



State of Ohio Environmental Protection Agency

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Columbus, OH 43216-1049

RE: **FINAL PERMIT TO INSTALL MODIFICATION CERTIFIED MAIL**  
**STARK COUNTY**  
Application No: 15-01475

	TOXIC REVIEW
	PSD
	SYNTHETIC MINOR
	CEMS
	MACT
	NSPS
	NESHAPS
Y	NETTING
	MAJOR NON-ATTAINMENT
	MODELING SUBMITTED
	GASOLINE DISPENSING FACILITY

DATE: 12/11/2001

The Timken Co  
Daniel Lake  
1835 Dueber Ave SW  
Canton, OH 44706-0928

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

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

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

Very truly yours,

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

CC: USEPA

Canton LAA



**FINAL ADMINISTRATIVE MODIFICATION OF PERMIT TO INSTALL 15-01475**

Application Number: **15-01475**  
APS Premise Number: **1576000613**  
Permit Fee: **\$2000**  
Name of Facility: **The Timken Co Lake**  
Person to Contact: **Daniel**  
Address: **1835 Dueber Ave SW**  
**Canton, OH 44706-0928**

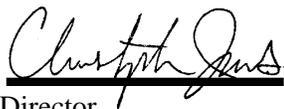
Location of proposed air contaminant source(s) [emissions unit(s)]:  
**1835 Dueber Ave SW**  
**Canton, OHIO**

Description of modification:  
**Modification of two EAFs. After-the-fact netting. Replaces PTI 15-01293.**

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

  
Director

**The Timken Co**

**PTI Application: 15-01475**

**Modification Issued: 12/11/2001**

Facility ID: **1576000613**

## **GENERAL PERMIT CONDITIONS**

### **TERMINATION OF PERMIT TO INSTALL**

Substantial construction for installation must take place within 18 months of the effective date of this permit. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

### **NOTICE OF INSPECTION**

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

### **CONSTRUCTION OF NEW SOURCES**

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

### **PERMIT TO INSTALL FEE**

In accordance with Ohio Revised Code 3745.11, the specified Permit to Install fee must be remitted within 30 days of the effective date of this permit to install.

**PUBLIC DISCLOSURE**

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC Rule 3745-49-03.

**APPLICABILITY**

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

**BEST AVAILABLE TECHNOLOGY**

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

**SOURCE OPERATION AND OPERATING PERMIT REQUIREMENTS AFTER COMPLETION OF CONSTRUCTION**

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

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

**The Timken Co****PTI Application: 15-01475****Modification Issued: 12/11/2001**Facility ID: **1576000613****AIR EMISSION SUMMARY**

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

<u>Ohio EPA Source Number</u>	<u>Source Identification Description</u>	<u>BAT Determination</u>	<u>Applicable Federal &amp; OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P292	Electric Arc Furnace (EAF #2) with baghouse	Use of a baghouse and compliance with the terms of this permit.	OAC 3745-31-05	*
	MODIFICATION - transformer upgrade which promoted an increase in the actual production rate		OAC 3745-31-05	***TSP and PM <sub>10</sub> : 0.034 lb/ton, 2.14 lbs/ hour and 5.4 TPY
			OAC 3745-31-05	sulfur dioxide: 0.07 lb/ton, 4.4 lbs/hour and 11 TPY
			OAC 3745-31-05	nitrogen oxides: 0.2 lb/ton, 12.6 lbs/hour and 32 TPY
		Use of fourth-hole evacuation control system.	OAC 3745-31-05	carbon monoxide: 4.8 lbs/ton, 303 lbs/hour and 756 TPY
		Use of fourth-hole evacuation control system.	OAC 3745-31-05	VOC: 0.3 lb/ton, 18.9 lbs/hour and 47.25 TPY
			OAC 3745-31-05	Mercury: 0.0002 lb/ton, 0.012 lb/hour and 0.0315 TPY
			OAC 3745-17-07	BAT is more stringent.
			OAC 3745-17-11	BAT is more stringent.
			OAC 3745-18-06	BAT is more stringent.

