

Synthetic Minor Determination and/or Netting Determination

Permit To Install ~~03-16353~~

A. Source Description

The Marion Steel Company was issued PTI #03-14079 for the installation of a 60 ton per hour electric arc furnace (emissions unit P903). This PTI (#03-16353) is a modification to address permitting issues associated with failed stack testing and to increase the capacity of the furnace from 60 tons/hr to 70 tons/hr.

B. Facility Emissions and Attainment Status

The facility is major for CO, NO_x, PE, VOC and HAPs for Title V and PSD purposes. Marion county is in attainment/unclassifiable for all criteria pollutants.

C. Source Emissions

Potential Emissions: The following table summarizes the potential emissions for P903. The emissions are based on emission factors developed from stack test data (9/99, 12/99 and 5/04) (CO, NO_x, SO₂, VOC, Pb and Hg) and from AP-42, Section 12.5 (fugitive PE and PM₁₀), a maximum grain loading of 0.0050 gr/dscf (PE), the maximum process weight rate (70 tons/hr based on a daily average) and 8760 hours per year operation.

	PE (tons)	PM₁₀ (tons)	SO₂ (tons)	VOC (tons)	CO (tons)	NO_x (tons)	Lead (tons)
	228.37*	163.98*	76.65*	87.69*	1244.80*	121.40*	1.10*
PSD Significance Levels (tons)	25	15	40	40	100	40	0.6

*The potential emissions for all pollutants are greater than the PSD significance levels.

Netting Analysis With Potential Emissions from P903: Because the potential PE, PM₁₀, SO₂, VOC, CO, NO_x, Pb and Hg exceed the PSD significance levels, a netting analysis was conducted. During the contemporaneous period for P903, two electric arc furnaces (P901 and P902) were removed, a reheat furnace (P002) was removed, a reheat furnace was installed (P009), a coating operation (K001) was removed and a coating operation (K002) was installed. The following table summarizes the net emissions increases/decreases at the facility from the installation of K002, P009 and P903 and the removal of K001, P002, P901 and P902. The emissions from the removal of the two electric arc furnaces were established by multiplying the average annual production from 1995 and 1997 (the two most representative years prior to their removal - the data from 1996 was not used because it not representative of normal operations due to transformer malfunctions) (372,618 tons per year) and emission factors developed from stack tests in 9/99 and 5/04 and adjusted emission factors from AP-42, Table 12.5-1 [10/86] and control equipment efficiencies. The emissions from the removal of the old furnace were established by multiplying the average natural gas usage from 1986 and 1987 (the two years prior to its removal) (528.3485 mmft³ per year) and emissions factors from the FIRES database and developed from 8/01 stack test data. The emissions from the installation of the reheat furnace were established in PTI #03-3077. The emissions from the removal of the old coating line were established

by multiplying the maximum VOC content of the coatings used in the unit (2.98 lbs/gal) and the average annual paint usage from 1994 and 1995 (the two years prior to its removal) (31,656 gallons). The emissions for the installation of the new coating line were established in PTI #03-9114.

	PE (tons)	PM₁₀ (tons)	SO₂ (tons)	VOC (tons)	CO (tons)	NOx (tons)	Lead (tons)
P903	+228.37	+163.98	+76.65	+87.69	+1244.80	+121.40	+1.10
P901/P902^[1]	-319.55	-185.87	-15.33	-46.82	-723.66	-71.69	-0.65
P002^[2]	-17.17	-17.17		-2.11	-39.63	-227.19	
P009^[3]	+2.55	+2.55	+0.20	+1.85	+28.22	+211.0	
K001^[4]				-47.17			
K002^[5]				+59.44			
Net Total	-105.80	-36.51	+61.52	+52.88	+509.73	+33.52	+0.45
PSD Significance Levels (tons)	25	15	40	40	100	40	0.6

Netting Analysis With Synthetic Minor Restrictions: The facility would trigger the PSD significance levels for SO, CO and NOx if the potential emissions of P903 were used to establish the emissions unit's limits. The facility, however, wishes to avoid triggering PSD significance levels for criteria pollutants, if possible. Therefore, both netting and synthetic minor restrictions were required. The facility has accepted federally enforceable restrictions on the hourly process weight rate (70 tons/hr based on a 24-hour averaging period) and hours of operation (8000 hours/yr).

	PE (tons)	PM₁₀ (tons)	SO₂ (tons)	VOC (tons)	CO (tons)	NOx (tons)	Lead (tons)
P903	+208.56	+149.76	+70.0	+80.08	+1136.8	+110.88	+1.0
P901/P902^[1]	-319.55	-185.87	-15.33	-46.82	-723.66	-71.69	-0.65
P002^[2]	-17.17	-17.17		-2.11	-39.63	-227.19	
P009^[3]	+2.55	+2.55	+0.20	+1.85	+28.22	+211.0	
K001^[4]				-47.17			
K002^[5]				+59.44			
Net Total	-125.61	-50.73	+54.87	+45.27	+401.73	+23.0	+0.35
PSD Significance Levels (tons)	25	15	40	40	100	40	0.6

D. Conclusion

With the synthetic minor restrictions and the removal of K001, P002, P901 and P902, the installation of P903 will not trigger the PSD significance levels for PE, PM₁₀, NO_x, lead or mercury. Therefore, a PSD review is not required for these pollutants. However, the installation of P903 does trigger the significance level for CO, SO₂ and VOC. Therefore, a PSD review is required for CO, SO₂ and VOC.

**STAFF DETERMINATION FOR THE APPLICATION TO CONSTRUCT
UNDER THE PREVENTION OF SIGNIFICANT DETERIORATION REGULATIONS
FOR THE MARION STEEL COMPANY
MARION COUNTY, OHIO
PTI NUMBER 03-16353**

The Clean Air Act and regulations promulgated thereunder require that major air pollution sources undergoing construction or modification comply with all applicable Prevention of Significant Deterioration (PSD) provisions and nonattainment area New Source Review requirements. The federal PSD rules govern emission increases in attainment areas for major sources, which are sources with the potential to emit 250 tons per year or more of any pollutant regulated under the Clean Air Act, or 100 tons per year or more if the source is included in one of 28 source categories. In nonattainment areas, the definition of major source is one having at least 100 tons per year potential emissions. A major modification is one resulting in a contemporaneous increase in emissions which exceeds the significance level of one or more pollutants. Any changes in actual emissions within a five-year period are considered to be contemporaneous. In addition, Ohio now has incorporated the PSD and NSR requirements by rule under OAC 3745-31.

Both PSD and nonattainment rules require that certain analyses be performed before a facility can obtain a permit authorizing construction of a new source or major modification to a major source. The principal requirements of the PSD regulations are:

- 1) Best Available Control Technology (BACT) review - A detailed engineering review must be performed to ensure that BACT is being installed for the pollutants for which the new source is a major source.
- 2) Ambient Air Quality Review - An analysis must be completed to ensure the continued maintenance of the National Ambient Air Quality Standards (NAAQS) and that any increases in ambient air pollutant concentrations do not exceed the incremental values set pursuant to the Clean Air Act.

For nonattainment areas, the requirements are:

- 1) Lowest Achievable Emissions Rate (LAER) - New major sources must install controls that represent the lowest emission levels (highest control efficiency) that has been achieved in practice.
- 2) The emissions from the new major source must be offset by a reduction of existing emissions of the same pollutant by at least the same amount, and a demonstration must be made that the resulting air quality shows a net air quality benefit. This is more completely described in the Emission Offset Interpretative Ruling as found in Appendix S of 40 CFR Part 51.
- 3) The facility must certify that all major sources owned or operated in the state by the same entity are either in compliance with the existing State Implementation Plan (SIP) or are on an approved schedule resulting in full compliance with the SIP.

For rural ozone nonattainment areas, the requirements are:

- 1) LAER - New major sources must install controls that represent the lowest emissions levels (highest control efficiency) that has been achieved in practice.
- 2) The facility must certify that all major sources owned or operated in the state by the same entity are either in compliance with the existing SIP or are on an approved schedule resulting in full compliance with the SIP.

Finally, New Source Performance Standards (NSPS), SIP emission standards and public participation

requirements must be followed in all cases.

Site Description

The Marion Steel Company is in Marion, Ohio, which is located in Marion County. This area is classified as attainment for all of the criteria pollutants, total suspended particulates, particulate matter less than 10 microns, sulfur dioxide, nitrogen oxides, carbon monoxide, volatile organic compounds (ozone) and lead.

Facility Description

The Marion Steel Company is a non-integrated mini-mill located in Marion, Ohio. The facility produces carbon steel bar stock, angle reinforcing rod and sign post stock. Operations at the facility include storage of scrap steel, melting in the electric arc furnace (EAF), billet casting, reheating, hot rolling, painting of sign posts and storage of finished products.

Process Description

The EAF is a large refractory-lined cylindrical vessel of heavy, welded steel plates having a bowl-shaped hearth and a dome shaped roof fitted with a refractory roof through which 3 vertical graphite electrodes are inserted. The electrodes are mounted on a superstructure above the furnace and are lowered and raised through holes in the furnace roof. Water-cooled glands are provided at the holes to cool the electrodes and minimize the gap between the electrodes and roof openings to reduce fugitive emissions, noise levels, electrode oxidation and heat losses. The furnace is powered via a transformer that regulates electricity to the EAF by connection to a high voltage supply. Electrode movement is accomplished by automatic controls. Melting is accomplished by the heat supplied by direct radiation from the arcs formed between the electrodes of the EAF and the metallic charge, by direct radiation from the furnace lining and by the resistance of the metal between the arc paths.

The metal melting process operation consists of the following: (1) furnace charging in which metal, scrap, alloys, carbon and flux are added to the furnace; (2) melting, during which the furnace remains closed; (3) refining operations; (4) slagging operations; and (5) tapping the molten metal into a continuous caster. When the electrodes are raised, the furnace roof is swung aside and charge materials are dropped into the furnace via a drop-bottom charge bucket with an electromagnet that is suspended from an overhead crane. Additional alloying agents, as required, are added through a separate hole in the furnace roof. Charging of materials is completed within a few minutes.

