



State of Ohio Environmental Protection Agency

Street Address:

Mailing Address:

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

Lazarus Gov. Center

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

**CERTIFIED MAIL**

**Application No: 15-01293**

**DATE: 3/1/00**

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

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 of 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 **\$2000** 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.

Very truly yours,

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

CC: USEPA  
WV

Canton LAA  
PA

Stark County Area Trans Study



STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

**Permit To Install  
Terms and  
Conditions**

**Issue Date: To be entered upon final issuance  
Effective Date: To be entered upon final issuance**

**DRAFT PERMIT TO INSTALL 15-01293**

Application Number: 15-01293  
APS Premise Number: 1576000613  
Permit Fee: **To be entered upon final issuance**  
Name of Facility: The Timken Co  
Person to Contact: Daniel Lake  
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 proposed emissions unit(s):  
**Two electric arc furnaces, Chapter 31 modification to PTI 15-049.**

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

Issued: To be entered upon final issuance

## Part I - GENERAL TERMS AND CONDITIONS

### A. 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 Related to Monitoring and Recordkeeping Requirements

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.)

#### 3. Records Retention Requirements

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.

#### 4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. 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

**Issued: To be entered upon final issuance**

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 verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

**5. 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 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. 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 emissions unit(s) that is (are) served by such control system(s).

**6. 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.

**7. 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.

**8. 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.

**9. Construction of New Sources(s)**

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

**Issued: To be entered upon final issuance**

lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources are inadequate or cannot meet applicable standards.

If the construction of the proposed 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 prove to be inadequate or cannot meet applicable standards.

**10. 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.

**11. 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).

**12. 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.

**13. Source Operation and Operating Permit Requirements After Completion of Construction**

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

**The Timken Co**

**Facility ID: 1576000613**

**PTI Application: 15-01293**

**Issued: To be entered upon final issuance**

**14. Construction Compliance Certification**

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

**15. 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.

**The Timken Co**  
**PTI Application: 15-01293**  
**Issued: To be entered upon final issuance**

**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	63 tons/hr Electric Arc Furnace (EAF #2) 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  OAC 3745-31-05  OAC 3745-31-05  OAC 3745-31-05	OAC 3745-18-06
		Use of fourth- hole evacuation control system.	OAC 3745-31-05	
		Use of fourth- hole evacuation control system.	OAC 3745-31-05	
			OAC 3745-31-05	
			OAC 3745-17-07	
			OAC 3745-17-11	

**The Timken Co**  
**PTI Application: 15-01293**  
**Issued: To be entered upon final issuance**

**Facility ID: 1576000613**

\* tpy

Mercury:  
\*\*\*TSP 0.000006 lb/ton, 0.0004  
and lb/hr and 0.002 tpy

PM10:  
0.034 BAT is more stringent.

lb/ton,  
2.14 lbs BAT is more stringent.

per hour  
and 5.4 BAT is more stringent.

tpy  
See \*\*\*\* and \*\*\*\*\* for  
sulfur clarification of hourly and  
dioxide: annual limits .

0.07  
lb/ton,  
4.4  
lbs/hour  
and 11  
tpy

nitrogen  
oxides:  
0.2  
lb/ton,  
12.6  
lbs/hour  
and 32  
tpy

carbon  
monoxid  
e:  
4.8  
lbs/ton,  
303  
lbs/hour  
and 756  
tpy

VOC:  
0.007  
lb/ton,  
0.44  
lb/hour  
and 1.1

**The Timken Co**  
**PTI Application: 15-01293**  
**Issued: To be entered upon final issuance**

**Facility ID: 1576000613**

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 PM10: 0.022 lb/ton, 1.4 lbs per hour and 3.5 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 a fourth-hole evacuation control system.	OAC 3745-31-05	carbon monoxide: 4.8 lbs/ton, 303 lbs/hour and 756 tpy
		Use of a fourth-hole evacuation control system.	OAC 3745-31-05	VOC: 0.007 lb/ton, 0.44 lb/hour and 1.1 tpy
				Mercury: 0.0000063 lb/ton, 0.0004 lb/hr and 0.002 tpy
				**
			NSPS 40 CFR Part 60 Subpart AA	BAT and NSPS are more stringent.
			OAC 3745-17-07	BAT and NSPS are more stringent.
			OAC 3745-17-11	BAT is more stringent.
	OAC 3745-18-06	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

Issued: To be entered upon final issuance

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

Poll.	Emissions (Tons/Year)	Emissions Increase (Tons/Year)	Contemporaneous Emissions (Tons/Year)	Creditable	
				Net Emissions (Tons/Year)	PSD "Significance" Threshold (Tons/Year)
PM	8.9	4.7	----	----	25
PM <sub>10</sub>	8.9	4.7	----	----	15
VOC	2.2	0.0	----	----	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	0.001	0.0004	----	----	--

\*\*\*\*\* 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

Issued: To be entered upon final issuance

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

**Issued: To be entered upon final issuance**

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

Issued: To be entered upon final issuance

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.