**The Timken Co**

**PTI Application: 15-01475**

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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal &amp; OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P258	63 tons/hr Electric Arc Furnace (EAF #9) with baghouse MODIFICATION - transformer upgrade which promoted an increase in the actual production rate.	Use of a baghouse and compliance with the terms of this permit.	OAC 3745-31-05	***PM and PM <sub>10</sub> : 0.022 lb/ton, 1.4 lbs/hour and 3.5 tpy
		Use of a fourth-hole evacuation control system.	OAC 3745-31-05	sulfur dioxide: 0.07 lb/ton, 4.4 lbs/hour and 11 tpy
		Use of a fourth-hole evacuation control system.	OAC 3745-31-05	nitrogen oxides: 0.2 lb/ton, 12.6 lbs/hour and 32 tpy
			OAC 3745-31-05	carbon monoxide: 4.8 lbs/ton, 303 lbs/hour and 756 tpy
			OAC 3745-31-05	VOC: 0.3 lb/ton, 18.9 lbs/hour and 47.25 tpy
			OAC 3745-31-05	Mercury: 0.0002 lb/ton, 0.012 lb/hour and 0.0315 tpy
			NSPS 40 CFR Part 60 Subpart AA	**
			OAC 3745-17-07	BAT and NSPS are more stringent.
			OAC 3745-17-11	BAT and NSPS are more stringent.
			OAC 3745-18-06	BAT is more stringent.
			see **** and ***** for clarification of hourly and annual limits	

\* The following standards are requirements of the NSPS Subpart AA. While this emissions unit is not subject to the NSPS, these standards are being applied as part of the BAT determination. Visible emissions from P292 shall not exceed the following limits during a six-minute average: 3% opacity from the baghouse exit; 6% opacity from the shop area; 10% opacity from the dust handling equipment (i.e. any equipment used to handle particulate matter collected by the control

device and located at or near the control device for P258).

**NOTE:** As a demonstration to ensure that all emissions are being ducted to the baghouse, the permittee has accepted a limitation of 6% opacity from the shop area at all times.

\*\* The following standards are requirements of the NSPS Subpart AA. The application and enforcement of these standards are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable. Visible emissions from P258 shall not exceed the following limits during a six-minute average: 3% opacity from the baghouse exit; 6% opacity from the shop area; 10% opacity from the dust handling equipment (i.e. any equipment used to handle particulate matter collected by the control device and located at or near the control device for P258).

**NOTE:** As a demonstration to ensure that all emissions are being ducted to the baghouse, the permittee has accepted a limitation of 6% opacity from the shop area at all times.

\*\*\* The hourly and annual particulate matter emissions limits noted above are the controlled BAT emissions limits based on the following emission factors: 0.034 lb PM/ton steel for P292; and 0.022 lb PM/ton steel for P258. In addition to the individual emissions rates for each emissions unit, each designated baghouse shall not exceed 0.0052 gr/dscf as part of both the BAT determination and the NSPS requirements.

\*\*\*\* The hourly emissions limits established for sulfur dioxide, nitrogen oxide, and carbon monoxide are based on the maximum hourly production rate of 63 tons of steel produced per hour.

\*\*\*\*\* The annual emissions limits established for particulate matter, nitrogen oxide, carbon monoxide, and sulfur dioxide are based on the maximum annual rate of 315,000 tons of steel produced per year.

\*\*\*\*\* **SUMMARY**

**TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS**

<u>Poll.</u>	<u>Emissions (Tons/Year)</u>	<u>Emissions Increase (Tons/Year)</u>	<u>Contemporaneous Emissions (Tons/Year)</u>	<u>Creditable Net Emissions (Tons/Year)</u>	<u>PSD "Significance" Threshold (Tons/Year)</u>
PM	8.9	4.7	----	----	25
PM <sub>10</sub>	8.9	4.7	----	----	15
VOC	94.5	38.88	----	----	40
CO	1512.0	1911.0	323.6	61.4	100
SO <sub>2</sub>	22.0	12.0	----	----	40
NO <sub>x</sub>	64.0	33.0	----	----	40
Hg	0.063	0.026	----	----	—

\*\*\*\*\* The allowable emissions information contained under this Summary section is for informational purposes only and is not enforceable.