Air emissions from the operation of the EAF consist of both point source and fugitive emissions including particulate emissions (PE), carbon monoxide (CO), nitrogen oxides (NOx), sulfur dioxide (SO₂), volatile organic compounds (VOC), small quantities of lead (Pb), zinc (Zn) and manganese (Mn) and trace quantities of arsenic, cadmium, chromium, copper, magnesium, mercury, nickel and vanadium (as determined from baghouse dust analysis).

The point source emissions are generated at the furnace during periods when the EAF roof is closed (i.e., during melting and refining operations) and the direct shell evacuation system is operative. Fugitive emissions are generated during periods when the EAF roof is open (i.e., charging) or when the direct shell evacuation system cannot operate (i.e., charging and tapping).

The quantity and type of emissions depend on the scrap type and composition, scrap quality, number of backcharges, refining procedures and tapping duration and temperature. The majority of the emissions from the EAF are PE, both ferrous and non-ferrous oxides. Emissions are highest during meltdown and refining

operations with charging and tapping emissions representing 5% of the total emissions during a heat.

Charging the open furnace produces emissions that vary depending on the cleanliness and makeup of the scrap. Typically, No.1 and No. 2 grades of scrap are charged. Most of the charging emissions result from (1) vaporization of oil, grease or dirt introduced with any turnings, borings or chips; (2) oxidation of organic matter that may adhere to scrap; and (3) the vaporization of water from wet or icy scrap. Charging emissions are comprised of PE, CO, VOC and soot. CO is assumed to be quickly oxidized to CO₂ in ambient air.

During melting/refining/slugging operations, the emissions consist of (1) metallic and mineral oxide particulates generated from vaporization of iron and the transformation of mineral additives; (2) some CO from combustion losses of the graphite electrodes, carbon additives and steel carbon; and (3) VOCs from the vaporization and combustion of oil and impurities remaining on the scrap charge. During tapping operations, fumes consisting of iron oxides are generated.

Modifications

Emissions testing and other developments identified several issues related to the terms and conditions of PTI No. 03-14079 that Marion Steel is addressing with the updated PTI application. The permit application requests revised emissions rates for the EAF (P903) for particulate matter (PM), particulate matter less than 10 microns in diameter (PM₁₀), CO, sulfur dioxide (SO₂), volatile organic compounds (VOC), nitrogen oxides (NO_x), lead (Pb) and mercury (Hg). Each of the emissions rates requested is justified based on the variability of historical stack tests, the emissions rates authorized for other EAFs in Ohio and elsewhere in the country and with respect to the BACT demonstrations made in the permit application.

The revised emissions rates for the EAF and an updated netting analysis indicate that the installation of the EAF consistent with the requested emissions rates will cause a "significant net emissions increase" for CO, SO₂ and VOC that trigger the PSD requirements for a "major modification" for BACT and air quality modeling. The PSD requirements were addressed for CO in PTI No. 03-14079. Although BACT for CO is not addressed in detail in the permit application, an updated air quality modeling impact study for CO is included. The emissions rates for PM, PM₁₀, NO_x and Pb result in a "net emissions increase" for each of these pollutants that is less than the "major modification" thresholds. There is no "significant net emissions increase" threshold for Hg and, therefore, the requested change in Hg emission rates is not regulated under the NSR program.

The net change in emissions of PM, PM₁₀ and all other metals that are subsets of the total particulate emissions from the EAF is a substantial reduction from the emissions rates that existed prior to the installation of the new EAF. This is because the capture and control systems that are integral to the operation of the new EAF are substantially superior to the capture and control of particulate emissions that was in place with the two old EAFs. The improvements include substantially greater flow rate for the capture of emissions and improvements in the overall baghouse control efficiency.

The net change in NO_x emissions is restricted by the requested NO_x emission rates for the EAF and an additional reduction in emissions from the rates previously authorized in PTI No. 03-03077 (issued August 22, 2002) for the Preheat Furnace (P009). This reduction in NO_x emissions is included as a new federally enforceable restriction in an updated PTI No. 03-03077m2. In addition, several other changes were identified that has been addressed in an updated PTI application for the Reheat Furnace. As a result, this updated PTI application includes requested updated emission rates for the Reheat Furnace (P009) for PM/PM₁₀, VOC, CO and NO_x.

New Source Review (NSR) /PSD Applicability

The facility uses an EAF that generates PE, for which an emission standard applies, and is therefore, considered

an "affected facility" subject to 40 CFR, Part 60, Subpart AAa, "Standards of Performance for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983". This rule has an emission standard of 0.0052 grains/dry standard cubic foot and opacity limits of 3% for the baghouse, 6% for the melt shop and 10% for the dust handling system.

The Marion Steel Company facility is currently classified as a PSD "major" stationary source because it is one of the 28 source categories (Iron and Steel Mills) with potential CO, NOx and VOC emissions exceeding 100 tons per year in an attainment area. The Marion Steel facility is located in Marion County, which is currently in attainment for all criteria pollutants. Any "major" stationary source which is proposing the emission of a regulated pollutant in excess of PSD significance levels will be required to undergo a PSD analysis for that particular pollutant.

Table 1 shows the contemporaneous increases and decreases in emissions (from the netting analysis) from the installation of the EAF.

Table 1

Pollutant	Contemporaneous Increases/Decreases (Netting)	PSD Significance Level
CO	+401.73	100
NOx	+23.0	40
SO₂	+54.87	40
VOC	+45.27	40
PM ^a	-125.61	25
PM ₁₀ ^a	-50.73	15
Pb ^a	+0.35	0.6
Hg ^a	-0.05	0.1

^aIncludes fugitive and point source emissions.

Based upon the above information, a PSD review is required for CO, SO₂ and VOC.

BACT Review

The Marion Steel Company has installed an electric arc furnace at their facility in Marion, Ohio which is located in Marion County. Under Section 107 of the Clean Air Act as of June 24, 1992, this area was classified as attainment for all of the criteria pollutants, i.e., total suspended particulate, particulate matter less than 10 microns, sulfur dioxide, nitrogen oxides, carbon monoxide, volatile organic compounds (ozone) and lead.

The Marion Steel Company facility is subject to PSD regulations which mandates a case-by-case Best Available Control Technology (BACT) analysis be performed for the following pollutants: CO, SO₂ and VOC. The application used a "top-down" approach to determine an appropriate level of control.

BACT Analysis Background and Assumptions

Potentially applicable emission control technologies were identified by researching the U.S. EPA's control technology database, USEPA/State/Local air quality permits, technical literature, and control equipment vendor information and by using Marion Steel Company process knowledge and engineering experience. The RACT/BACT/LAER Clearinghouse (RBLCL), a database made available to the public through the U.S. EPA's Office of Air Quality Planning and Standards (OAQPS) Technology Transfer Network (TTN), list technologies that have been approved in PSD permits as BACT for numerous process units. Process units in the database are grouped into categories by industry.

A search of the RBLCL database was performed to identify the emission control technologies and emissions levels

that were determined by permitting authorities as BACT for emission sources similar to the EAF.

Carbon Monoxide Emissions

CO emissions are generated from combustion losses of the graphite electrodes, carbon additives and steel carbon content during melting, refining and slagging operations. CO will be emitted as a byproduct of incomplete combustion from potential sources such as charged and injected carbon, scrap steel, electrodes, and "foaming slag" operating practices. The electric arc furnace can generate CO as a result of oxidation of carbon introduced into the furnace charge to refine the steel and as a result of the sublimation/oxidation of the carbon electrode. Increases in electrical power and use of oxygen lancing can also cause an increase in CO emissions. Factors influencing emissions from an EAF include furnace size, type/composition of scrap, quality of scrap, quality of final product, process melting rate, number of backcharges, refining procedures and tapping duration and temperature.

The proposed CO emissions limit is based on a derived emissions factor from multiple stack tests of the electric arc furnace. Specifically, the requested emissions level proposed in the PSD application for CO is 4.06 lb/ton of steel produced or 284.20 pounds of CO per hour. The existing EAF is equipped with direct shell evacuation controls for mitigation of CO emissions. CO is assumed to be quickly oxidized to CO₂ in the ambient air.

Potential EAF CO Control Alternatives

The alternatives available to control CO emissions from the existing EAF include the following:

- 1) Operating Practice Modifications;
- 2) Flaring of CO Emissions;
- 3) CO Oxidation Catalysts;
- 4) Post-Combustion Reaction Chamber;
- 5) Catalytic Incineration;
- 6) Oxygen Injection; and
- 7) Direct Shell Evacuation (DSE) controls.

Technical Feasibility of CO Control Alternatives

The test for technical feasibility of any control option is whether it is both available and applicable to reducing CO emissions from the existing EAF. The previously listed information resources were consulted to determine the extent of applicability of each identified control alternative.

Operating Practice Modifications

Due to customer demands on quality and to stay competitive in the marketplace, the mill incorporates an improved foamy process to produce steel. In this process, carbon and oxygen are blown into the furnace below the slag line, creating expanding "foam". The process will utilize a greater amount of charge and injection carbon to produce a competitive, marketable product. In this process, additional chemical energy is produced along with CO (due to oxidation of carbon) and that is intrinsically related to product quality. This process reduces electrical usage and extends the equipment life.

Due to marketplace demands on the type of products to be manufactured at the mill and the required product quality, Marion Steel Company does not propose any additional operating practice modifications that will alter CO emissions from the existing EAF.

Flaring of CO Emissions

Based upon a review of the previously listed information resources, there is no known application of flaring EAF exhaust gases. Flaring of emissions for CO destruction would require raising the exhaust gas temperature to

1,300 °F at a residence time of 0.5 second. The exhaust gas stream will be approximately 400,000 DCFM at 250 °F. Thus, based on the relatively large gas volumetric flow at a substantial temperature differential, the auxiliary fuel requirements needed to operate the flare would be overwhelmingly large. Additionally, it can be speculated as to whether the flare would actually result in a decrease in CO emissions or increase thereof from supplemental fuel combustion, which would also result in an increase of NO_x emissions. Consequently, this control alternative is considered technically infeasible for EAF exhausts and thus, will not be considered any further in this BACT analysis.

