



State of Ohio Environmental Protection Agency

Street Address:

Mailing Address:

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

Lazarus Gov.
Center

RE: **FINAL PERMIT TO INSTALL MODIFICATION** CERTIFIED MAIL
RICHLAND COUNTY
Application No: 03-07726

DATE: 4/5/2001

AK Steel Corporation - Mansfield Works
Grady J. Medwid
913 Bowman Street
Mansfield, OH 449034109

Enclosed Please find a modification to the Ohio EPA Permit To Install referenced above which will modify the terms and conditions.

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

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

Very truly yours,

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

CC: USEPA

NWDO



**Permit To Install
Terms and Conditions**

**Issue Date: 4/5/2001
Effective Date: 4/5/2001**

FINAL ADMINISTRATIVE MODIFICATION OF PERMIT TO INSTALL 03-07726

Application Number: **03-07726**
APS Premise Number: **0370010023**
Permit Fee: **\$0**
Name of Facility: **AK Steel Corporation - Mansfield Works**
Person to Contact: **Grady J. Medwid**
Address: **913 Bowman Street
Mansfield, OH 449034109**

Location of proposed air contaminant source(s) [emissions unit(s)]:
**913 Bowman
Mansfield, OHIO**

Description of modification:
Administrative Modification.

The above named entity is hereby granted a modification to the permit to install described above pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this modification 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 included in the application, the above described source(s) of pollutants will be granted the necessary operating permits.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

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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 SOURCES

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 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 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 30 days of the effective date of this permit to install.

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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.

PERMIT TO OPERATE APPLICATION AND OPERATION AFTER COMPLETION OF CONSTRUCTION

If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).

If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this Permit To Install is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. Permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within thirty (30) days after commencing operation of the source(s) covered by this permit.

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 and regulations.

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<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>
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AIR EMISSION SUMMARY

The air contaminant emissions units listed below comprise the Permit to Install for **AK Steel Corporation - Mansfield Works** located in **RICHLAND** 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>
P902	#8 Electric Arc Furnace, 125 ton holding capacity (modification)

P903

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Ohio EPA Source <u>Number</u>	Source Identification <u>Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
#9 Electric Arc Furnace, 150 ton holding capacity (modific ation)	<u>BAT Determination</u>	Use of baghouse and compliance w/terms and conditions of this permit		

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<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>	
Use of baghouse and compliance w/terms and conditions of this permit	Applicable Federal & OAC Rules 3745-31-05 40 CFR part 60, Subpart AAA 3745-17-07 3745-17-08 3745-17-11 3745-31-05 3745-21-08 3745-31-05 3745-23-06 3745-31-05 3745-18-06 3745-18-06 3745-31-05	3745-31-05	40 CFR part 60, Subpart AAa	Permit Allowable Mass Emissions and/or Control/Usage Requirements	0.26 Tons/yr
		3745-17-07	3745-17-07	0.0052 gr/dscf	0.0052 gr/dscf
		3745-17-08	3745-17-08	12.3 lbs TSP/hr	16.08 lbs TSP/hr
		3745-17-11	3745-17-11	Opacity Restrictions	Opacity Restrictions
			3745-31-05		112.6 lbs CO/hr
			3745-21-08	3745-21-08	901.1 tons CO per rolling 12 month period*
				3745-31-05	93.2 lbs/CO/hr
				3745-23-06	901.1 tons CO per rolling 12 month period*
					49.2 lb NO _x /hr
					394.1 Tons NO _x per rolling 12 month period*
					40.8 lbs NO _x /hr
					394.1 Tons NO _x per rolling 12 month period*
					See Additional Special Terms and Conditions # (A)(1)(f)
					1.9 lbs SO ₂ /hr
					8.4 Tons/yr
			17.1 lb VOC/hr		
			75.2 Tons/yr		
			0.008 lb Pb/hr		
			0.007 lb Pb/hr		
			0.03 tons/yr		
			0.0009 lb Hg/hr		
			0.0007 lb Hg/hr		
			0.003 Tons/yr		
			0.06 lb Floride/hr		
			0.04 Tons/yr		
			0.004 tons/yr		
			0.07 lb Floride/hr		

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0.32
 Tons/yr

- * - These limits are the combined emissions for both furnaces. See Additional Special Terms and Conditions.

SUMMARY
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons/Year</u>
TSP	70.5
CO	901.1
NOX	394.1
SO2	15.4
VOC	137.6
Pb	0.07
Hg	0.007
Fluoride	0.58

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.