**Note:** The above allowable emissions summary consists of emissions from two separate projects which occurred approximately four years apart. The permittee performed a netting analysis for carbon monoxide only as the potential to emit for the other pollutants (for each separate project) did not exceed the major modification thresholds. For the project involving EAF #2 (P292), the “net” emissions change, considering contemporaneous increases and decreases, resulted in a reduction of 775.9 tpy at the facility. Likewise, for the project involving EAF #9 (P258), the “net” emissions change, considering contemporaneous increases and decreases, resulted in an increase of 59.8 tpy. Since neither of the projects resulted in a “net” increase which exceeded the major modification threshold of 100 tpy for carbon monoxide, the permittee was not required to perform a PSD analysis for each of the projects.

### **ADDITIONAL SPECIAL TERMS & CONDITIONS**

#### **Emissions Unit P292**

##### **A. Operational Restrictions (P292)**

1. The emissions from P292 shall be vented to baghouse #4. In addition, the capture system shall be designed and operated such that all particulate matter emissions are captured and ducted to the baghouse. The capture system for the emissions unit shall include a common canopy hood and a roof control system, both of which vent to baghouse #4.
2. The maximum annual production rate for this emissions unit shall not exceed 315,000 tons of steel, based upon a rolling, 12-month summation of the tons of steel produced per month.
3. Sulfur shall not be added at the electric arc furnace.

##### **B. Monitoring and/or Recordkeeping Requirements (P292)**

1. The following are requirements of the NSPS Subpart AA. While this emissions unit is not subject to the NSPS, these requirements are being applied as part of the BAT determination. Observations of the opacity of the visible emissions from the control device and from all fugitive emissions points associated with the shop area shall be performed by a certified visible emission observer as follows:
  - a. The company shall have at least two persons at the facility “certified” to conduct visible emission observations in accordance with Method 9 procedures at all times. Visible emission observations shall be conducted at least once per day when the furnace is operating in the melting and refining period. These observations shall be taken in accordance with Method 9 and, for at least three 6-minute periods, the opacity shall be recorded for any point(s) where visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only one incident of the visible emission, only one set of three 6-minute observations will be required. In this case, Method 9 observations must be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. Records shall be maintained of any 6-minute average that is in excess of the opacity limits specified in D.1.c.

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

2. As part of the BAT determination for this emissions unit, in accordance with NSPS Subpart AA, provided the permittee maintains a capture system which is designed and operated such that all emissions are captured and ducted to a control device, the permittee shall not be subject to the furnace pressure monitoring requirements.
3. The permittee shall maintain monthly records of the following information:
  - a. The tons of steel produced during each calendar month; and
  - b. The rolling, 12-month summation of the tons of steel produced per month.
4. 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, if a strip-chart recorder is employed, for continuous monitoring instrumentation, and copies of all reports required by the permit. Such records may be maintained in computerized form.

**C. Reporting Requirements (P292)**

1. The permittee shall submit deviation (excursion) reports to the Canton local air agency that identify all exceedances of the rolling, 12-month production rate limitation established in Additional Special Term and Condition A.2. These reports are due by the date described in Part I - General Terms and Conditions of this permit.
2. The permittee shall submit a written report of all exceedances of the opacity restrictions contained in D.1.c. to the Canton Local Air Agency semiannually. For the purposes of these reports, exceedances are defined as all 6-minute periods during which the average opacity exceeds these limits. These reports are due by the date described in Part I - General Terms and Conditions of this permit.
3. The permittee shall submit required reports in the following manner:
  - a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
  - b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been

detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

**D. Compliance Methods and Testing Requirements (P292)**

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

a. Emissions Limitation:  
0.0052 gr/dscf

Applicable Compliance Method:

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

b. Emissions Limitation:  
0.034 lb/ton of steel and 2.14 pounds per hour for PM/PM<sub>10</sub>

Applicable Compliance Method:

Initial compliance for PM shall be determined using Method 5, 40 CFR Part 60, Appendix A.

Initial compliance for PM<sub>10</sub> shall be determined using Method 201 and Method 202 (condensable), 40 CFR Part 60, Appendix A.

c. Visible Emission Limitation:  
3% opacity from the baghouse exit; 10% opacity from the dust handling equipment; and 6% opacity from the shop area.