CO Oxidation Catalysts

Based upon a review of the previously listed information resources, there is no known application of CO oxidation catalysts to control CO emissions from an EAF.

The optimal working temperature range for CO oxidation catalysts is approximately 850 °F to 1,100 °F with a minimum exhaust gas stream temperature of 500 °F for minimally acceptable CO control. Exhaust gases from the EAF will undergo rapid cooling as they are ducted from the furnace. Thus, the temperature will be far below the minimum 500 °F threshold for effective operation of CO oxidation catalysts. Additionally, the particulate loading in the exhaust gas stream is anticipated to be too high for the efficient operation of a CO oxidation catalyst. Masking effects such as plugging and coating of the catalyst surface would almost certainly result in impractical maintenance requirements, and would significantly degrade the performance of the catalyst. Consequently, this control alternative is considered technically infeasible for this application and will not be considered any further in this BACT analysis.

Post Combustion Reaction Chambers

Based upon a review of the previously listed information resources, there is no known successful application of duct burners or thermal incinerators to control CO emissions from an EAF. It should be noted that this type of technology has recently been proposed for EAF's in the United States; however, the feasibility of these units to effectively reduce CO emissions, without resulting in severe operational problems, is unknown. Further, such units are expected to consume large quantities of natural gas and oxygen, resulting in excessive annual operating costs.

The principle of destruction within post combustion chambers is to raise the EAF exhaust gases to a sufficiently high temperature and for a minimum amount of time to facilitate oxidation. The combustion chamber configuration must provide effective mixing within the chamber with an acceptable residence time. Recuperative heat exchangers can be used with these systems to recover a portion of the exiting exhaust gas heat and reduce the auxiliary fuel consumption.

The amount of CO which could be oxidized with post combustion systems is uncertain, and precise performance guarantees are expected to be difficult to obtain from equipment manufacturers because of the lack of operating experience. In addition, there is the potential for additional emissions of NO_x from auxiliary fuel combustion. Further, due to the heat and particulate loading, the burners would have a short life expectancy, and may sustain severe maintenance and reliability problems. Additionally, a single or multiple duct burner system would not be able to heat the relatively cool gases from the EAF during cold cycling.

Potentially, there are two locations where post combustion chambers can be installed, i.e., upstream or downstream of an EAF baghouse. Locating upstream of the baghouse would take advantage of slightly elevated temperature in the exhaust gas stream. However, at this location, the post combustion chamber would be subject to high particulate loading. The units would be expected to foul frequently from the particulate accumulation, and the burners would have severe maintenance and reliability problems. Thus, the installation of the post combustion chamber upstream of the baghouse is considered technically infeasible.

Alternatively, the post combustion chamber could be installed downstream of the EAF baghouse. However, at this location, fouling due to particulate matter can occur and more importantly, even cooler exhaust temperatures would be encountered. These cooler temperatures would greatly increase the auxiliary fuel requirements. The associated combustion of additional auxiliary fuel will result in an unacceptable increase in operating costs.

Further the combustion of additional fuel will result in increases in emissions to the atmosphere.

Based upon the above discussions, the use of a post combustion chamber is considered technically infeasible for the existing EAF and will not be considered any further in this BACT analysis.

Catalytic Incineration

Based upon a review of the previously listed information resources, there is no known application of catalytic incineration to control CO emissions from EAF's. Catalytic incinerators use a bed of catalyst that facilitates the overall combustion of combustible gases. The catalyst increases the reaction rate and allows the conversion of CO to CO₂ at lower temperatures than a thermal incinerator. The catalyst is typically a porous noble metal material, which is supported in individual compartments with the unit. An auxiliary fuel-fired burner ahead of the bed heats the entering exhaust gases to 500 °F to 600 °F to maintain proper bed temperature. Recuperative heat exchangers are used to recover the exiting exhaust gas heat and reduce the auxiliary fuel consumption. Secondary energy recovery is typically 70 percent.

Catalytic incineration systems are limited in application due to potential poisoning, deactivation, and/or blinding of the catalyst. Lead, arsenic, vanadium, and phosphorus are generally considered poisons to catalysts and deactivate the available reaction sites on the catalyst surface. Particulate can also build up on the catalyst, effectively blocking the porous catalyst matrix and rendering the catalyst inactive. In cases of significant levels of poisoning compounds and particulate loading, catalyst replacement costs are significant.

As in the thermal incineration discussion, potentially, there are two locations where the incinerator can be installed, i.e., upstream or downstream of the EAF baghouse. For the same reasons discussed earlier (e.g., fouling due to particulate matter), the upstream location is considered technically infeasible. Alternatively, the incinerator can be installed downstream of the EAF baghouse. However, even at this location, fouling due to particulate matter can occur, and further, the exhaust will be at a lower temperature. These cooler temperatures would greatly increase auxiliary fuel requirements. The associated combustion of additional auxiliary fuel will result in an unacceptable increase in operating costs. Further, the combustion of additional fuel will result in increases in emissions to the atmosphere.

Due to the lack of application of catalytic incineration in the steel industry and potentially adverse technology applicability issues, this control alternative is considered technically infeasible and will not be considered any further in this BACT analysis.

Oxygen Injection

Based upon review of the previously listed information resources, there is no known application of oxygen injection for controlling CO emissions from an EAF. A theoretical means of reducing CO would be oxygen injection at the entrance of the ductwork to increase oxidation of the available CO to CO₂. The increase in CO oxidation which could be achieved, however, is unknown. This approach would be purely experimental and is a procedure that is currently not conducted in EAF operations in steel mills in the United States. Oxygen injection directly into the furnace is an experimental operating practice in Europe used to increase the heat input to the melt, but the practice has not been demonstrated to reduce CO emissions.

Typically, the DSE system will draw air into the duct, creating an oxygen-rich mixture of EAF exhaust gases where CO is oxidized. The addition of oxygen is expected to provide little if any additional conversion of CO. The capability is also limited due to the cyclic operating schedule (i.e., hot-cold cycling). Exhaust gas temperatures fluctuate during each melt and at times, drop below 1,350 °F. It is estimated that this will occur for 5 to 10 minutes during each melt. The minimum temperature encountered is estimated at approximately 350 °F. Thus, during these periods, the thermal destruction efficiency is expected to decrease, resulting in elevated CO emissions. Consequently, this control alternative is considered technically infeasible for this application and will not be considered any further in this BACT analysis.

Direct Shell Evacuation (DSE) Controls

In the steel industry, there are generally two principal capture systems employed during EAF operation to control the process emissions generated during melting and refining. One is the DSE system and the other is the side draft hood system. Side draft hoods require higher air flow rates than a DSE system and are not widely used. Based upon a review of the previously listed information resources, DSE controls (i.e., fourth-hole furnace control system) continue to be the primary control technology for controlling CO emissions from an EAF. The existing EAF is equipped with DSE controls for mitigation of the proposed CO emissions.

A DSE system consists of a water-cooled duct connected to the EAF through the furnace roof's fourth-hole. This duct is connected to the melt shop canopy collector system which further directs exhaust gases to the EAF baghouse. During melting and refining, a slight negative pressure is maintained within the furnace to withdraw exhaust gases through the DSE duct. At the point where the DSE duct meets the fourth-hole, there is a gap that allows combustion air to enter, providing oxygen to oxidize the CO which is present. The DSE system allows excellent process emissions capture and combustion of CO, and requires the lowest air volume of other EAF capture devices.

Without manifestation of a DSE system on the EAF, a greater quantity of CO would exit the furnace. Also during operation, the furnace shells would develop a negative pressure, thus preventing an in-draft of air/oxygen at the doors which facilitates CO oxidation in the furnace shell. The lack of negative pressure would also prevent the in-draft of air/oxygen at the gap between the fourth-hole elbow and duct, thereby preventing additional CO oxidation in the water-cooled evacuation ductwork.

Evaluation of Most Effective CO Controls for EAF

Various control alternatives were reviewed for technical feasibility in controlling CO emissions from the existing EAF. With the exception of DSE controls, the applicability of the remaining control options was determined to be technically infeasible. Based on a review of the information resources referenced earlier, it is revealed that these control alternatives have not been successfully implemented to reduce CO emissions from EAF's. Thus the projected use of any of these technologies would be considered a "technology transfer." Since, only a single control option was ascertained to be technically feasible, no ranking of control alternatives has been provided.

A review of the RBLC database revealed that other steel mills have similar emissions limits of CO as the Marion Steel Company. No other mills have proposed or successfully implemented any controls besides DSE. The other controls options have been shown to be technically infeasible.

Based on a review of similar EAF melt shop applications, the proposed controls and emission limit represent best available control technology for the existing EAF application.

BACT Determination

In conclusion, BACT for controlling CO emissions from the existing EAF is proposed as the use of post combustion and the existing DSE controls to meet a CO emission rate of 4.06 lb/ton of steel produced along with scrap management. Additionally, from 1999 through 2003, Marion Steel Company has spent approximately \$1,000,000.00 on improvements to the air pollution control system, hence, Marion Steel Company maintains that the air pollution controls associated with the EAF are "State-of-the-Art".

BACT FOR SULFUR DIOXIDE

Sulfur dioxide (SO₂) is created during the operation of an EAF from the sulfur in raw materials (coal, coke and sulfur in steel) introduced into the furnace. The coal and coke mixtures are introduced into an EAF to form a foamy slag. The foamy slag is required for efficient use of energy, improve heat transfer and reduce refractory wear. The heat generated by the EAF process will oxidize the sulfur to form SO₂. Some of the sulfur in the raw materials is retained in the slag and removed from the EAF without oxidizing to SO₂. A very small amount of SO₂ is also produced by the combustion of fuel in oxy-fuel burners. [Note: Marion Steel may install and operate oxy-fuel burners to supplement heat input to the EAF. The emissions rates requested in the permit application accommodate the total SO₂ emissions from the EAF. This includes the emissions from oxy-fuel burners should

Marion Steel elect to install that equipment.]

