



State of Ohio Environmental Protection Agency

Street Address:

Mailing Address:

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

Lazarus Gov.
Center

RE: **FINAL PERMIT TO INSTALL MODIFICATION** CERTIFIED MAIL
JEFFERSON COUNTY
Application No: 06-91602

DATE: 10/30/2003

Titanium Metals Corp.
Thomas Bottorf
PO Box 309 100 Titanium Way
Toronto, OH 43964

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
309 South Fourth Street, Room 222
Columbus, Ohio 43215

Sincerely

Michael W. Ahern, Supervisor
Field Operations and Permit Section
Division of Air Pollution Control

CC: USEPA

SEDO



**Permit To Install
Terms and Conditions**

**Issue Date: 10/30/2003
Effective Date: 10/30/2003**

FINAL ADMINISTRATIVE MODIFICATION OF PERMIT TO INSTALL 06-91602

Application Number: **06-91602**
APS Premise Number: **0641180064**
Permit Fee: **\$0**
Name of Facility: **Titanium Metals Corp. Bottorf**
Person to Contact: **Thomas**
Address: **PO Box 309 100 Titanium Way
Toronto, OH 43964**

Location of proposed air contaminant source(s) [emissions unit(s)]:
**100 Titanium Way
Toronto, OHIO**

Description of modification:
Administrative modification to PTI 17 1602 issued July 1 1998.

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

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GENERAL PERMIT CONDITIONS

TERMINATION OF PERMIT TO INSTALL

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

NOTICE OF INSPECTION

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

CONSTRUCTION OF NEW SOURCES

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

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

PERMIT TO INSTALL FEE

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

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PUBLIC DISCLOSURE

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

APPLICABILITY

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

BEST AVAILABLE TECHNOLOGY

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

PERMIT TO OPERATE APPLICATION AND OPERATION AFTER COMPLETION OF CONSTRUCTION

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

If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this Permit To Install is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. Permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the source(s) covered by this permit.

SOURCE OPERATION AFTER COMPLETION OF CONSTRUCTION

This facility is permitted to operate each source described by this permit to install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws and regulations.

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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
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AIR EMISSION SUMMARY

The air contaminant emissions units listed below comprise the Permit to Install for **Titanium Metals Corp.** located in **JEFFERSON** County. The emissions units listed below shall not exceed the emission limits/control requirements contained in the table. This condition in no way limits the applicability of any other state or federal regulations. Additionally, this condition does not limit the applicability of additional special terms and conditions of this permit.

Ohio EPA Source Number

P072
(cont)

P068

P069
(cont)

P069

P070

P071

P072

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P073			Source Identification <u>Description</u>	
P073 (cont)			Titanium sheet pickling line (pickling tank, acid rinse tank, squeeze rolls and hot water rinse)	25 MMBtu/hr natural gas fired batch titanium ignot heating furnace "No.2"
	P074 (cont)		25 MMBtu/hr natural gas fired batch titanium ignot heating furnace "No. 1"	

B009

P074

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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
25 MMBtu/hr natural gas fired batch titanium ignot heating furnace "No.3"	25 MMBtu/hr natural gas fired batch titanium ignot furnace "No.4"	25 MMBtu/hr natural gas fired batch titanium ignot heating furnace "No.5"	25 MMBtu/hr natural gas fired batch titanium ignot heating furnace "No.6"	natural gas fire boiler

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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
	low NO _x burner (0.074 lb/MMBtu)	of low NO _x burner (0.074 lb/MMBtu)		

BAT Determination

Compliance with terms and conditions of this permit and the use of wet scrubber system with caustic addition

Compliance with the terms and conditions of this permit and the use of

Compliance with the terms and conditions of this permit and the use

Compliance with the terms and conditions of this permit and the use of low NO_x burner (0.074 lb/MMBtu)

Compliance with the terms and conditions of this permit and the use of low NO_x burner (0.074 lb/MMBtu)

Compliance with the terms and conditions of this permit and the use of low NO_x burner (0.074 lb/MMBtu)

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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u> (0.074 lb/MMBtu)	<u>BAT Determination</u> and No. 3."	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u> (A)
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Applicable Federal & OAC Rules

3745-31-05 3745-15-06 3745-15-07	3745-17-08 3745-17-11
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3745-31-05 3745-15-06 3745-15-07	3745-31-05 3745-15-06 3745-15-07
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Compliance with the terms and conditions of this permit and the use of low NO_x burner

Compliance with the terms and conditions of this permit, shut-down of boilers "No. 2

3745-17-07	3745-17-07 (A)
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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
			3745-17-08	3745-17-11
3745-17-08		3745-17-08	3745-17-11	3745-31-05
3745-17-11		3745-17-11	3745-31-05 3745-15-06 3745-15-07	
3745-31-05	3745-31-05	3745-31-05		
3745-15-06	3745-15-06	3745-15-06		
3745-15-07	3745-15-07	3745-15-07		
3745-15-07				3745-17-07 (A)
				3745-17-08
				3745-17-10
				NSPS Dc
			3745-17-07 (A)	
		3745-17-07 (A)		
	3745-17-07 (A)			
			3745-17-08	