Applicable Compliance Method:

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

d. Emissions Limitation:  
0.07 lb/ton of steel and 4.4 lbs/hour of sulfur dioxide

Applicable Compliance Method:

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

e. Emissions Limitation:

0.2 lb/ton of steel and 12.6 lbs/hour of nitrogen oxides

Applicable Compliance Method:

Initial compliance shall be determined using Method 7, 40 CFR Part 60, Appendix A.

f. Emissions Limitation:

4.8 lbs/ton of steel and 303 lbs/hour of carbon monoxide

Applicable Compliance Method:

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

g. Emissions Limitation:

0.3 lb/ton of steel and 18.9 lbs/hour of volatile organic compounds (VOC)

Applicable Compliance Method:

Initial compliance shall be determined using Method 25, 40 CFR Part 60, Appendix A.

h. Emissions Limitation:

5.4 tons/year of PM/PM<sub>10</sub>

Applicable Compliance Method:

Multiply the stack test emission factor (in lbs PM/PM<sub>10</sub>/ton of steel) established per Additional Special Term and Condition D.2.c by the actual amount of steel produced per rolling 12-month period, and divide by 2000 lbs/ton.

i. Emissions Limitation:

11 tons/year of sulfur dioxide

Applicable Compliance Method:

Multiply the stack test emission factor (in lbs SO<sub>2</sub>/ton of steel) established per Additional Special Term and Condition D.2.c by the actual amount of steel produced per rolling 12-month period (tons/year), and divide by 2000 lbs/ton.

j. Emissions Limitation:

32 tons/year of nitrogen oxide

Applicable Compliance Method:

Multiply the stack test emission factor (in lbs NO<sub>x</sub>/ton of steel) established per Additional Special Term and Condition D.2.c by the actual amount of steel produced per rolling, 12-month period (tons/year), and divide by 2000 lbs/ton.

- k. Emissions Limitation:  
756 tons/year of carbon monoxide  
  
Applicable Compliance Method:  
Multiply the stack test emission factor (in lb CO/ton of steel) established per Additional Special Term and Condition D.2.c by the actual amount of steel produced per rolling, 12-month period (tons/year), and divide by 2000 lbs/ton.
  - l. Emissions Limitation:  
47.25 tons/year of VOC  
  
Applicable Compliance Method:  
Multiply the stack test emission factor (in lbs of VOC/ton of steel) established per Additional Special Term D.2.c. by the actual amount of steel produced per rolling, 12-month period (tons/year), and divide by 2000 lbs/ton.
  - m. Production Limitation:  
315,000 tons of steel produced per year, based upon a rolling 12-month summation of the tons of steel produced per month.  
  
Applicable Compliance Method:  
Record keeping per Additional Special Term and Condition B.3 and reporting per Additional Special Term and Condition C.1.
  - n. Emissions Limitation:  
0.0002 lb Hg/ton of steel and 0.012 lb Hg/hr  
  
Applicable Compliance Method:  
Initial compliance shall be determined using Method 29 of 40 CFR of 40 CFR Part 60, Appendix A.
  - o. Emissions Limitation:  
0.0315 ton Hg/year  
  
Applicable Compliance Method:  
Multiply the stack test emission factor (in lbs of Hg/ton of steel) established per Additional Special Term D.2.c. by the actual amount of steel produced per rolling, 12-month period (tons/year), and divide by 2000 lbs/ton.
2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
- a. The emission testing shall be conducted within 3 months after issuance of this permit.
  - b. The test(s) shall be conducted while the emissions unit is operating at or near its maximum

capacity, unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division.

- c. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for PM, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, VOC, Hg and CO utilizing the test methods noted in Additional Special Term and Conditions D.1.b, D.1.d, D.1.e, D.1.f, D.1.g, and D.1.n. The results of the stack test shall be used to establish appropriate emission factors, in lb PM/PM<sub>10</sub>/ton of steel, lb SO<sub>2</sub>/ton of steel, lb NO<sub>x</sub>/ton of steel, lb VOC/ton of steel, lb Hg/ton of steel and lb CO/ton of steel, for verifying compliance with emissions limitations in Additional Special Term and Conditions D.1.h, D.1.i, D.1.j, D.1.k, D.1.l, and D.1.o.

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 test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

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 test(s) 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 test(s).

**E. Miscellaneous Requirements (P292)**

Netting Demonstration for CO

Emissions Increase Due to Modification:

The transformer upgrade of emissions unit P292, EAF #2, affected the slag processing and steel finishing operations (reheating & grinding). Production was increased from 189,442 tpy to 315,000 tpy.