<u>Source Number</u>	<u>Source Description</u>	<u>NSPS Regulation (Subpart)</u>
P902	125 TPH Electric Arc Furnace	AAA
P903	150 TPH Electric Arc Furnace	AAA

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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).

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Reports are to be sent to:

Ohio Environmental Protection Agency
 DAPC - Air Quality Modeling and Planning
 P.O. Box 1049
 Columbus, OH 43216-1049

and OEPA Northwest District Office - DAPC
 347 North Dunbridge Road, P.O. Box 466
 Bowling Green, Ohio 43402

PERFORMANCE TEST REQUIREMENTS

The permittee shall conduct, or have conducted, performance testing on the air contaminant source(s) in accordance with procedures approved by the Agency. Two copies of the written report describing the test procedures followed and the results of such tests shall be submitted and signed by the person responsible for the test. The Director, or an Ohio EPA representative, shall be allowed to witness the test, examine testing equipment, and require the acquisition or submission of data and information necessary to assure that the source operation and testing procedures provide a valid characterization of the emissions from the source and/or the performance of the control equipment.

- A. A completed Intent to Test form shall be submitted to the appropriate Ohio EPA District Office or Local Air Pollution Control Agency where the original permit application was filed. This notice shall be made 30 days in advance and shall specify the source operating parameters, the proposed test procedures, and the time, date, place and person(s) conducting such tests.
- B. Two copies of the test results shall be submitted within 30 days after the completion of the performance test.
- C. Tests shall be performed for the following source(s) and pollutant(s):

Source

P902 & P903

Pollutant(s)

See Additional Special Terms and
 Conditions #8

RECORD(S) RETENTION AND AVAILABILITY

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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.

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REPORTING REQUIREMENTS

Unless otherwise specified, reports required by the Permit to Install need only be submitted to OEPA Northwest District Office - DAPC, 347 North Dunbridge Road, P.O. Box 466, Bowling Green, Ohio 43402.

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 **NWDO**.

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.

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.

CONSTRUCTION COMPLIANCE CERTIFICATION

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been

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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

A. Applicable Emissions Limitations and/or Control Requirements

1. Mass emissions from the electric Arc Furnaces (EAF's) #8 a& #9, Ohio EPA emission unit numbers P902 and P903 respectively, shall not exceed the following levels:
 - a. emissions of Total Suspended Particulate (TSP) from the #8 baghouse controlling the EAF's shall not exceed 12.3 lbs/hr and 52.7 tons/yr;
 - b. emissions of TSP from the #9 baghouse controlling the EAF's shall not exceed 16.08 lbs/hr and 70.4 tons/yr;
 - c. fugitive emission from the melt shop and dust silos attributed the EAF's shall not exceed 19.8 TPY;
 - d. visible emissions of particulate matter resulting from the operation of the EAF's shall not equal or exceed the following levels:
 1. Exit from the baghouses - 3 percent opacity.
 2. Exit from the shop - 6 percent opacity.
 3. Dust-handling system - 10 - percent opacity.

Note:

For PSD purposes, all TSP and fugitive emissions are assumed to be PM10.

The hourly limits listed above are the calculated values derived from the baghouse volumetric flow rates for each baghouse (baghouse #8 - 270,000 dscf, baghouse #9 - 361,000 dscf) and the NSPS Subpart AAa restriction which limits particulate matter emissions from a control device to 0.0052 grain/dscf. Annual allowable limits are calculated from these hourly rates at 8760 hours of operation per year.

Fugitive emissions from these furnaces are attributed to the EAF operations in the melt shop and baghouse dust storage silo activities. The emission limits were calculated utilizing capture efficiency assumptions (supplied by the company) of 98% for the melt shop and 90% for the baghouse dust silos and applying these efficiencies to AP-42 (Table 7.5-1, 1.4 lbs/ton from melt

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shop, and Table 8.23-1, 0.12 lb/ton from baghouse dust silos) emission factors.

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- e. the maximum annual combined emissions of Carbon Monoxide (CO) from emission units P902 and P903 shall not exceed 901.1 tons, based upon a rolling, 12-month summation of emissions. Emissions units P902 and P903 are existing emissions units and, as such, have existing records of emissions in lieu of establishing monthly emission restrictions for the first year.