Technical Feasibility of SO₂ Control Options

The following work practices and technologies have been identified for possible application to SO₂ control from EAF operations:

Sulfur Content of Raw Materials

Dry SO₂ Scrubbers

Wet SO₂ Scrubbers

Sulfur Content of Raw Materials

Marion Steel utilizes raw materials that are comparable to those used in the operation of mini-mills (EAF operations) throughout the country. The sulfur content of the coal and coke charged in the EAF will vary (e.g., up to 1.0% S). Since sulfur is an integral component to the raw materials that are required to properly operate the EAF, sulfur cannot be completely eliminated. Nonetheless, Marion Steel will continue to operate with the objective of maintaining the sulfur input to the EAF at the minimum required for proper furnace operation.

Dry and Wet SO₂ Scrubbers

Both wet and dry SO₂ scrubbers have been successfully utilized in applications at coal-fired electric utility boilers as well as select high SO₂ emission generating industrial processes (e.g., cement kilns, lime kilns, glass furnaces and sulfuric acid production plants). Optimal operating temperatures for dry and wet scrubber systems are in the range of 300°F to 500°F. SO₂ scrubbers are typically employed with waste gas streams of about 2,000 ppm.

The concentration of SO₂ in the exhaust gases captured from EAF is in the vicinity of 1 – 10 ppm (from stack tests conducted at the inlet and outlet of the P903 baghouse) with a total flow rate of approximately 400,000 DCFM. No dry or wet SO₂ scrubber has been installed to control emissions that are as dilute as the exhaust gases captured by the DEC associated with the EAF at Marion Steel. For this reason, neither wet nor dry SO₂ scrubbing is a technically feasible control option for this BACT determination.

Economic Analysis

A detailed economic analysis was not completed for control of SO₂ emissions because Marion Steel utilizes all technologically feasible control options. Marion Steel believes there are no add-on control options that warrant the compilation of a detailed cost-effectiveness analysis (i.e., annualized cost per ton of emission reduction).

BACT Determination

BACT for SO₂ emissions from the EAF (P903) is the use of raw materials that minimize the introduction of sulfur into the furnace along with scrap management. Marion Steel is proposing SO₂ emission limits of 17.52 lb per hour and no more than 70.1 tons per year from the EAF baghouse stack and no more than 0.7 tons per year of fugitive emissions from the Melt Shop Building (based on 99% capture of emissions from EAF operations).

BACT FOR VOLATILE ORGANIC COMPOUNDS (VOC)

VOC emissions from the EAF are primarily due to scrap steel contaminants. The environment inside the EAF is intentionally maintained as a reducing environment to avoid formation of ferrous oxides (FeO) and the loss of high cost additives. The materials charged into the furnace may contain combustible materials such as oil, grease, plastic and paints, which burn when exposed to the high temperatures during bore-in (the initial phase of scrap melting).

Hot exhaust gases containing VOC emissions are released from the "fourth hole" in the EAF. These gases mix with ambient air at prescribed duct openings near the furnace to induce air into the duct and combust VOC generated during the heat. Additional discussion of the EAF operation and the impact of those operations are presented below in conjunction with the VOC emission control technology discussion.

Technical Feasibility of VOC Control Options

The following work practices and technologies have been identified for possible application to VOC control from EAF operations:

- DSE
- Oxygen Injection
- Duct Burners
- Thermal Oxidation
- Catalytic Oxidation

Direct Shell Evacuation

The DSE system consists of a duct connected to the EAF through the furnace roof's "fourth hole". The same operational characteristics of the DEC that reduce CO emissions also reduce VOC emissions. Without the DSE system, a greater quantity of VOC would exit the furnace. The DSE system places the EAF under neutral or negative pressure that draws oxygen into the process and facilitates more complete combustion in the furnace and exhaust ducts. The DSE results in overall EAF exhaust VOC concentrations of less than 10 ppmv. The DSE is a proven system for reducing VOC emissions.

Oxygen Injection

Oxygen injection is a theoretical approach for reducing VOC emissions from an EAF by enhancing the oxidation process. Directly injecting oxygen into the furnace is expected to increase the heat input to the melt (post combustion), but the practice has not been demonstrated to reduce emissions. At present, the DSE draws air into the duct and enhances oxidation. It is unlikely that the injection of oxygen would provide any significant additional oxidation of VOC. For this reason, oxygen injection is not considered a technically feasible control technology for this BACT determination.

Duct Burners

VOC emissions could potentially be reduced by installing a duct burner immediately downstream of the EAF to maintain temperatures sufficient for VOC combustion for a longer period of time. It is unlikely a duct burner would result in effective VOC combustion due to the large flow variations normal to a good operating DSE. Additionally, the amount of VOC generated by the duct burner could offset any VOC reductions that are achieved. Because of these difficulties, the duct burner technology is not considered technically feasible for this BACT determination.

Thermal Oxidation

This BACT study reviews the possible use of a thermal oxidizer both prior to the baghouse and after the baghouse.

Thermal Oxidizer Prior to the Baghouse

Due to the particulate loading from the EAF, a thermal oxidizer installed prior to the baghouse is expected to foul frequently due to particulate accumulation, and the oxidizer burners would have severe maintenance/reliability problems. Additionally, the amount of VOC generated by the natural gas combustion required would offset any VOC reductions that could possibly be achieved. Installation of a thermal oxidizer

prior to the baghouse is not considered technically feasible for this BACT determination.

Thermal Oxidizer After the Baghouse

The barriers to the application of thermal oxidation to control VOC emissions from an EAF are addressed to a significant extent with the placement of the oxidizer after the baghouse. Nonetheless, the very low VOC concentration in the exhaust from the EAF (less than 10 ppmv), the amount of VOC generated by the natural gas combusted to raise the temperature of 400,000 dry standard cubic feet per minute (DCFM) in the thermal oxidizer could offset the minimal VOC reductions that could be achieved. Large amounts of NO_x and CO would also be generated by the thermal oxidizer. For these reasons, the installation of a thermal oxidizer after the baghouse is not considered technically feasible for this BACT determination.

Catalytic Oxidation

This BACT study reviews the possible use of a catalytic oxidizer both prior to the baghouse and after the baghouse.

Catalytic Oxidation Prior to the Baghouse

Due to the particulate loading from the EAF, a catalytic oxidizer is expected to foul frequently with particulate accumulation and the oxidizer burners would have severe maintenance/reliability problems. These problems will be even more severe than with the use of a thermal oxidizer. Therefore, installation of a catalytic oxidizer prior to the baghouse oxidizer prior to the baghouse is not considered technically feasible for this BACT determination.

Catalytic Oxidation After the Baghouse

The barriers to the application of catalytic oxidation to control VOC emissions from an EAF are nearly eliminated with the placement of the catalytic oxidizer after the baghouse. Nonetheless, the very low VOC concentration in the exhaust from the EAF (less than 10 ppmv), the amount of VOC generated by the natural gas combusted to raise the temperature of 400,000 dry standard cubic feet per minute (DCFM) in the thermal oxidizer could offset the minimal VOC reductions that could be achieved. Large amounts of NO_x and CO would also be generated by the thermal oxidizer. For these reasons, the installation of a catalytic oxidizer after the baghouse is not considered technically feasible for this BACT determination.

Economic Analysis

A detailed economic analysis was not completed for control of VOC emissions because Marion Steel utilizes all technologically feasible control options. Marion Steel believes there are no add-on control options that warrant the compilation of a detailed cost-effectiveness analysis (i.e., annualized cost per ton of emission reduction).

BACT Determination

BACT for VOC emissions from the EAF (P903) at Marion Steel is the use of raw materials that minimize the introduction of volatile organic materials into the furnace and the operation of the DSE system along with scrap management. Marion Steel is proposing VOC emission limits of 20.0 lb per hour and no more than 80.0 tons per year from the EAF baghouse stack and no more than 0.8 tons per year of fugitive emissions from the Melt Shop Building (based on 99% capture of emissions from EAF operations).

Site Description/Air Quality Evaluation

The Marion Steel Company is located in Air Quality Control Region (AQCR) 175. The area is attainment or attainment/unclassifiable for total suspended particulates, particulate matter less than 10 microns, sulfur dioxide, nitrogen oxides, carbon monoxide, volatile organic compounds (ozone) and lead.

Ambient Air Quality Monitoring Requirements

U.S. EPA regulations require a year of ambient air quality data to be obtained as part of the PSD application. An applicant may conduct monitoring on-site, model to demonstrate a "de minimus" impact, or used existing air quality data to fill some of the requirements of a PSD ambient air quality analysis. If monitoring is required, U.S. EPA has set up specific conditions on the acceptability of existing air quality monitors is to ensure the monitor is representative of air quality in the area.

In this instance, MS has conducted ambient air quality modeling that predicts the ambient air quality impact of the source(s) to be more than the monitoring de minimus concentrations for CO and SO₂. Therefore, MS would be required to conduct pre-application monitoring unless there is representative existing data. Ohio EPA identified existing monitoring data in Franklin County as a conservative, representative data set for this location. A summary of the modeling is below.

<u>Pollutant</u>	<u>Averaging Period</u>	<u>Predicted Concentration</u>	<u>Monitoring De Minimus Concentration</u>
CO	8-hour high	1473 ug/m ³	575 ug/m ³
SO ₂	24-hour	41.8 ug/m ³	13 ug/m ³

Modeling

Both SO₂ and CO exceeded the PSD significant emission rates. Air quality dispersion modeling was conducted to assess the effect of this project on ambient air quality standards and PSD increments. The U.S. EPA Industrial Source Complex-Short Term model (ISCST3, Version 02035) model was used for the refined modeling analysis. .

The ISCST3 model was the appropriate model for the simple terrain analysis due to the need to incorporate building wake effects, the need to predict both short-term and long-term (annual) average concentrations, and the need to incorporate impacts from multiple and separated emissions units.

The ISCST3 model was run with the regulatory default options (stack-tip downwash, buoyancy-induced dispersion, final plume rise), default wind speed profile categories, default potential temperature gradient, and no pollutant decay.