<u>Pollutant</u>	<u>Increase in Production EAF (tons/yr)</u>	<u>Debottle- necking (tons/yr)</u>	<u>Total (tons/yr)</u>
PM	2.1	1.79	3.89
PM <sub>10</sub>	1.6	1.79	3.39
VOC	18.83	0.14	18.97
NO <sub>x</sub>	13.0	3.50	16.50

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CO	301	2.10	303.10
SO <sub>2</sub>	4.0	0.015	4.015
Pb	0.08	----	0.08
Fl	0.4	----	0.4

The transformer upgrade of emissions unit P258, EAF #9, affected the slag processing and steel finishing operations (reheating & grinding). Production was increased from 183,207 tpy to 315,000 tpy.

<u>Pollutant</u>	<u>Increase in Production EAF (tons/yr)</u>	<u>Debottle- necking (tons/yr)</u>	<u>Total (tons/yr)</u>
PM	1.4	1.79	3.19
PM <sub>10</sub>	1.1	1.79	2.89
VOC	19.77	0.14	19.91
NO <sub>x</sub>	13.0	3.50	16.50
CO	316	2.10	318.10
SO <sub>2</sub>	5.0	0.015	5.015
Pb	0.09	----	0.09
Fl	0.5	----	0.5

<u>Pollutant</u>	<u>Total P292 (tons/yr)</u>	<u>Total P258 (tons/yr)</u>	<u>Total P292 + P258 (tons/yr)</u>	<u>PSD Threshold (tons/yr)</u>
PM	3.89	3.19	7.08	25
PM <sub>10</sub>	3.39	2.89	6.28	15
VOC	18.97	19.91	38.88	40
NO <sub>x</sub>	16.5	16.5	33	40
CO	303.1	318.1	621.2	100
SO <sub>2</sub>	4.015	5.015	9.03	40
Pb	0.08	0.09	0.17	0.6
Fl	0.4	0.5	0.9	3

CO was the only pollutant to experience an increase above the significance thresholds. Consequently, CO is the only pollutant included in the netting analysis. The total CO increase experienced due to the modification was 621.2 tpy.

Contemporaneous CO Emissions Increases & Decreases:

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	<u>Increase</u> <u>(TPY)</u>	<u>Decrease</u> <u>(TPY)</u>
1995 Soaking Pit #11 (P024) Installed	7.4	----
1995 Car Furnace (P013) Removal	----	-4.6
1995 Car Furnace (P014) Removal	----	-4.6
1998 EAF #7 (P906) Removal	----	-706
1997 Reheat Furnace Installation	9.2	----
1997 Reheat Furnace (P084) Installed	68	----
1997 Reheat Furnace (P085) Installed	13	----
1997 Reheat Furnace (P032) Removal	----	-24
1998 Reheat Furnace (P061) Removal	----	-19
1999 Reheat Furnace (P066) Removal	----	-13
<b>TOTALS</b>		<b>-673.6</b>

**Notes:**

Contemporaneous period is 1995 to 2000 as requested by USEPA, Region V.

CO emission factors for ladle preheaters, soaking pits, car furnaces, steel finishing/reheating and reheat furnaces come from USEPA AP-42, March 1998, Table 1.4-1.

CO emission factors for EAFs #9, #2 & #7(charging, melting & tapping) are the following:

For pre-project FIRE 5.0 and USEPA AP-42 Table 12.5-3

For post-project based on December 7, 1990 stack test

**“Net” Emissions change due to modification:**

$$621.2 \text{ tpy} - 673.6 \text{ tpy} = - 52.4 \text{ tpy}$$

**Conclusion**

The EAF #2 transformer upgrade and the EAF #9 transformer upgrade in conjunction with the contemporaneous removal of various emissions units results in a “net” decrease in facility emissions of 52.4 TPY of carbon monoxide. The PSD major modification significance threshold for CO is 100 tpy. Consequently, since the “net” change is less than this threshold, the EAF #2 transformer upgrade and the EAF #9 transformer upgrade have “netted out” of Prevention of Significant Deterioration review for CO emissions.