**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. Emission Limitation:  
0.0052 gr/dscf  
  
Applicable Compliance Method:  
Initial compliance shall be determined using Method 5, 40 CFR Part 60, Appendix A.
  - b. Emission Limitation:  
0.034 lb/ton and 2.14 pounds per hour for PM/PM<sub>10</sub>  
  
Applicable Compliance Method:  
Initial compliance shall be determined using Method 5, 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. Emission Limitation:  
0.07 lb/ton and 4.4 lbs/hour of sulfur dioxide  
  
Applicable Compliance Method:  
Multiply the sulfur dioxide emission factor of 0.07 lb SO<sub>2</sub>/ton steel (from FIRE version 5.0) by the maximum hourly amount of steel produced (tons steel/hour).

Issued: To be entered upon final issuance

- e. Emission Limitation:  
0.2 lb/ton and 12.6 lbs/hour of nitrogen oxides  
  
Applicable Compliance Method:  
Multiply the nitrogen oxide emission factor of 0.2 lb NO<sub>x</sub>/ton steel (from FIRE version 5.0) by the maximum hourly steel production rate (tons/hour).
- f. Emission Limitation:  
4.8 lbs/ton 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. Emission Limitation:  
0.007 lb/ton and 0.44 lb/hour of volatile organic compounds (VOC)  
  
Applicable Compliance Method:  
Multiply the volatile organic compound emission factor, in lb VOC per ton of steel produced, of 0.35 lb/ton steel (from FIRE version 5.0) by the maximum hourly steel production rate (tons/hour) and then multiply by an assumed overall control efficiency of 98%.
- h. Emission 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 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. Emission Limitation:  
11 tons/year of sulfur dioxide  
  
Applicable Compliance Method:  
Multiply the sulfur dioxide factor of 0.07 lb sulfur/ton steel (from FIRE version 5.0) by the actual amount of steel produced per rolling 12-month period (tons/year), and divide by 2000

**The Timken Co**  
**PTI Application: 15-01293**

**Facility ID: 1576000613**

**Issued: To be entered upon final issuance**

lbs/ton.

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

Issued: To be entered upon final issuance

Applicable Compliance Method:  
Multiply the emission factor of 0.2 lb NO<sub>x</sub>/ton steel (from FIRE version 5.0) by the actual amount of steel produced per rolling, 12-month period (tons/year), and divide by 2000 lbs/ton.

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

Applicable Compliance Method:  
Multiply the stack test emission factor (in lb CO/ton 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. Emission Limitation:  
1.1 tons/year of VOC

Applicable Compliance Method:  
Multiply the emission factor of 0.35 lb VOC/ton steel (from FIRE version 5.0) 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:  
Recordkeeping per Additional Special Term and Condition B.3 and reporting per Additional Special Term and Condition C.1.

- n. Emission Limitation:  
0.000006 lb Hg/ton and 0.0004 lb Hg/hr

Applicable Compliance Method:  
Sampling of EAF baghouse dust

- o. Emission Limitation:  
0.002 ton Hg/year

Issued: To be entered upon final issuance

Applicable Compliance Method:  
Multiply the emission factor of 0.00006 lb Hg/ton 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> and CO utilizing the test methods noted in Additional Special Term and Conditions D.1.b and D.1.f. The results of the stack test shall be used to establish appropriate emission factors, in lb PM/PM<sub>10</sub>/ton steel and lb CO/ton steel, for verifying compliance with emissions limitations in Additional Special Term and Conditions D.1.h and D.1.k.

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

The Timken Co

Facility ID: 1576000613

PTI Application: 15-01293

Issued: To be entered upon final issuance

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)**

Emissions Increase Due to Modification:

The transformer upgrade affected the slag processing and steel finishing operations (reheating & grinding). Production was increased from 145,289 tpy to 315,000 tpy. 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 **1529 tpy**.