The model was run utilizing the National Weather Service meteorological data processed using the U.S. EPA PCRAMMET program. OEPA provided five years of the most recent PCRAMMET processed meteorological data on our bulletin board system. Following OEPA modeling guidance concerning representative meteorological data for various counties, the Columbus Surface, Dayton Upper Air (1987-1991) PCRAMMET data were used in the refined modeling analysis.

Building wake effects will influence emissions from stacks with heights less than Good Engineering Practice (GEP). The ISCST3 model requires input of building heights and projected building widths for 36 wind directions. The U.S. EPA Building Profile Input Program (BPIP) was used to determine the direction-specific building dimensions.

Significant Impact Analysis

ISCST3 was applied to the sources at the proposed facility to determine if the proposed facility would have impacts above the PSD significant impact increments. Peak facility impacts are presented in the table below:

	<u>Facility Impacts</u>	<u>PSD Significance Increments</u>
CO	1-hour high 2297 ug/m ³	2000 ug/m

1497 ug/m ³	500 ug/m ³
82.7 ug/m ³	25 ug/m ³
41.84 ug/m ³	5 ug/m ³
6.78 ug/m ³	1 ug/m ³

PSD and NAAQS Analyses

The SIA modeling shows that the highest CO and SO2 impacts for all averaging times exceeded their respective significant impact levels. Since the SIA analysis exceeds the PSD significance impact thresholds, PSD and NAAQS modeling analyses were required for both CO and SO2.

PSD Increment Analysis

A complete increment analysis was performed for SO2. The following impacts account for all increment consuming sources in the analysis.

SO2	3-hour high	82.7 ug/m3	512 ug/m3
	24-hour high	41.84 ug/m3	91 ug/m3
	Annual	6.78 ug/m3	20 ug/m3

There are no PSD increments for CO. Ohio EPA restricts individual project impacts to one quarter of the NAAQS. This is summarized below.

		<u>Facility Impacts</u>	<u>Ohio Acceptable Impacts</u>
CO	1-hour high 1497 ug/m ³	2297 ug/m ³ 2,500 ug/m ³	10,000 ug/m ³

and SO2 meet Ohio's Acceptable Incremental Impacts.

Project impacts are combined with the impact of potential interacting sources and a monitored background to account for sources not explicitly included in the model. Total impacts were below the NAAQS.

	<u>Model Impacts</u>	<u>Monitored Background</u>	<u>Total Impact</u>	<u>NAAQS</u>	
	1-hour	2297 ug/m3	3083 ug/m3	5380 ug/m3	40,000 ug/m3
	8-hour	1497 ug/m3	1947 ug/m3	3444 ug/m3	10,000 ug/m3
SO2	3-hour	476.2 ug/m3	104.8 ug/m	581.0 ug/m3	1300 ug/m3
	8-hour	211.7 ug/m3	57.64 ug/m3	269.3 ug/m3	365 ug/m3
	annual	26.8 ug/m3	11.0 ug/m3	37.8 ug/m3	80 ug/m3

Toxic Analysis

Mercury was evaluated as part of this application. Peak one hour impacts were modeled and the summary of the impacts are below:.

Pollutant	Modeled Impact	Acceptable Impact
Mercury	0.6 ug/m3	0.6 ug/m3

The peak Mercury impact met MAGLC.

Secondary Impact

The closest Class I area to the MS Facility are the Dolley Sods and Otter Creek Class I wilderness areas which are over 250 miles to the southeast. Federal PSD regulation regulations require that the reviewing authority provide written notification of projects which may affect a Class I area. "May effect" is typically interpreted by EPA as a major source or major modification within 100 kilometers. Since the MS Facility is located greater than 100 kilometers from any Class I area, and all modeled impacts are below Significant Impact Levels, the MS Facility was not subject to the visibility analysis modeling.

Most of the designated vegetation screening levels are equivalent to or exceed NAAQS and/or PSD increments, so that satisfaction of NAAQS and PSD increment assures compliance with sensitive vegetation screening levels. For SO₂ 3-hour and annual averaging periods, sensitive screening levels are more stringent than comparable NAAQS standards. The MS facility does not have significant emissions of SO₂.

It is not expected that there will be regional population, commercial, or industrial growth associated with this project.

Conclusions

Based upon the analysis of the permit to install application and its supporting documentation provided by the Marion Steel Company, the Ohio EPA staff has determined that their proposal will comply with all applicable State and Federal environmental regulations and that the requirements for BACT are satisfied. Therefore, the Ohio EPA staff recommends that a permit to install be issued to the Marion Steel Company Facility.



State of Ohio Environmental Protection Agency

**RE: DRAFT PERMIT TO INSTALL
MARION COUNTY**

CERTIFIED MAIL

Street Address:

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

Mailing Address:

Lazarus Gov.
Center

Application No: 03-16353
Fac ID: 0351010017

DATE: 4/12/2005

Marion Steel Company
Scott Conway
912 Cheney Avenue
Marion, OH 43302

You are hereby notified that the Ohio Environmental Protection Agency has made a draft action recommending that the Director issue a Permit to Install for the air contaminant source(s) [emissions unit(s)] shown on the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the proposed installation. A public notice concerning the draft permit will appear in the Ohio EPA Weekly Review and the newspaper in the county where the facility will be located. Public comments will be accepted by the field office within 30 days of the date of publication in the newspaper. Any comments you have on the draft permit should be directed to the appropriate field office within the comment period. A copy of your comments should also be mailed to Robert Hodanbosi, Division of Air Pollution Control, Ohio EPA, P.O. Box 1049, Columbus, OH, 43266-0149.

A Permit to Install may be issued in proposed or final form based on the draft action, any written public comments received within 30 days of the public notice, or record of a public meeting if one is held. You will be notified in writing of a scheduled public meeting. Upon issuance of a final Permit to Install a fee of **\$1250** will be due. Please do not submit any payment now.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469. If you have any questions about this draft permit, please contact the field office where you submitted your application, or Mike Ahern, Field Operations & Permit Section at (614) 644-3631.

Sincerely,

Michael W. Ahern

Michael W. Ahern, Manager
Permit Issuance and Data Management Section
Division of Air Pollution Control

CC: USEPA

NWDO

**PUBLIC NOTICE PUBLIC HEARING
OHIO ENVIRONMENTAL PROTECTION AGENCY
ISSUANCE OF DRAFT PERMIT TO INSTALL #03-16353 TO
MARION STEEL COMPANY**

Public notice is hereby given that the Ohio EPA, Division of Air Pollution Control (DAPC) has issued, on April 12, 2005 a draft permit-to-install (PTI) #03-16353 to Marion Steel Company for the proposed modification of an existing electric arc furnace to increase production capacity and revise previous emission limitations.

The proposed modification is for an existing electric arc furnace located in Marion County at 912 Cheney Avenue, Marion, Ohio.

Copies of the draft PTI are available for review at Ohio EPA's Northwest District Office, 347 North Dunbridge Road, Bowling Green, Ohio, (419) 352-8461. An Ohio EPA information session and public hearing concerning the draft PTI will be held on Wednesday, May 18 at the Marion City Hall Community Room, 2nd Floor, 233 West Center Street, Marion, Ohio. The information session will begin at 7:00 P.M. The public hearing will follow immediately and continue until all persons have had the opportunity to provide testimony related to the proposed permit.

All interested persons are entitled to attend or be represented and give written or oral comments on the draft permit at the hearing. Written comments must be received by Ohio EPA at the close of the business day on Friday, May 20. Comments received after this date will not be considered to be a part of the official record. Written comments may be submitted at the hearing or sent to: Andrea Chapman of Ohio EPA's Northwest District Office, 347 North Dunbridge Road, Bowling Green, Ohio 43402.



DRAFT PERMIT TO INSTALL 03-16353

Application Number: 03-16353
Facility ID: 0351010017
Permit Fee: **To be entered upon final issuance**
Name of Facility: Marion Steel Company
Person to Contact: Scott Conway
Address: 912 Cheney Avenue
Marion, OH 43302

Location of proposed air contaminant source(s) [emissions unit(s)]:
**912 Cheney Avenue
Marion, Ohio**

Description of proposed emissions unit(s):
Electric arc furnace.

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

Marion Steel Company

Facility ID: 0351010017

PTI Application: 03-16353

Issued: To be entered upon final issuance

Part I - GENERAL TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install General Terms and Conditions

1. Monitoring and Related Recordkeeping and Reporting Requirements

- a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
 - i. The date, place (as defined in the permit), and time of sampling or measurements.
 - ii. The date(s) analyses were performed.
 - iii. The company or entity that performed the analyses.
 - iv. The analytical techniques or methods used.
 - v. The results of such analyses.
 - vi. The operating conditions existing at the time of sampling or measurement.
- b. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
 - i. Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
 - ii. Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the appropriate Ohio EPA District Office or local air agency. The written reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See B.9 below if no deviations occurred during the quarter.
 - iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the appropriate Ohio EPA District Office or local air agency every six months, i.e., by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations

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occurred during that period.

- iv. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

2. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

3. Risk Management Plans

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

4. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

5. Severability Clause

A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.

6. General Requirements

- a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and reissuance, or modification, or for denial of a permit renewal application.
- b. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c. This permit may be modified, reopened, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or

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revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.

- d. This permit does not convey any property rights of any sort, or any exclusive privilege.
- e. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

7. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit To Install fees within 30 days after the issuance of this Permit To Install.

8. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

9. Compliance Requirements

- a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.
- b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
 - i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
 - ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
 - iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
 - iv. As authorized by the Act, sample or monitor at reasonable times substances or

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parameters for the purpose of assuring compliance with the permit and applicable requirements.

- c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
 - i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
 - ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

10. Permit To Operate Application

- a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).
- b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this Permit To Install is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. Permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the source(s) covered by this permit.

11. 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.

Marion Steel Company

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12. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

Marion Steel Company

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B. State Only Enforceable Permit To Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

2. Reporting Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

4. Termination of Permit To Install

This permit to install shall terminate within eighteen months of the effective date of the permit to install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

5. Construction of New Sources(s)

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and

Marion Steel Company

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application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

6. 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.