<u>Month</u>	<u>Allowable Cumulative CO Emissions</u>
1	180.2 tons
1-2	245.7 tons
1-3	311.2 tons
1-4	376.7 tons
1-5	442.2 tons
1-6	507.7 tons
1-7	573.2 tons
1-8	638.7 tons
1-9	704.2 tons
1-10	769.7 tons
1-11	835.2 tons
1-12	901.1 tons

Note:

CO emissions will vary depending on the type of steel produced. Stack tests have been completed and emission factors have been established for the production of carbon and stainless steel. Upon initial production of silicon steel the company is required to have stack tests conducted while producing silicon steel to either validate existing emission factors or establish new emission factors.

The tons/rolling twelve month limitation could not be increased above 1057.0 tons due to netting limitations. The BAT allowable annual emission limit for CO was established by averaging the results of the testing done while producing carbon and averaging the results of the testing done while producing stainless steel. Emission were then calculated by choosing the highest lb/ton emission factor from either of these types of steel. The company shall calculate CO emission rates by applying the established emission factors to production records (see condition (C)(3) and (4).

- f. The maximum annual combined emissions of Nitrogen Oxide (NO_x) from emissions units P902 and P903 shall not exceed 394.1 tons, based upon a rolling 12 month summation of

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emissions. Emissions units P902 and P903 are existing emissions units and, as such, have existing records of emissions in lieu of establishing monthly emissions restrictions for the first year.

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<u>Month</u>	<u>Allowable Cumulative NO_x Emissions</u>
1	78.8 tons
1-2	107.5 tons
1-3	136.2 tons
1-4	165.0 tons
1-5	193.8 tons
1-6	222.6 tons
1-7	251.4 tons
1-8	280.2 tons
1-9	309.0 tons
1-10	337.8 tons
1-11	366.6 tons
1-12	394.1 tons

The BAT allowable emission limits for NO_x are being established based on completed emissions testing. Based on the contemporaneous emissions increase/decrease calculations, the permittee has 219.9 TPY of NO_x emissions credit available for netting purposes. An additional 39 TPY increase would be allowed before the permittee would be required to accept production restrictions to avoid triggering PSD for NO_x (258.0 TPY).

The company shall calculate NO_x emission rates by applying the emission factor(s) to production records (see conditions (C)(3) and (4) below). The emission factor(s) shall be established by averaging emissions over an entire melt cycle.

- g. The maximum annual combined emissions of Sulfur Dioxide (SO₂) from emission units P902 and P903 shall not exceed 15.4 tons, based upon a rolling, 12 month summation of emissions. Emissions units P902 and P903 are existing emissions units and, as such, have existing records of emissions in lieu of establishing monthly emissions restrictions for the first year.

The BAT allowable emission limits for SO₂ are being established based on completed emissions testing. Based on contemporaneous emissions increase/decrease calculations, the permittee has emissions credit available for netting purposes of 27.7 TPY. In addition, the permittee has an additional 39 TPY increase available under the PSD rules before the permittee is required to accept production restrictions to avoid triggering PSD for VOC (66.7 TPY).

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The company shall calculate SO₂ emissions rates by applying the established emission factors to production records (see condition (C)(3) and (4)). These emission factors shall be established by averaging emissions over an entire melt cycle.

h. The maximum annual combined emissions of Volatile Organic Compounds (VOC) from emission units P902 and P903 shall not exceed 137.6 tons, based upon a rolling 12 month summation of emissions. Emissions units P902 and P903 are existing emissions units and, as such, have existing records of emissions in lieu of establishing monthly emissions restrictions for the first year.

The BAT allowable emission limits for VOC are being established based on completed emissions testing. Based on contemporaneous emissions increase/decrease calculations, the permittee has 3.4 tons credit available for netting purposes under the PSD rules before the permittee is required to accept production restrictions to avoid triggering PSD for VOC.

The company shall calculate VOC emission rates by applying the established emission factors to production records (see condition (C)(3) and (4)). These emission factors shall be established by averaging emissions over an entire melt cycle.

i. The maximum annual combined emissions of lead (Pb) from emission units P902 and P903 shall not exceed 0.07 tons, based upon a rolling, 12 month summation of emissions. Emissions units P902 and P903 are existing emissions units and, as such, have existing records of emissions in lieu of establishing monthly emissions restrictions for the first year.