Issued: To be entered upon final issuance

Contemporaneous Emissions Increases & Decreases:

		<u>Increase</u> (tpy)	<u>Decrease</u> (tpy)
1989	EAF #1 removal		- 1402*
1989	EAF #4 conversion to ladle furnace		- 539.5**
1987	EAF #6 removal		- 366.8***
1987	Small Bar Mill installed	18.7	
1987	Reheat furnaces removal		- 15.3
	<b>Totals</b>	<u>18.7</u>	<u>- 2323.6</u>

\*This number was calculated based on the average actual annual production for the period from 6/87 until 5/89.

\*\* This number was calculated based on the actual production rate during 1988 (1/1/88-1/1/89) (59,942 tons). The years 1987 and 1986 were not used because this emissions unit was shut down for extended periods during those two years. EAF #4 was converted to a ladle furnace in June 1990. It stopped operating at normal capacity in January 1989, so the contemporaneous emission decreases were calculated based on 1988 steel production. The USEPA, in its New Source Review guidance manual (October 1990), acknowledges that there may be limited situations where a different time period can be used when the two-year period just prior to the physical change may not represent normal operations. EAF #4 was never physically removed and remained a viable but inactive source until its conversion in 1990, so the emission decreases should be creditable and contemporaneous. EAF #4 did not operate from October 1986 until November 1987 because of a labor strike. Timken did not restart the furnace until business, that had been lost due to the strike, reached an economically justifiable level. The average actual annual steel production during the two-year period of 1984-1985 was 90,169.

\*\*\* This number was calculated based on the average actual annual production for the period from 11/85 until 10/87.

"Net" Emissions change due to modification:

$$1529 \text{ tpy} + 18.7 \text{ tpy} - 2323.6 \text{ tpy} = - 775.9 \text{ tpy CO}$$

Conclusion

The EAF #2 transformer upgrade in conjunction with the contemporaneous removal of various emissions units results in a "net" decrease in facility emissions of 775.9 tpy of

Issued: To be entered upon final issuance

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 has "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

**Issued: To be entered upon final issuance**

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.b.

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)

**The Timken Co**  
**PTI Application: 15-01293**

**Facility ID: 1576000613**

**Issued: To be entered upon final issuance**

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);

**The Timken Co**  
**PTI Application: 15-01293**

**Facility ID: 1576000613**

**Issued: To be entered upon final issuance**

- c. actual start-up date (within 15 days after such date); and
- d. date of performance testing (If required, at least 30 days prior to testing).

Reports are to be sent to:

Ohio Environmental Protection Agency  
DAPC - 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

**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. Emission Limitation:  
0.0052 gr/dscf  
  
Applicable Compliance Method:  
Initial compliance shall be determined using Method 5, 40 CFR Part 60, Appendix A.
  - b. Emission Limitation:  
1.4 pounds per hour for PM/PM<sub>10</sub>  
  
Applicable Compliance Method:  
Initial compliance shall be determined using Method 5, 40 CFR Part 60, Appendix A.
  - c. 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:

**The Timken Co**  
**PTI Application: 15-01293**

**Facility ID: 1576000613**

**Issued: To be entered upon final issuance**

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. Emission Limitation:  
4.4 lbs/hour of sulfur dioxide

Applicable Compliance Method:  
Multiply the sulfur dioxide factor of 0.07 lb SO<sub>2</sub>/ton steel (from FIRE version 5.0) produced and then multiply by the maximum hourly amount of steel produced (tons steel/hour).

- e. Emission Limitation:  
12.6 lbs/hour of nitrogen oxides

Applicable Compliance Method:  
Multiply the nitrogen oxide emission factor of 0.2 lb NOX/ton steel (from FIRE version 5.0) by the maximum hourly steel production rate (tons/hour).

- f. Emission Limitation:  
303 lbs/hour of carbon monoxide

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

- g. Emission Limitation:  
0.44 lb/hour of volatile organic compounds (VOC)

Issued: To be entered upon final issuance

Applicable Compliance Method:  
Multiply the volatile organic compound emission factor of 0.35 lb VOC/ton steel (from FIRE version 5.0) by the maximum hourly steel production rate (tons/hour), and then multiply by an assumed overall control efficiency of 98%.

- h. Emission Limitation:  
3.5 tons/year of PM/PM<sub>10</sub>

Applicable Compliance Method:  
Multiply the stack test emission factor 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. Emission Limitation:  
11 tons/year of sulfur dioxide

Applicable Compliance Method:  
Multiply the sulfur dioxide emission factor of 0.07 lb SO<sub>2</sub>/ton steel (from FIRE version 5.0) by the actual amount of steel produced per rolling 12-month period (tons/year), and divide by 2000 lbs/ton.