7. Applicability

This Permit to Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

8. Construction Compliance Certification

If applicable, the applicant shall provide Ohio EPA with a written certification (see enclosed form if applicable) 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.

9. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations (See Section A of This Permit)

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report,

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which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

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C. Permit To Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons Per Year</u>
PE	68.56
Fugitive PE	140.0
Fugitive PM ₁₀	81.20
NOx	110.88
Fugitive NOx	1.11
SO ₂	70.0
Fugitive SO ₂	0.70
VOC	80.08
Fugitive VOC	0.80
CO	1136.80
Fugitive CO	11.37
Pb	1.0
Fugitive Pb	0.01
Hg	0.25
Fugitive Hg	0.0025

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Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install Facility Specific Terms and Conditions

None

B. State Only Enforceable Permit To Install Facility Specific Terms and Conditions

None

Mario

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Issued: To be entered upon final issuance**Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)****A. State and Federally Enforceable Section****I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	OAC rule 3745-31-20	3745-31-10	through
P903 - 70 tons/hr electric arc furnace with baghouse and dust handling system (Modification to PTI #03-14079, issued on July 8, 2004, to correct emissions violations and increase the capacity of the furnace to 70 tons/hr)	OAC rule 3745-31-05(A)(3)			
	OAC rule 3745-31-05(C)			
		OAC rule 3745-17-07(A)		
		OAC rule 3745-17-07(B)		
		OAC rule 3745-17-08(B)		
		OAC rule 3745-17-11(B)		
		OAC rule 3745-18-06(E)		

40 CFR, Part 60, Subpart AAa	Applicable Emissions Limitations/Control Measures	Emissions Unit ID: P903 CO per rolling, 12-month period (See A.I.2.b)
	See A.I.2.a, A.I.2.i, and A.I.2.l	<u>Fugitive Emissions:</u> 0.70 tons of SO ₂ per rolling 12-month period (See A.I.2.b)
	<u>Baghouse Stack Emissions:</u> 0.005 gr of lbs particulate emissions (PE)/dscf, 68.56 tons of PE per rolling, 12-month period (See A.I.2.b & A.I.2.h)	0.80 tons of VOC per rolling 12-month period (See A.I.2.b)
	27.72 lbs nitrogen oxides (NO _x)/hr, 110.88 tons of NO _x per rolling, 12-month period (See A.I.2.b)	11.37 tons of CO per rolling 12-month period (See A.I.2.b)
	0.25 lb lead (Pb)/hr, 1.0 tons of Pb per rolling, 12-month period (See A.I.2.b)	See A.I.2.c
	0.063 lb mercury (Hg)/hr, 0.25 tons of Hg per rolling, 12-month period (See A.I.2.b)	See A.I.2.d
	<u>Fugitive Emissions:</u> 140.0 tons of fugitive PE per rolling, 12-month period (See A.I.2.b)	See A.I.2.e
	81.20 tons of fugitive PM ₁₀ per rolling, 12-month period (See A.I.2.b)	See A.I.2.f
	1.11 tons of fugitive NO _x per rolling, 12-month period (See A.I.2.b)	See A.I.2.g
	0.01 tons of fugitive Pb per rolling, 12-month period (See A.I.2.b)	See A.I.2.g
	0.0025 tons of fugitive Hg per rolling, 12-month period (See A.I.2.b)	See A.I.2.j and A.I.2.k
	<u>Baghouse Stack Emissions:</u> 17.50 lb sulfur dioxide (SO ₂)/hr, 70.0 tons of SO ₂ per rolling, 12-month period (See A.I.2.b)	
	20.02 lbs volatile organic compounds (VOC)/hr, 80.08 tons of VOC per rolling, 12-month period (See A.I.2.b)	
	284.20 lbs CO/hr, 1136.80 tons of	

Issued: To be entered upon final issuance**2. Additional Terms and Conditions**

2.a Best Available Technology (BAT) for this emissions unit has been determined to be the following:

- i. use of a baghouse with an outlet loading concentration of 0.005 gr PE/dscf;
- ii. use of a direct-shell evacuation control system (DEC) during refining and melting;
- iii. use of a segmented canopy hood, scavenger ducting, cross-draft partitioning and closed roof monitors and also includes compliance with the requirements of 40 CFR, Part 60, Subpart AAa.

2.b The permittee has requested the following federally enforceable emission limitations established pursuant to OAC rule 3745-31-05(C) based on a daily average throughput rate and hours of operation restrictions (See A.II.1 and A.II.2) for purposes of avoiding "Prevention of Significant Deterioration" analysis:

Baghouse stack emissions:

0.005 gr PE/dscf, 17.14 lbs PE/hr, 68.56 tons of PE per rolling, 12-month period
27.72 lbs NO_x/hr, 110.88 tons of NO_x per rolling, 12-month period
0.25 lb Pb/hr, 1.0 tons of Pb per rolling, 12-month period
0.063 lb Hg/hr, 0.25 tons of Hg per rolling, 12-month period

Fugitive Emissions:

140.0 tons of fugitive PE per rolling, 12-month period
81.20 tons of fugitive PM₁₀ per rolling, 12-month period
0.01 tons of fugitive Pb per rolling, 12-month period
0.0025 tons of fugitive Hg per rolling, 12-month period

2.c The permittee shall employ Best Available Control Technology (BACT) on this emissions unit. BACT has been determined to be emission limitations of 17.50 lbs SO₂/hr, 70.0 tons of SO₂ per rolling 12-month period, 0.70 tons of fugitive SO₂ per rolling 12-month period, 20.02 lbs VOC/hr, 80.08 tons of VOC per rolling 12-month period, 0.80 tons of fugitive VOC per rolling 12-month period, 284.20 lbs CO/hr, 1136.80 tons of CO per rolling, 12-month period and 11.37 tons of fugitive CO per rolling 12-month period. The BACT analysis determined that no controls were cost-effective.

2.d The opacity limitation specified by this rule is less stringent than the opacity limitation established pursuant to 40 CFR, Part 60, Subpart AAa.

2.e This emissions unit is exempt from the visible emissions limitations specified in OAC rule 3745-17-07(B), pursuant to OAC rule 3745-17-07(B)(11)(e).

2.f This facility is not located within an "Appendix A" area as identified in OAC rule 3745-17-08 (it is located in Marion County). Therefore, pursuant to OAC rule 3745-17-08(A), this emissions unit is exempt from the requirements of OAC rule 3745-17-08(B).

2.g The emission limitation specified by this rule is less stringent than the emission limitation

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established pursuant to OAC rule 3745-31-05(C).

- 2.h** All PE from the baghouse stack is particulate matter less than 10 microns in size (PM₁₀).
- 2.i** The requirements of this rule also includes compliance with OAC rule 3745-31-05(C) and OAC rule 3745-31-10 through 3745-31-20 and 40 CFR 60.272(a)(2) & 40 CFR 60.272(a)(3).
- 2.j** The permittee shall not cause to be discharged into the atmosphere any gases which:
 - i. exit from the stack of the baghouse controlling the EAF and exhibit 3% opacity or greater; and
 - ii. exit from the melt shop due solely to the operation of the EAF and exhibit 6% opacity or greater.
- 2.k** The standard for particulate matter specified by 40 CFR 60.272a(a)(1) is less stringent the emission limit established pursuant to OAC rule 3745-31-05(C). The standard for particulate matter specified by 40 CFR 60.272a(b) is less stringent the emission limit established pursuant to OAC rule 3745-31-05(A)(3).
- 2.l** There shall be no visible particulate emissions from the building enclosing the baghouse dust handling system.

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II. Operational Restrictions

1. The permittee shall not exceed an hourly throughput rate in this emissions unit of 70 tons of steel based on a daily average.
2. The maximum annual operating hours for this emissions unit, shall not exceed 8000 hours, based upon a rolling, 12-month summation of the operating hours.

To ensure enforceability during the first 12 calendar months of operation 8000 hours, the permittee shall not exceed the operating hours levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Operating Hours
1	667
1-2	1334
1-3	2001
1-4	2668
1-5	3335
1-6	4002
1-7	4669
1-8	5336
1-9	6003
1-10	6670
1-11	7337
1-12	8000

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual operating hours limitation shall be based upon a rolling, 12-month summation of the operating hours.

3. The pressure drop across the baghouse shall be maintained in the range of ½ to 8 inches of water while the emissions unit is in operation. The listed pressure drop range applies at all times, except during periods of cleaning, new bag installations and other scheduled maintenance operations.
4. The permittee shall follow the procedures outlined in its "Scrap Management Program" in order to minimize the use of scrap that contains mercury, lead, oils, plastics, and organic materials that are charged in the EAF. The "Scrap Management Program" was reviewed and approved by NWDO and shall be viewed as part of the operational requirements for the EAF permit. Any change to the "Scrap Management Program" that would increase the amount of these compounds present in the scrap, or result in the emissions of an air contaminant not previously emitted, must be approved by NWDO.
5. The control system fan motor amperes and all damper positions or the volumetric flow rate through each separately ducted hood shall be maintained at the appropriate levels established during the most recent emission testing that demonstrated that the emissions unit was in

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compliance.

III. Monitoring and/or Recordkeeping Requirements

1. Observations of the opacity of the visible emissions from the baghouse shall be performed by a certified VE observer as follows:
 - a. Visible emission observations shall be conducted at least once per day when the furnace is operating in the melting and refining period.
 - b. Visible emission 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 any points(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 opacity that directly relates to the cause (or location) of visible emissions observed during a single incident.
 - c. Records shall be maintained of any 6- minute average that is in excess of the emission limitation specified in A.I.2.j.
2. Observations of melt shop opacity shall be performed by a certified visible emission observer as follows:
 - a. Shop opacity observations shall be conducted at least once per day when the furnace is operating in the meltdown and refining period.
 - b. 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.
 - c. Shop opacity shall be recorded for any point(s) where visible emission are observed. Where it is possible to determine that a number of visible emission 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.
3. The permittee shall either: check and record the control system fan motor amperes and damper position on a once-per-shift basis; install, calibrate, operate and maintain a monitoring device that continuously records the volumetric flow rate through each separately ducted hood; or install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate at the control device inlet and check and record damper positions on a once-per-shift basis. The monitoring device(s) 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 their normal operating range and shall be calibrated according to the manufacturer's instructions. The permittee may be required to demonstrate the accuracy of the monitoring devices relative to Methods 1 and 2 of Appendix A of 40 CFR Part 60.