**Emissions Unit P258**

**A. Operational Restrictions (P258)**

1. The emissions from P258 shall be vented to baghouse #5. In addition, the capture system shall be designed and operated such that all emissions are captured and ducted to the baghouse. The capture system for the emissions unit shall include a common canopy hood and a roof control system, both of which vent to baghouse #5.
2. The maximum annual production rate for this emissions unit shall not exceed 315,000 tons of steel, based upon a rolling, 12-month summation of the tons of steel produced per month.
3. Sulfur shall not be added at the electric arc furnace.

**B. Monitoring and/or Recordkeeping Requirements (P258)**

1. In accordance with NSPS Subpart AA, observations of the opacity of the visible emissions from the control device and from all fugitive emissions points associated with the shop area shall be performed by a certified visible emission observer as follows:
  - a. The company shall have at least two persons at the facility “certified” to conduct visible emission observations in accordance with Method 9 procedures at all times. Visible emission observations shall be conducted at least once per day when the furnace is operating in the melting and refining period. These observations shall be taken in accordance with Method 9 and, for at least three 6-minute periods, the opacity shall be recorded for any point(s) where visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only one incident of the visible emission, only one set of three 6-minute observations will be required. In this case, Method 9 observations must be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. Records shall be maintained of any 6-minute average that is in excess of the opacity limits specified in Additional Special Term and Condition D.1.c.

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

2. As part of the BAT determination, in accordance with NSPS Subpart AA, provided the permittee maintains a capture system which is designed and operated such that all emissions are captured and ducted to a control device, the permittee shall not be subject to furnace monitoring requirements.
3. The permittee shall maintain monthly records of the following information:
  - a. The tons of steel produced for each month; and
  - b. The rolling, 12-month summation of the tons of steel produced per month.

4. 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, if a strip-chart recorder is employed, for continuous monitoring instrumentation, and copies of all reports required by the permit. Such records may be maintained in computerized form.

**C. Reporting Requirements (P258)**

1. The permittee shall submit deviation (excursion) reports to the Canton local air agency that identify all exceedances of the rolling 12-month production rate limitation established in Additional Special Term and Condition A.2. These reports are due by the date described in Part I - General Terms and Conditions of this permit.
2. The permittee shall submit a written report of all exceedances of the opacity restrictions contained in Additional Special Term and Condition D.1.c. to the Canton local air agency semiannually. For the purposes of these reports, exceedances are defined as all 6-minute periods during which the average opacity exceeds these limits. These reports are due by the date described in Part I - General Terms and Conditions of this permit.
3. Pursuant to the NSPS, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:
  - a. Construction date (no later than 30 days after such date);
  - b. Anticipated start-up date (not more than 60 days or less than 30 days prior to such date);
  - c. Actual start-up date (within 15 days after such date); and
  - d. Date of performance testing (If required, at least 30 days prior to testing).

Reports are to be sent to:

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

and

Air Pollution Control Division  
Canton City Health Dept.  
420 Market Ave. North  
Canton, Ohio 44702-1544

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

**D. Compliance Methods and Testing Requirements (P258)**

1. Compliance with the emission limitation(s) of this permit shall be determined in accordance with the following method(s):
  - a. Emissions Limitation:  
0.0052 gr/dscf  
  
Applicable Compliance Method:  
Initial compliance shall be determined using Method 5, 40 CFR Part 60, Appendix A.
  - b. Emissions Limitation:  
1.4 pounds per hour for PM/PM<sub>10</sub>  
  
Applicable Compliance Method:  
Initial compliance for PM shall be determined using Method 5, 40 CFR Part 60, Appendix A.  
Initial compliance for PM<sub>10</sub> shall be determined using Method 201 and Method 202 (condensable), 40 CFR Part 60, Appendix A.

- c. Visible Emission Limitation:  
3% opacity from the baghouse exit; 10% opacity from the dust handling equipment; and 6% opacity from the shop area.  
  
