adjusted.

5. Based on the emission factor of 0.8 lb SO_2/lb of sulfur added, the following sulfur addition rates shall not be exceeded:

   a. no more than 656 pounds of sulfur additions shall take place in any three-hour period;

   b. no more than 2,185 pounds of sulfur additions shall take place in any 24-hour period; and,

   c. no more than 399 tons of sulfur additions shall take place in any year;

   As stated in term III.A.1.4 the 0.8 lb SO_2/lb sulfur added emission factor may be adjusted based on future emissions tests which will in turn allow these usage rates to be adjusted .

6. This emissions unit shall not emit more than 525 lbs of SO_2 in any three-hour period based upon a rolling 3-hour summation of the hourly emissions.

7. This emissions unit shall not emit more than 1,748 lbs of SO_2 in any 24-hour period based upon a rolling, 24-hour summation of the hourly emissions.

8. This emissions unit shall not emit more than 399 tons of SO_2 in any year based upon a rolling, 12-month summation of the sulfur addition figures.

   To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the sulfur addition levels specified in the following table:

Months	Maximum Allowable Sulfur Additions Tons
1	33.25
1-2	66.5
1-3	99.75
1-4	133
1-5	166.25
1-6	199.5
1-7	232.75
1-8	266
1-9	299.25
1-10	332.5
1-11	365.75
1-12	399

   After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual sulfur addition limit shall be based upon a rolling, 12-month summation of the sulfur addition figures.

9. The pressure drop across the baghouse shall be maintained within the range of pressure drop in inches of water (e.g., 2.5 to 5.0) established during the most recent emission test that demonstrated that the emissions unit was in compliance.

B. Monitoring and/or Recordkeeping Requirements (P123)

1. The permittee shall maintain records of the following:

   a. the hourly records of sulfur additions for this emissions unit;

   b. the rolling, 3-hour rates of sulfur additions;

   c. the rolling, 24-hour rates of sulfur additions; and,

   d. beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of the sulfur addition figures.

   Also, during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative sulfur additions for each calendar month.

2. The permittee shall install, operate, and maintain equipment to monitor the pressure drop across the baghouse 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 baghouse on a daily basis.

C. Reporting Requirements (P123)

The permittee shall submit quarterly deviation (excursion) reports with identification of the following:

1. Each rolling 3-hour period in which the sulfur addition rate in this emissions unit exceeded 656 pounds and the actual average hourly sulfur usage for each such 3-hour period.

2. Each rolling 24-hour period in which the sulfur addition rate in this emissions unit exceeded 2,185 pounds and the actual sulfur usage for each such 24-hour period.

3. All exceedances of the rolling, 12-month limitation and for the first 12 calendar months after issuance of this permit, all exceedances of the maximum allowable cumulative sulfur addition levels.

4. All periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

5. The permittee shall submit required reports in the following manner:

   a. reports of any required monitoring and/or recordkeeping information shall be submitted to the Canton Local Air Agency; and,

   b. except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventative measures which have been or will be taken, shall be submitted to the Canton Local Air Agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 15, April 15, July 15, and October 15 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

D. <u>Compliance Methods and Testing Requirements (P123)</u>

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

a. Emission Limitation

0.005 grain/DSCF, 3.12 lbs PM/hr, and 13.67 tons PM/yr

Applicable Compliance Method

Method 5, 40 CFR Part 60, Appendix A

b. Emission Limitation

2.44 lbs PM_{10}/hr and 10.69 tons PM_{10}/yr

Applicable Compliance Method

See D.2.f, Method 201, 40 CFR Part 60, Appendix A

c. Emission limitation
Visible emissions limit

Applicable Compliance Method

Method 9, 40 CFR Part 60, Appendix A

d. Emission Limitation

525 lbs/3-hour period of sulfur dioxide, 1,748 lbs/day of sulfur dioxide and 318.94 tons of sulfur dioxide/yr

Applicable Compliance Method

Method 6, 40 CFR Part 60, Appendix A.
Sulfur addition limits shall also be used to determine compliance. Multiply the sulfur dioxide factor of 0.8 lb SO_2/lb sulfur added by the actual sulfur usage. This emission factor may be adjusted based on the future results of future emissions tests.

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 the completion of the modification but not later than March 31, 1999;

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 SO_2 and PM;

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

Pollutant	Test Methods	Location
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 Condition A.5 shall be checked during the emissions test;

f. if the test results show particulate emissions exceed the PM_{10} emission limit, then the permittee shall perform a particle size distribution to determine the fraction of the PM_{10} present in the composite sample which was collected; and,

g. this emissions test shall be used to establish an emission factor to relate the sulfur dioxide emission rate to the amount of sulfur added in this emissions unit. Prior to this test the permittee shall submit an approvable plan to the Canton Local Air Agency that details how this emission factor shall be determined.