4. When the permittee is required to demonstrate compliance with the VE limitation in section A.I.2.j.ii and at any other time that the Director (the appropriate Ohio EPA District Office or local air agency) may require, either 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 affected facility subject to A.III.3.

The permittee may petition the Director for reestablishment of these parameters whenever the permittee can demonstrate to the Administrator's satisfaction that the affected facility operating conditions upon which the parameters were previously established are no longer applicable. 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 may be considered by the Director (the appropriate Ohio EPA District Office or local air agency) to be unacceptable operation and maintenance of the affected facility.

5. 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). These inspections 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 Director (the appropriate Ohio EPA District Office or local air agency) to approve any alternative to monthly operational status inspections that will provide a continuous record of the operation of each emission capture system.
6. The permittee shall maintain daily records of the following:
- a. the tons of steel produced;
 - b. the number of hours the EAF was operated; and
 - c. the average hourly production rate (b divided by c).
7. The permittee shall maintain monthly records of the following information:
- a. the operating hours for each month; and
 - b. beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of the operating hours.

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

8. The permittee shall maintain monthly records of the following information:
- a. the calculated PE emissions for each month, in tons, using the following equation:

$$\text{PE emissions} = (0.005 \text{ gr/dscf}) \times (400,000 \text{ cfm}) \times (\text{lb}/7000 \text{ gr}) \times (60 \text{ min/hr}) \times (\text{A.III.7.a}) \times (\text{ton}/2000 \text{ lbs});$$
 - b. beginning the first month after 12 calendar months of operation, the rolling 12-month

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- c. the calculated fugitive PE emissions for each month, in tons, using the following equation:
fugitive PE emissions = (35 lbs/hr) x (A.III.7.a) x (ton/2000 lbs);
- d. beginning the first month after 12 calendar months of operation, the rolling 12-month summation of fugitive PE emissions;
- e. the calculated fugitive PM₁₀ emissions for each month, in tons, using the following equation:
fugitive PM₁₀ emissions = (20.3 lbs/hr) x (A.III.7.a) x (ton/2000 lbs);
- f. beginning the first month after 12 calendar months of operation, the rolling 12-month summation of fugitive PM₁₀ emissions;
- g. the calculated SO₂ emissions for each month, in tons, using the following equation:
SO₂ emissions = (17.50 lb/hr) x (A.III.7.a) x (ton/2000 lbs);
- h. beginning the first month after 12 calendar months of operation, the rolling 12-month summation of SO₂ emissions;
- i. the calculated fugitive SO₂ emissions for each month, in tons, using the following equation:
fugitive SO₂ emissions = (0.18 lb/hr) x (A.III.7.a) x (ton/2000 lbs);
- j. beginning the first month after 12 calendar months of operation, the rolling 12-month summation of fugitive SO₂ emissions;
- k. the calculated NO_x emissions for each month, in tons, using the following equation:
NO_x emissions = (27.72 lbs/hr) x (A.III.7.a) x (ton/2000 lbs);
- l. beginning the first month after 12 calendar months of operation, the rolling 12-month summation of NO_x emissions;
- m. the calculated fugitive NO_x emissions for each month, in tons, using the following equation:
fugitive NO_x emissions = (0.28 lbs/hr) x (A.III.7.a) x (ton/2000 lbs);
- n. beginning the first month after 12 calendar months of operation, the rolling 12-month summation of fugitive NO_x emissions;
- o. the calculated VOC emissions for each month, in tons, using the following equation:

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$$\text{VOC emissions} = (20.02 \text{ lbs/hr}) \times (\text{A.III.7.a}) \times (\text{ton}/2000 \text{ lbs});$$

- p. beginning the first month after 12 calendar months of operation, the rolling 12-month summation of VOC emissions;
- q. the calculated fugitive VOC emissions for each month, in tons, using the following equation:
$$\text{fugitive VOC emissions} = (0.20 \text{ lbs/hr}) \times (\text{A.III.7.a}) \times (\text{ton}/2000 \text{ lbs});$$
- r. beginning the first month after 12 calendar months of operation, the rolling 12-month summation of fugitive VOC emissions;
- s. the calculated CO emissions for each month, in tons, using the following equation:
$$\text{CO emissions} = (284.20 \text{ lbs/hr}) \times (\text{A.III.7.a}) \times (\text{ton}/2000 \text{ lbs});$$
- t. beginning the first month after 12 calendar months of operation, the rolling 12-month summation of CO emissions;
- u. the calculated fugitive CO emissions for each month, in tons, using the following equation:
$$\text{fugitive CO emissions} = (2.84 \text{ lbs/hr}) \times (\text{A.III.7.a}) \times (\text{ton}/2000 \text{ lbs});$$
- v. beginning the first month after 12 calendar months of operation, the rolling 12-month summation of fugitive CO emissions;
- w. the calculated Pb emissions for each month, in tons, using the following equation:
$$\text{Pb emissions} = (0.25 \text{ lb/hr}) \times (\text{A.III.7.a}) \times (\text{ton}/2000 \text{ lbs});$$
- x. beginning the first month after 12 calendar months of operation, the rolling 12-month summation of Pb emissions;
- y. the calculated fugitive Pb emissions for each month, in tons, using the following equation:
$$\text{fugitive Pb emissions} = (0.0025 \text{ lb/hr}) \times (\text{A.III.7.a}) \times (\text{ton}/2000 \text{ lbs});$$
- z. beginning the first month after 12 calendar months of operation, the rolling 12-month summation of fugitive Pb emissions;
- aa. the calculated Hg emissions for each month, in tons, using the following equation:
$$\text{Hg emissions} = (0.063 \text{ lb/hr}) \times (\text{A.III.7.a}) \times (\text{ton}/2000 \text{ lbs});$$
- ab. beginning the first month after 12 calendar months of operation, the rolling 12-month summation of Hg emissions;

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- ac. the calculated fugitive Hg emissions for each month, in tons, using the following equation:
fugitive Hg emissions = (0.00063 lb/hr) x (A.III.7.a) x (ton/2000 lbs); and
 - ad. beginning the first month after 12 calendar months of operation, the rolling 12-month summation of fugitive Hg emissions;
9. The permittee shall properly 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 once per shift basis.
 10. The permittee shall obtain a sample of the EAF baghouse dust on a monthly basis. At a minimum, the samples shall be analyzed for the magnesium, manganese, lead, zinc, and mercury contents. The results shall be reported in weight percent. This analysis shall be conducted in accordance with U.S. EPA test methods and procedures.
 11. The permittee shall keep daily records that indicate whether or not scrap was handled in accordance with the permittee's "Scrap Management Program".

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports that:
 - a. identify all exceedances of gasses which exit from the stack of the baghouse controlling the EAF and exhibit 3% opacity or greater;
 - b. indicate a period of excess emission for opacity observations of gasses which exit from the melt shop due solely to the operation of the EAF and exhibit 6% opacity or greater. Excess emissions shall be reported in accordance with 40 CFR Part 60.7(c).

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit deviation (excursions) reports which identify any exceedances of the following:
 - a. daily average hourly throughput rate specified in section A.II.1 of this permit.
 - b. the rolling, 12-month operating hours limitation specified in section A.II.2 and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative operating hours levels.
 - c. the rolling, 12-month emissions limitations specified in section A.I.1 of this permit.
 - d. all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified in section A.II.3 of the terms and conditions of this permit.

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- e. all periods of time during which the scrap was not handled in accordance with the permittee's "Scrap Management Program".

The deviation reports shall be submitted in accordance with the General Terms and Conditions of this permit.

3. The permittee shall submit semiannual written reports that identify operation of control system fan motor amperes at values exceeding ± 15 percent of the value established under A.III.4 or operation at flow rates lower than those established under A.III.4. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.
4. The permittee shall submit the results of all baghouse dust analyses. The results shall be submitted within 30 days after the analysis is completed.

V. Testing Requirements

1. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The emissions testing shall be conducted no earlier than 12 months and no less than 6 months prior to the expiration of the current Title V permit (i.e., between May 22, 2006 and November 22, 2006) following issuance of this permit.
 - b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for PE, NO_x, CO, SO₂, VOC, Pb and Hg.
 - c. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates: for PE, Method 5D of 40 CFR, Part 60, Appendix A; for NO_x, Methods 1 through 4 and 7 of 40 CFR, Part 60, Appendix A; for CO, Methods 1 through 4 and 10 of 40 CFR, Part 60, Appendix A; for SO₂, Methods 1 through 4 and 6 of 40 CFR, Part 60, Appendix A; for VOC, Methods 1 through 4 and Method 18, 25 or 25A of 40 CFR, Part 60, Appendix A; Pb, Methods 1 through 4 and 12 or 29 of 40 CFR, Part 60, Appendix A; and for Hg, Methods 1 through 4 and 29 of 40 CFR, Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.
 - d. Method 5D shall be used for positive-pressure fabric filters to determine the PE 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 the sampling time shall include an integral number of heats.
 - e. The test runs shall be conducted concurrently, unless inclement weather interferes.
 - f. The tests shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

2. During the PE testing, the permittee shall obtain the following additional information:
 - a. for all heats covered by the test:
 - i. charge weights and materials, and tap weights and materials;
 - ii. heat times, including start and stop times, and a log of process operation, including periods of no operation during testing.
 - iii. control device operation log; 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 affected facility.
3. Concurrent with the PE testing, opacity observations shall be performed to demonstrate compliance with the opacity limitations contained in A.I.2.j.i and A.I.2.j.ii. The opacity testing shall be conducted in accordance with 40 CFR Part 60.8.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or 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 tests, and the person(s) who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission tests.

Personnel from the appropriate Ohio EPA District Office or 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 tests shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the tests. The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

The report shall also include all information required by 40 CFR 60.276a(f).