The BAT allowable emission limits for Pb are being established based on completed emissions testing. Based on contemporaneous emissions increase/decrease calculations, the permittee has emissions credit available for netting purposes of 0.54 TPY. In addition, the permittee has an additional 0.5 TPY increase available under the PSD rules before the permittee is required to accept production restrictions to avoid triggering PSD for Pb (1.04 TPY).

The company shall calculate Pb emission rates by applying the established emission factors to production records (see condition (C)(3) and (4)). These emission factors shall be established by averaging emissions over an entire melt cycle.

j. The maximum annual combined emissions of Mercury from emission units P902 and P903 shall not exceed 0.007 tons, based upon a rolling, 12 month summation of emissions. Emissions units P902 and P903 are existing emissions units and, as such, have existing records of emissions in lieu of establishing monthly emissions restrictions for the first year.

The BAT allowable emission limits for Mercury are being established based on completed emissions testing.

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The company shall calculate mercury emission rates by applying the established emission factors to production records (see condition (C)(3) and (4)). These emission factors shall be established by averaging emission over an entire melt cycle.

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- k. The maximum annual combined emissions of Fluoride from emission units P902 and P903 shall not exceed 0.58 tons, based upon a rolling, 12 month summation of emissions. Emissions units P902 and P903 are existing emissions units and, as such, have existing records of emission in lieu of establishing monthly emissions restrictions for the first year.

The BAT allowable emission limits for Fluoride are being established based on completed emissions testing.

The company shall calculate Fluoride emission rates by applying the established emission factors to production records (see condition (C)(3) and (4)). These emission factors shall be established by averaging emissions over an entire melt cycle.

B. Operation Restrictions

1. Prior to start-up of the EAF's, the permittee shall cease operation of the following emission units at the facility:
 - a. Ohio EPA emissions unit P008 (3 slab grinders);
 - b. Ohio EPA emissions unit P027 (stainless steel slab grinder #4); and
 - c. Ohio EPA emissions unit P022 (20 soaking pits).

Within 30 days of start-up, the permittee shall provide written certification to the Ohio EPA, NWDO, DAPC on the dates the emissions units were taken out of service.

C. Monitoring and/or Record Keeping Requirements

1. In lieu of installing a continuous monitoring system for the measurement of opacity, observations of the opacity of the visible emissions from the control devices (#8 & #9 baghouses) shall be performed by a certified visible emission observer as follows:
 - a. the company shall conduct or have conducted visible emission observations in accordance with Method 9 procedures. Visible emission observations shall be conducted at least once per day when the furnaces are operating in the melting and refining period. These observations shall be taken in accordance with Method 9 for at least three 6-minute periods, the opacity shall be recorded for any point(s) where visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only one incident of the visible emissions, 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

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opacity that directly relates to the cause (or location) of visible emissions observed during the single incident. These records shall be maintained and any 6-minute average that is in excess of the opacity limits specified in conditions(A)(1) (d) shall be noted.

2. The company shall monitor the operation of the furnace control systems and maintain records in accordance with the following requirements:
- a. the company shall install, calibrate, and maintain monitoring devices that allows the pressure in the free space inside the EAF's to be monitored. The monitoring devices may be installed in any appropriate location in the EAF's ducts prior to the introduction of ambient air such that reproducible results will be obtained. The pressure monitoring devices shall have an accuracy of +5 mm of water gauge over their normal operating range and shall be calibrated according to the manufacturer's instructions.

Based upon the most recent demonstration of compliance the maximum pressure in the free space inside the EAF's shall not exceed (i.e. the pressure shall not be any more positive) than that identified below:

	<u>P902 #8 EAF</u>	<u>P903 #9 EAF</u>
Static Pressure	-0.0060	+0.0981

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 company may petition the Ohio EPA for reestablishment of the above 15-minute integrated average of the pressure whenever the owner or operator can demonstrate to the Agency's satisfaction that the EAF operating conditions upon which the pressures were previously established are no longer applicable.

The control system fan motor amperes shall not exceed the following ranges:

	<u>P902 #8 EAF</u>	<u>P903 #9 EAF</u>
#1 Fan amp	136 - 278	173 - 265
#2 Fan amp	134 - 273	157 - 255
#3 Fan amp	No Fan	164 - 261

The above required furnace static pressure monitoring device may be removed if requested by the operator and approved by Ohio EPA. However, observations of shop opacity performed by a certified visible emissions observer are then required as follows:

Shop opacity observations shall be conducted at least once per day when the furnace is operating in the meltdown and refining period. Shop opacity shall be determined as the arithmetic average of 24 consecutive 15-second opacity observations of emissions from the shop taken in accordance with Method 9. Shop opacity shall be recorded for any point(s) where visible emissions are

observed. Where it is possible to determine that a number of visible emissions sites relate to only one incident of visible emissions, only one observation of shop opacity will be required. In this case, the shop opacity 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.