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 appropriate 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 (P123)

1. The terms and conditions of this Permit to Install shall supersede all the air pollution control requirements for this emissions unit contained in Permit to Install 15-1093, as issued on December 22, 1993.

IV. Emissions Unit P126 - 196.2 MMBTU/hr Natural Gas Fired Bloom Reheat Furnace

A. Operational Restrictions (P126)

1. The only fuel to be burned in this emissions unit shall be natural gas.

2. This emissions unit shall be equipped with low NO_x burners rated at 0.112 lb NO_x/MMBtu or lower.

B. Monitoring and Recordkeeping Requirements (P126)

1. None

C. Reporting Requirements (P126)

1. None

D. Compliance Methods and Testing Requirements (P126)

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

a. Emission Limitation

0.112 lb NO_x/MMBtu, 22 lbs NO_x/hr

Applicable Compliance Method

Stack test conducted on January 19, 1996 showed an average NO_x emission rate of only 2 lbs/hr. No future testing should be necessary.

b. Emission Limitation

7.8 lbs CO/hr

Applicable Compliance Method

AP42 emission factor found in Table 1.4-1 of 35 lbs CO/MMCF converts to 6.86 lbs/hr

c. Emission Limitation

1 lb PM-PM_{10}/hr

Applicable Compliance Method

AP42 emission factor found in Table 1.4-2 of 1-5 lbs PM/MMCF converts to 0.98 lb PM/hr

d. Emission Limitation

0.33 lb VOC/hr

Applicable Compliance Method

AP42 emission factor found in Table 1.4-3 of 1.7 lbs VOC/MMCF converts to 0.33 lb VOC/hr.

e. Emission Limitation

0.12 lb SO_2/hr

Applicable Compliance Method

AP42 emission factor found in Table 1.4-1 of 0.6 lbs SO_2/MMCF converts to 0.12 lb SO_2/hr

f. Emission Limitation

96.2 tons NO_x/yr
34.3 tons CO/yr
4.4 tons PM-Pm_{10}/yr
1.44 tons VOC/yr
0.52 ton SO_2/yr

Applicable Compliance Method

The ton-per-year limitations were developed by multiplying the pound/hour limitations by the maximum operating schedule of 8,760 hours/year and dividing by 2,000 pounds/ton. Therefore, provided compliance is shown with the hourly limitations, compliance will also be shown with the annual limitations.

g. Emission Limitation

Visible Emissions Limits

Applicable Compliance Method

Method 9, 40 CFR Part 60, Appendix A

E. Miscellaneous Requirements (P126)

1. The terms and conditions of this Permit to Install shall supersede all the air pollution control requirements for this emissions unit contained in Permit to Install 15-1093, as issued on December 22, 1993.

V. Emissions Unit P130 - 14 MMBtu/hr Natural Gas Fired Eccentric Bottom Tapping Ladle Preheater

A. Operational Restrictions (P130)

1. The only fuel to be burned in this emissions unit shall be natural gas.

2. This emissions unit shall be equipped with low NO_x burners.

B. Monitoring and Recordkeeping Requirements (P130)

1. None

C. Reporting Requirements (P130)

1. None

D. Compliance Methods and Testing Requirements

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

a. Emission Limitation

0.089 lb NO_x/MMBtu, 1.25 lbs $N0_x$ /hr, and 5.5 tons NO_x/yr

Applicable Compliance Method

AP42 emission factor found in Table 1.4-1 83 lbs NO_x/MMCF converts to 1.16 lbs NO_x/hr

b. Emission Limitation

0.49 lb CO/hr

Applicable Compliance Method

AP42 emission factor for low NO_x burners for 10-100 MMBtu/hr found in Table 1.4-1 of 61 lbs CO/MMCF converts to 0.84 lb/hr

c. Emission Limitation

0.196 lb PM-PM_{10}/hr

Applicable Compliance Method

AP42 emission factor found in Table 1.4-2 of 6.2 lbs PM/MMCF converts to 0.09 lb PM/hr

d. Emission Limitation

5.5 tons NO_x/yr
2.15 tons CO/yr
0.86 ton PM-PM_{10}/yr

Applicable Compliance Method

The ton-per-year limitations were developed by multiplying the pound/hour limitations by the maximum operating schedule of 8,760 hours/year and dividing by 2,000 pounds/ton. Therefore, provided compliance is shown with the hourly limitations, compliance will also be shown with the annual limitations.

e. Emission Limitation

Visible Emissions Limits

Applicable Compliance Method

Method 9, 40 CFR Part 60, Appendix A

E. Miscellaneous Requirements (P130)

1. None

VI. Facility

A. As part of the PSD analysis for this project, emission credits for the shutdown of EAF No. 6 were factored in; therefore this emissions unit must be shut down no later than January 1, 1999.