4. Compliance with the emission limitations in Section A.I.1 of the terms and conditions of this permit shall be determined in accordance with the following methods:
 - a. Emission Limitation: 0.005 gr/dscf, 68.56 tons of PE per rolling, 12-month period

Applicable Compliance Method: The 0.005 gr/dscf limitation is the established BAT maximum outlet concentration. The permittee shall demonstrate compliance with the mass limitations by emissions testing conducted in accordance with Methods 1-5 of 40 CFR, Part 60, Appendix A (See A.V.1).

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The tons of PE per rolling, 12-month period limitation was developed by multiplying the maximum outlet concentration of 0.005 gr/dscf by the maximum volumetric air flow (400,000 acfm), the appropriate conversion factors of 7000 grains/lb, 1 dscf/1 acfm, 60 minutes/hr, the maximum annual operating schedule of 8000 hrs/yr and dividing by 2000 lbs/ton. The permittee shall demonstrate compliance with the tons per rolling 12-month period limitation by the recordkeeping in section A.III.8.

- b. Emission Limitation: 140.0 tons of fugitive PE per rolling, 12-month period, 81.20 tons of fugitive PM₁₀ per rolling, 12-month period

Applicable Compliance Method: The tons of fugitive PE and PM₁₀ per rolling, 12-month period limitation were developed by multiplying the AP-42 emission factors from Table 12.5-1 (10/86) of 50 lbs PE/ton of steel produced and 29 lbs PM₁₀/ton of steel produced, the daily average hourly throughput rate of 70 tons/hr, the capture efficiency of 99% (1-0.99) and the maximum annual operating schedule of 8000 hrs/yr and dividing by 2000 lbs/ton. The permittee shall demonstrate compliance with the tons per rolling 12-month period limitation by the recordkeeping in section A.III.8.

- c. Emission Limitation: 27.72 lbs NO_x/hr, 110.88 tons of NO_x per rolling, 12-month period

Applicable Compliance Method: The lbs/hr limitation was developed by multiplying the daily average hourly throughput rate of 70 tons/hr by the emission factor of 0.396 lb/ton (based on May 2004 stack test). The permittee shall demonstrate compliance with the hourly NO_x limitation by emissions testing conducted in accordance with Methods 1-4 and 7 of 40 CFR, Part 60, Appendix A (See A.V.1).

The tons per rolling 12-month period limitation was developed by multiplying the lbs/hr limitation by the maximum annual operating schedule of 8000 hrs/yr and dividing by 2000 lbs/ton. The permittee shall demonstrate compliance with the tons per rolling 12-month period limitation by the recordkeeping in section A.III.8.

- d. Emission Limitation: 0.25 lb Pb/hr, 1.0 tons of Pb per rolling, 12-month period

Applicable Compliance Method: The lbs/hr limitation was developed by multiplying the daily average hourly throughput of 70 tons/hr by the emission factor of 0.0035 lb/ton (based on May 2004 stack test). The permittee shall demonstrate compliance with the hourly Pb limitation by emissions testing conducted in accordance with Methods 1-4 and 12 or 29 of 40 CFR, Part 60, Appendix A.

The tons per rolling 12-month period limitation was developed by multiplying the lbs/hr limitation by the maximum annual operating schedule of 8000 hrs/yr and dividing by 2000 lbs/ton. The permittee shall demonstrate compliance with the tons per rolling 12-month period limitation by the recordkeeping in section A.III.8.

- e. Emission Limitation: 0.01 tons of fugitive Pb per rolling, 12-month period

Applicable Compliance Method: The tons of fugitive Pb per rolling, 12-month period limitation was developed by multiplying the annual Pb limitation by the capture efficiency of 99% (1-0.99). The permittee shall demonstrate compliance with the tons per rolling 12-month period limitation by the recordkeeping in section A.III.8.

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- f. Emission Limitation: 0.063 lb Hg/hr, 0.25 tons of Hg per rolling, 12-month period

Applicable Compliance Method: The lbs/hr limitation was developed by multiplying the daily average hourly throughput of 70 tons/hr by the emission factor of 0.0009 lb/ton (based on December 1999 stack test). The permittee shall demonstrate compliance with the hourly Hg limitation by emissions testing conducted in accordance with Methods 1-4 and 29 of 40 CFR, Part 60, Appendix A.

The tons per rolling 12-month period limitation was developed by multiplying the lbs/hr limitation by the maximum annual operating schedule of 8000 hrs/yr and dividing by 2000 lbs/ton. The permittee shall demonstrate compliance with the tons per rolling 12-month period limitation by the recordkeeping in section A.III.8.

- g. Emission Limitation: 0.0025 tons of fugitive Hg per rolling, 12-month period

Applicable Compliance Method: The tons of fugitive Hg per rolling, 12-month period limitation was developed by multiplying the annual Hg limitation by the capture efficiency of 99% (1-0.99). The permittee shall demonstrate compliance with the tons per rolling 12-month period limitation by the recordkeeping in section A.III.8.

- h. Emission Limitation: 17.50 lbs SO₂/hr, 70.0 tons of SO₂ per rolling, 12-month period

Applicable Compliance Method: The lbs/hr limitation was developed by multiplying the daily average hourly throughput rate of 70 tons/hr by the emission factor of 0.25 lb/ton (based on September 1999 stack test). The permittee shall demonstrate compliance with the hourly SO₂ limitation by emissions testing conducted in accordance with Methods 1-4 and 6 of 40 CFR, Part 60, Appendix A (See A.V.1).

The tons per rolling 12-month period limitation was developed by multiplying the lbs/hr limitation by the maximum annual operating schedule of 8000 hrs/yr and dividing by 2000 lbs/ton. The permittee shall demonstrate compliance with the tons per rolling 12-month period limitation by the recordkeeping in section A.III.8.

- i. Emission Limitation: 0.70 tons of fugitive SO₂ per rolling, 12-month period

Applicable Compliance Method: The tons of fugitive SO₂ per rolling, 12-month period limitation was developed by multiplying the annual SO₂ limitation by the capture efficiency of 99% (1-0.99). The permittee shall demonstrate compliance with the tons per rolling 12-month period limitation by the recordkeeping in section A.III.8.

- j. Emission Limitation: 20.02 lbs VOC/hr, 80.08 tons of VOC per rolling, 12-month period

Applicable Compliance Method: The lbs/hr limitation was developed by multiplying the daily average hourly throughput rate of 70 tons/hr by the emission factor of 0.286 lb/ton (based on September 1999 stack test). The permittee shall demonstrate compliance with the hourly VOC limitation by emissions testing conducted in accordance with Methods 1-4 and 18, 25 or 25A of 40 CFR, Part 60, Appendix A (See A.V.1).

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The tons per rolling 12-month period limitation was developed by multiplying the lbs/hr limitation by the maximum annual operating schedule of 8000 hrs/yr and dividing by 2000 lbs/ton. The permittee shall demonstrate compliance with the tons per rolling 12-month period limitation by the recordkeeping in section A.III.8.

- k. Emission Limitation: 0.80 tons of fugitive VOC per rolling, 12-month period
- Applicable Compliance Method: The tons of fugitive VOC per rolling, 12-month period limitation was developed by multiplying the annual VOC limitation by the capture efficiency of 99% (1-0.99). The permittee shall demonstrate compliance with the tons per rolling 12-month period limitation by the recordkeeping in section A.III.8.
- l. Emission Limitation: 284.20 lbs CO/hr, 1136.80 tons of CO per rolling, 12-month period
- Applicable Compliance Method: The lbs/hr limitation was developed by multiplying the daily average hourly throughput rate of 70 tons/hr by the emission factor of 4.06 lbs/ton (based on May 2004 stack test). The permittee shall demonstrate compliance with the hourly CO limitation by emissions testing conducted in accordance with Methods 1-4 and 10 of 40 CFR, Part 60, Appendix A (See A.V.1).
- The tons per rolling 12-month period limitation was developed by multiplying the lbs/hr limitation by the maximum annual operating schedule of 8000 hrs/yr and dividing by 2000 lbs/ton. The permittee shall demonstrate compliance with the tons per rolling 12-month period limitation by the recordkeeping in section A.III.8.
- m. Emission Limitation: 11.37 tons of fugitive CO per rolling, 12-month period
- Applicable Compliance Method: The tons of fugitive CO per rolling, 12-month period limitation was developed by multiplying the annual CO limitation by the capture efficiency of 99% (1-0.99). The permittee shall demonstrate compliance with the tons per rolling 12-month period limitation by the recordkeeping in section A.III.8.
- l. Emission Limitation: 3% opacity from the exit of the EAF baghouse
- Applicable Compliance Method: The permittee shall demonstrate compliance with the visible emissions limitation above pursuant to Method 9 of 40 CFR, Part 60, Appendix A.
- m. Emission Limitation: 6% opacity from the exits of the melt shop due solely to the operation of the EAF
- Applicable Compliance Method: The permittee shall demonstrate compliance with the visible emissions limitation above pursuant to Method 9 of 40 CFR, Part 60, Appendix A.
- n. Emission Limitation: There shall be no visible emissions from the building enclosing the baghouse dust handling system.
- Applicable Compliance Method: The permittee shall demonstrate compliance with the visible emissions limitation above pursuant to Method 22 of 40 CFR, Part 60, Appendix A.

VI. Miscellaneous Requirements

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None

Mario

PTI A

Emissions Unit ID: P903

Issued: To be entered upon final issuance**B. State Only Enforceable Section****I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P903 - 70 tons/hr electric arc furnace with baghouse and dust handling system (Modification to PTI #03-14079, issued on July 8, 2004, to correct emissions violations and increase the capacity of the furnace to 70 tons/hr)		See B.III.1 below

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit (P903) was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the ISCST3 (00101) model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the ISCST3 (00101) model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant:

Pollutant: Mercury

TLV (ug/m3): 25

Maximum Hourly Emission Rate (lbs/hr): 0.063 (point source emissions + fugitive emissions)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.60

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MAGLC (ug/m3): 0.60

2. Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:
 - a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
 - c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).
3. If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition [other than (VV)(1)(a)(ii)], then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
- c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

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None

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None