- b. the company 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 devices 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 + 10 percent over its normal operating range and shall be calibrated according to the manufacturer's instructions.

The Ohio EPA, DAPC may require the company 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 company may petition the Ohio EPA for reestablishment of these parameters whenever the owner or operator can demonstrate to the Agency's satisfaction that the operating conditions upon which the parameters were previously established are no longer applicable.

- c. the company shall perform monthly operational status inspections of the equipment that is important to the performance of the total capture system (i.e., pressure sensors, dampers, and damper switches). These inspections shall include observations of the physical appearance of the equipment (eg., 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 company 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.
 - d. all records and measurements required under this section shall be retained in the company's files for a period of at least 5 years and shall be made available to Ohio EPA, DAPC upon request.
3. The company shall maintain separate, monthly production records for each furnace. These

records, at a minimum, shall contain the following information for each furnace:

- a. the number of hours the furnaces were operated (i.e., the sum of all tap times);
 - b. the number of melts that occurred;
 - c. The type of steel produced in each melt (carbon, silicon, stainless);
 - d. tons of steel produced in each melt; and
 - e. total tons of each type of steel produced.
4. With the monthly records required in condition (C)(3), the company shall calculate CO, NO_x, SO₂, VOC and Pb emissions from each furnace in tons per month for the first 12 months. After the first year, the company shall calculate the tons per rolling twelve month period. The company shall calculate these emission rates by applying the appropriate emission factors for the steel type to the monthly production rates reported in condition (C)(3).

Stack tests have been completed for the production of carbon and stainless steel. The following emission factors shall be applied to the production of each type of steel respective:

Carbon Steel		Stainless Steel	
CO:	1.5 lbs/ton	CO:	1.3 lbs/ton
NO_x:	0.43 lb/ton	NO_x:	0.66 lb/ton
VOC:	0.16 lb/ton	VOC:	0.23 lb/ton
SO₂:	0.009 lb/ton	SO₂:	0.03 lb/ton
Lead:	0.0004 lb/ton	Lead:	0.0001 lb/ton
Mercury:	0.00002 lb/ton	Mercury:	0.00001 lb/ton
Fluoride:	0.0009 lb/ton	Fluoride:	0.0004 lb/ton

The above emission factors are a result of emissions testing completed by the company while producing both carbon and stainless steel. These emission factors represent the highest emission rate obtained for each pollutant during the testing for both carbon and stainless steel.

Upon completion of emissions testing for silicon steel the above emission factors will need to be reviewed to ensure they are representative of emissions while producing silicon steel based on the stack test results for silicon steel.

D. Reporting Requirements

1. The company shall notify the NWDO, DAPC within 15 calendar days following the end of a calendar month in which a violation of the CO, NO_x, SO₂, VOC and Pb limits of this permit occurred. The company shall submit quarterly reports summarizing this information to the NWDO, DAPC. These quarterly reports shall be submitted by February 15, May 15, August 15, and November 15 of each year and shall cover the data collected during the previous calendar quarters.
2. The permittee shall maintain copies of all daily opacity observations required by condition (C)(1)(a) above. The appropriate records shall also be maintained in the company's files to identify the persons responsible for conduction the readings and to verify their Method 9 certifications are up-to-date. The company shall submit a written report of all exceedances of the opacity restrictions contained in condition (A)(1)(d) to the NWDO, DAPC semiannually. For the purposes of these reports, exceedances are defined as all 6-minute periods during which the average opacity exceeds these limits. If no exceedances occurred, a written statement to the effect is still required.
3. Operation at furnace static pressures that exceed the values established under condition (C)(2)(a), and either operation of control system fan motor amperes at values exceeding the values established under condition (C)(2)(a), or operation at flow rates lower than those established under condition (C)(2)(a), will be considered by the Ohio EPA, DAPC to be unacceptable operation and maintenance of the control system. Operation at such values shall be reported in accordance with the provisions of OAC 3745-15-06. The company shall also submit a written report summarizing these exceedances to the NWDO, DAPC semiannually. If no exceedances occurred, a written statement to that effect is still required.
4. Within 180 days of the effective date of this permit, the company shall submit a comprehensive report detailing the minimum tap times and the maximum production rates that have been achieved for each furnace and for each type of steel produced.
5. All records and measurements required under this section shall be retained in the company's files for a period of at least 2 years and shall be made available to Ohio EPA, DAPC upon request.
6. Unless otherwise specified, all reports, test results, notifications, etc., required by the above terms and conditions shall be submitted to the Ohio EPA, NWDO, DAPC, 374 North Dunbridge Road, Bowling Green, Ohio 43402, (419) 352-8461.