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

Applicable Compliance Method:  
Multiply the nitrogen oxide emission factor of 0.2 lb NO<sub>x</sub>/ton steel (from FIRE version 5.0) by the actual amount of steel processed per rolling, 12-month period (tons/year), and divide by 2000 lbs/ton.

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

Applicable Compliance Method:  
Multiply the stack test emission factor established per Additional Special Term and Condition D.2.c by the actual amount of steel processed per rolling, 12-month period

**Issued: To be entered upon final issuance**

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

1. Emission Limitation:  
1.1 ton/year of VOC

Applicable Compliance Method:

Multiply the emission factor of 0.35 lb VOC/ton steel (from FIRE version 5.0) 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 processed per year, based upon a rolling, 12-month summation of the tons of steel produced per month.

Applicable Compliance Method:

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

- n. Emission Limitation:  
0.000006 lb Hg/ton and 0.0004 lb Hg/hr

Applicable Compliance Method:

Sampling of EAF baghouse dust

- o. Emission Limitation:  
0.002 ton Hg/year

**Issued: To be entered upon final issuance**

Applicable Compliance Method:  
Multiply the emission factor of 0.000006 lb Hg/ton 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> and CO utilizing the test methods noted in Additional Special Term and Conditions D.1.b, and D.1.f. The results of the stack test shall be used to establish appropriate emission factors in lb PM/PM<sub>10</sub>/ton steel and lb CO/ton steel, for verifying compliance with emissions limitations in Additional Special Term and Conditions D.1.h and D.1.k.

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

Issued: To be entered upon final issuance

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)**

Emissions Increase Due to Modification:

The transformer upgrade affected the slag processing and steel finishing operations (reheating & grinding). Production was increased from 155,116 tpy to 315,000 tpy. 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 **385 tpy**.

Contemporaneous Emissions Increases & Decreases:

	<u>Increase</u> <u>(tpy)</u>	<u>Decrease</u> <u>(tpy)</u>
1995	EAF #9 conversion to DEC	- 663.4*
1991	EAF #2 transformer upgrade	1529.0
1989	EAF #4 convert to ladle furn.	- 539.5**
1995	EAF #2 conversion to DEC	- 663.4***
1992	Tundish preheater installed	1.8
1992	Tundish preheater installed	1.8
1992	Tundish dryer installed	0.4
1992	Tundish dryer installed	0.4
1992	Space heater installed	0.1
1992	Space heater installed	0.1
1992	Space heater installed	0.1
1992	Space heater installed	0.1
1993	Ladle preheater installed	1.5
1993	Ladle preheater installed	1.5
1993	Ladle preheater installed	1.5

The Timken Co  
PTI Application: 15-01293

Facility ID: 1576000613

Issued: To be entered upon final issuance

1994	Soaking pit installed	2.2	
1995	Soaking pit installed	2.2	
<b>Totals</b>		<b>1542.7</b>	<b>- 1866.3</b>

\*This number was calculated based on the average actual annual production for the period from 10/93 until 9/95.

\*\* This number was calculated based on the actual production rate during 1998. The years 1987 and 1986 were not used because this emissions unit was shut down for extended periods during those two years. EAF #4 was converted to a ladle furnace in June 1990. It stopped operating at normal capacity in January 1989, so the contemporaneous emission decreases were calculated based on 1988 steel production. The USEPA, in its New Source Review guidance manual (October 1990), acknowledges that there may be limited situations where a different time period can be used when the two-year period just prior to the physical change may not represent normal operations. EAF #4 was never physically removed and remained a viable but inactive source until its conversion in 1990, so the emission decreases should be creditable and contemporaneous. EAF #4 did not operate from October 1986 until November 1987 because of a labor strike. Timken did not restart the furnace until business, that had been lost due to the strike, reached an economically justifiable level. The average actual annual steel production during the two-year period of 1984-1985 was 90,169.

**The Timken Co**

**Facility ID: 1576000613**

**PTI Application: 15-01293**

**Issued: To be entered upon final issuance**

\*\*\* This number was calculated based on the average actual annual production for the period from 10/93 until 9/95.

"Net" Emissions change due to modification:

385 tpy + 1542.7 tpy - 1866.3 tpy = 61.4 tpy CO

Conclusion

The EAF #9 transformer upgrade in conjunction with the contemporaneous changes and installation of various emissions units results in a "net" increase in facility emissions of 61.4 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 #9 transformer upgrade has "netted out" of Prevention of Significant Deterioration review for CO emissions.