Applicable Compliance Method:  
Method 9, 40 CFR Part 60, Appendix A and the procedures of 40 CFR Part 60.11 shall be used to determine opacity as outlined in Additional Special Term and Condition B.1.a.
- d. Emissions Limitation:  
0.07 lb/ton of steel and 4.4 lbs/hour of sulfur dioxide  
  
Applicable Compliance Method:  
Initial compliance shall be determined using Method 6, 40 CFR Part 60, Appendix A.
- e. Emissions Limitation:  
0.2 lb/ton of steel and 12.6 lbs/hour of nitrogen oxides  
  
Applicable Compliance Method:  
Initial compliance shall be determined using Method 7, 40 CFR Part 60, Appendix A.
- f. Emissions Limitation:  
4.8 lbs/ton of steel and 303 lbs/hour of carbon monoxide  
  
Applicable Compliance Method:  
Initial compliance shall be demonstrated using Method 10, 40 CFR Part 60, Appendix A.
- g. Emissions Limitation:  
0.3 lb/ton of steel and 18.9 lb/hour of volatile organic compounds (VOC)  
  
Applicable Compliance Method:  
Initial compliance shall be determined using Method 25, 40 CFR Part 60, Appendix A.
- h. Emissions Limitation:  
3.5 tons/year of PM/PM<sub>10</sub>  
  
Applicable Compliance Method:  
Multiply the stack test emission factor (in lbs PM/PM<sub>10</sub>/ton of steel) established per Additional Special Term and Condition D.2.c by the actual amount of steel produced per rolling 12-month period, and divide by 2000 lbs/ton.
- i. Emissions Limitation:  
11 tons/year of sulfur dioxide  
  
Applicable Compliance Method:  
Multiply the stack test emission factor (in lbs SO<sub>2</sub>/ton of steel) established per Additional Special Term and Condition D.2.c by the actual amount of steel produced per rolling 12-

month period (tons/year), and divide by 2000 lbs/ton.

- j. Emissions Limitation:  
32 tons/year of nitrogen oxide

Applicable Compliance Method:

Multiply the stack test emission factor (in lbs NO<sub>x</sub>/ton of steel) established per Additional Special Term and Condition D.2.c by the actual amount of steel produced per rolling, 12-month period (tons/year), and divide by 2000 lbs/ton.

- k. Emissions Limitation:  
756 tons/year of carbon monoxide

Applicable Compliance Method:

Multiply the stack test emission factor (in lb CO/ton of steel) established per Additional Special Term and Condition D.2.c by the actual amount of steel produced per rolling, 12-month period (tons/year), and divide by 2000 lbs/ton.

- l. Emissions Limitation:  
47.25 tons/year of VOC

Applicable Compliance Method:

Multiply the stack test emission factor (in lbs of VOC/ton of steel) established per Additional Special Term D.2.c. by the actual amount of steel produced per rolling, 12-month period (tons/year), then multiply by an assumed overall control efficiency of 98%, and divide by 2000 lbs/ton.

- m. Production Limitation:  
315,000 tons of steel produced per year, based upon a rolling 12-month summation of the tons of steel produced per month.

Applicable Compliance Method:

Record keeping per Additional Special Term and Condition B.3 and reporting per Additional Special Term and Condition C.1.

- n. Emissions Limitation:  
0.0002 lb Hg/ton of steel and 0.012 lb Hg/hr

Applicable Compliance Method:

Initial compliance shall be determined using Method 29 of 40 CFR of 40 CFR Part 60, Appendix A.

- o. Emissions Limitation:  
0.0315 ton Hg/year  
  
Applicable Compliance Method:  
Multiply the stack test emission factor (in lbs of Hg/ton of steel) established per Additional Special Term D.2.c. by the actual amount of steel produced per rolling, 12-month period (tons/year), and divide by 2000 lbs/ton.
- 2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
  - a. The emission testing shall be conducted within 3 months after issuance of this permit.
  - b. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division.
  - c. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for PM, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, VOC, Hg and CO utilizing the test methods noted in Additional Special Term and Conditions D.1.b, D.1.d, D.1.e, D.1.f, D.1.g, and D.1.n. The results of the stack test shall be used to establish appropriate emission factors, in lb PM/PM<sub>10</sub>/ton of steel, lb SO<sub>2</sub>/ton of steel, lb NO<sub>x</sub>/ton of steel, lb VOC/ton of steel, lb Hg/ton of steel and lb CO/ton of steel, for verifying compliance with emissions limitations in Additional Special Term and Conditions D.1.h, D.1.i, D.1.j, D.1.k, D.1.l, and D.1.o.

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 test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

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 test(s) 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 test(s).