TESTING REQUIREMENTS

1. Within 60 days after achieving the maximum production rate at which the EAF's will be operated, but not later than 180 days after initial startup of the furnaces, the permittee shall conduct emission tests for emission units P902 and P903 in order to demonstrate compliance with the mass emission rates for particulate matter (baghouse #8 and #9), nitrogen oxides, and carbon monoxides. The company shall

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also conduct tests to determine the actual emission rates of VOC's SO₂, Pb, fluorides, and heavy metals (Cadmium, total Chromium, Copper, Magnesium, Manganese, Nickel, Vanadium, Zinc, Arsenic, and Mercury) from each furnace for the purpose of determining allowable mass limits for these pollutants. The emission tests shall be conducted in accordance with approved Ohio EPA test methods and procedures and shall be designed to establish emission factors as specified in condition (A)(1)(e) through (g).

Not later than 30 days prior to the proposed test date(s), the company shall submit an "Intent to Test" notification to the Ohio EPA, DAPC, Northwest District Office (NWDO). The notification shall describe in detail the proposed test methods and procedures, the emission unit's operating parameters, the times and dates of the tests, and the person who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the field office's refusal to accept the results of the emission tests.

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Personnel from the Ohio EPA NWDO shall be permitted to witness the tests, examine the testing equipment, and acquire data and information regarding the source operating parameters. A comprehensive written report on the results of the emission tests shall be submitted to the Ohio EPA, DAPC, NWDO within 30 days of the test date(s). This report shall include the following information:

- a. facility name and address;
- b. plant representative;
- c. make and model of process, control device, and continuous monitoring equipment;
- d. flow diagram of process and emission capture equipment including other equipment or process(es) ducted to the same control device;
- e. rated (design) capacity of process equipment;
- f. list of charge and tap weights and materials;
- g. heat times, including start and stop times and a log of process operation, including periods of no operation during testing and the pressure inside the EAF's direct shell evacuation control system;
- h. control device operating log;
- i. Reference Method 9 data;
- j. test dates and test times;
- k. test company;
- l. test company representative;
- m. test observers from outside agency;
- n. description of test methodology used, including any deviation from standard reference methods;
- o. schematic of sampling location;
- p. number of sampling points;
- q. description of sampling equipment;

- r. listing of sampling equipment calibrations and procedures;
 - s. field and laboratory data sheets;
 - t. description of sample recovery procedures;
 - u. sampling equipment leak check results;
 - v. description of quality assurance procedures;
 - w. notation of sample blank corrections; and
 - x. sample emission calculation
2. The company shall determine compliance with the particulate matter standards in conditions (A)(1)(a) and (b) as follows:
- a. Method 5 shall be used for negative-pressure fabric filters and other types of control devices 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. Testing must be conducted when both furnaces are vented to #9 baghouse and when the furnaces are vented separately to #8 and #9 baghouses while producing carbon steel;
 - b. the permittee may demonstrate compliance with the fugitive emission rate from the EAF by calculating fugitive emissions in accordance with the following formula:

$$ER = (EF) (1-CE) \times PR$$

where ER = actual emission rate

EF = emission factor

CE = capture efficiency

PR = annual production in tons/yr.

For purposes of determining compliance with the fugitive dust emission limitation in condition (A)(1)(C) above, the following emission factors and control efficiencies shall be used:

	<u>EAF'S</u>	<u>Dust Silos</u>
CE	98%	90%

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EF 1.4 lbs/ton 0.12 lb/ton

- c. Method 9 procedures of 40 CFR Part 60.11 shall be used to determine opacity; and
 - d. the test runs shall be conducted concurrently, unless inclement weather interferes.
3. During the particulate matter runs, the company shall obtain the following additional information:
- a. 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 (C)(2) of this permit; and
 - b. 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 EAF's.
4. During performance tests, the company 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.