**E. Miscellaneous Requirements (P258)**

Netting Demonstration for CO

Emissions Increase Due to Modification:

The transformer upgrade of emissions unit P292, EAF #2, affected the slag processing and steel finishing operations (reheating & grinding). Production was increased from 189,442 tpy to 315,000 tpy.

<u>Pollutant</u>	<u>Increase in Production EAF (tons/yr)</u>	<u>Debottle- necking (tons/yr)</u>	<u>Total (tons/yr)</u>
PM	2.1	1.79	3.89
PM <sub>10</sub>	1.6	1.79	3.39
VOC	18.83	0.14	18.97
NO <sub>x</sub>	13.0	3.50	16.50
CO	301.0	2.10	303.10
SO <sub>2</sub>	4.0	0.015	4.015
Pb	0.08	----	0.08
Fl	0.4	----	0.4

The transformer upgrade of emissions unit P258, EAF #9, affected the slag processing and steel finishing operations (reheating & grinding). Production was increased from 183,207 tpy to 315,000 tpy.

<u>Pollutant</u>	<u>Increase in Production EAF (tons/yr)</u>	<u>Debottle- necking (tons/yr)</u>	<u>Total (tons/yr)</u>
PM	1.4	1.79	3.19
PM <sub>10</sub>	1.1	1.79	2.89
VOC	19.77	0.14	19.91
NO <sub>x</sub>	13.0	3.50	16.50
CO	316	2.10	318.10
SO <sub>2</sub>	5.0	0.015	5.015
Pb	0.09	----	0.09
Fl	0.5	----	0.5

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<u>Pollutant</u>	<u>Total P292 (tons/yr)</u>	<u>Total P258 (tons/yr)</u>	<u>Total P292 + P258 (tons/yr)</u>	<u>PSD Threshold (tons/yr)</u>
PM	3.89	3.19	7.08	25
PM <sub>10</sub>	3.39	2.89	6.28	15
VOC	18.97	19.91	38.88	40
NO <sub>x</sub>	16.5	16.5	33	40
CO	303.1	318.1	621.2	100
SO <sub>2</sub>	4.015	5.015	9.03	40
Pb	0.08	0.09	0.17	0.6
Fl	0.4	0.5	0.9	3

CO was the only pollutant to experience an increase above the significance thresholds. Consequently, CO is the only pollutant included in the netting analysis. The total CO increase experienced due to the modification was 621.2 tpy.

Contemporaneous CO Emissions Increases & Decreases:

	<u>Increase (tpy)</u>	<u>Decrease (tpy)</u>
1995 Soaking Pit #11 (P024) Installed	7.4	----
1995 Car Furnace (P013) Removal	----	-4.6
1995 Car Furnace (P014) Removal	----	-4.6
1998 EAF #7 (P906) Removal	----	-706
1997 Reheat Furnace Installation	9.2	----
1997 Reheat Furnace (P084) Installed	68	----
1997 Reheat Furnace (P085) Installed	13	----
1997 Reheat Furnace (P032) Removal	----	-24
1998 Reheat Furnace (P061) Removal	----	-19
1999 Reheat Furnace (P066) Removal	----	-13
<b>TOTALS</b>		<b>-673.6</b>

Notes:

Contemporaneous period is 1995 to 2000 as requested by USEPA, Region V.

CO emission factors for ladle preheaters, soaking pits, car furnaces, steel finishing/reheating and reheat furnaces come from USEPA AP-42, March 1998, Table 1.4-1.

CO emission factors for EAFs #9, #2 & #7(charging, melting & tapping) are the following:

For pre-project FIRE 5.0 and USEPA AP-42 Table 12.5-3

For post-project based on December 7, 1990 stack test

**The Timken Co**

**PTI Application: 15-01475**

**Modification Issued: 12/11/2001**

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Conclusion

The EAF #9 transformer upgrade and the EAF #2 transformer upgrade in conjunction with the contemporaneous removal of various emissions units results in a “net” decrease in facility emissions of 52.4 TPY of carbon monoxide. The PSD major modification significance threshold for CO is 100 tpy. Consequently, since the “net” change is less than this threshold, the EAF #2 transformer upgrade and the EAF #9 transformer upgrade have “netted out” of Prevention of Significant Deterioration review for CO emissions.