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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
	lb/hr and T/yr see Additional Special Terms and Conditions.	Additional Special Terms and Conditions.		restrictive.
Permit Allowable Mass Emissions and/or Control/Usage Requirements	VOC : 0.135 lb/hr and T/yr see Additional Special Terms and Conditions.	VOC : 0.135 lb/hr and T/yr see Additional Special Terms and Conditions.	BAT is more restrictive.	PM : 0.047 lb/hr and T/yr see Additional Special Terms and Conditions.
	NO _x : 1.22 lbs/hr and T/yr see Additional Special Terms and Conditions.	NO _x : 1.22 lbs/hr and T/yr see Additional Special Terms and Conditions.	BAT is more restrictive.	SO ₂ : 0.016 lb/hr and T/yr see Additional Special Terms and Conditions.
NO _x : 26 lb/hr and 16.6 tons/yr	CO : 2.06 lb/hr and T/yr see Additional Special Terms and Conditions.	CO : 2.06 lb/hr and T/yr see Additional Special Terms and Conditions.	PM : 0.047 lb/hr and T/yr see Additional Special Terms and Conditions.	VOC : 0.135 lb/hr and T/yr see Additional Special Terms and Conditions.
HF : 0.25 lb/hr and 1.10 tons/yr	Additional Special Terms and Conditions.	BAT is more restrictive. See Additional Special Terms and Conditions.	SO ₂ : 0.016 lb/hr and T/yr see Additional Special Terms and Conditions.	NO _x : 1.22 lbs/hr and T/yr see Additional Special Terms and Conditions.
HNO ₃ : 0.2 lb/hr and 0.9 ton/yr	BAT is more restrictive. See Additional Special Terms and Conditions.	BAT is more restrictive.	VOC : 0.135 lb/hr and T/yr see Additional Special Terms and Conditions.	CO : 2.06 lb/hr and T/yr see Additional Special Terms and Conditions.
PM : 0.047 lb/hr and T/yr see Additional Special Terms and conditions.	BAT is more restrictive.	PM : 0.047 lb/hr and T/yr see Additional Special Terms and conditions.	NO _x : 1.22 lbs/hr and T/yr see Additional Special Terms and Conditions.	BAT is more restrictive. See Additional Special Terms and Conditions.
	BAT is more restrictive.	VOC : 0.135 lb/hr and T/yr see Additional Special Terms and Conditions.	CO : 2.06 lb/hr and T/yr see Additional Special Terms and Conditions.	BAT is more restrictive.
	PM : 0.047 lb/hr and T/yr see Additional Special Terms and conditions.	NO _x : 1.22 lbs/hr and T/yr see Additional Special Terms and Conditions.	BAT is more restrictive. See Additional Special Terms and Conditions.	BAT is more restrictive.
SO ₂ : 0.016	SO ₂ : 0.016 lb/hr and T/yr see	CO : 2.06 lb/hr and T/yr see Additional Special Terms and Conditions.	BAT is more restrictive.	BAT is more restrictive.
		BAT is more restrictive. See Additional Special Terms and Conditions.	BAT is more restrictive.	PM : 0.047 lb/hr and T/yr see Additional Special Terms and conditions.
		BAT is more restrictive.	BAT is more restrictive.	SO ₂ : 0.016 lb/hr and

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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
T/yr see Addional Special Terms and Conditions.	al Special Terms and Conditions.	restrictive		
VOC : 0.135 lb/hr and T/yr see Addional Special Terms and Conditions.	BAT is more restrictive. See Additional Special Terms and Conditions.			
NO _x : 1.22 lbs/hr and T/yr see Addional Special Terms and Conditions.	BAT is more restrictive.			
CO : 2.06 lb/hr and T/yr see Addional Special Terms and Conditions.	PM : 0.039 lb/hr and 0.154 T/yr SO ₂ : 0.012 lb/hr and 0.05 T/yr CO : 1.72 lb/hr and 6.79 T/yr VOC : 0.113 lb/hr and 0.445 T/yr NO _x : 2.34 lbs/hr and 9.23 T/yr			
	BAT is more restrictive.			
	BAT is more restrictive.			
	BAT is more restrictive.			
	BAT is more restrictive.			

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SUMMARY
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons/Year</u>
PM	0.524
SO ₂	0.17
VOC	1.17
NO _x	35.49
CO	23.02
HF	1.1
HNO ₃	0.9

NSPS REQUIREMENTS

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

<u>Source Number</u>	<u>Source Description</u>	<u>NSPS Regulation (Subpart)</u>
B009	Natural gas fired 20.92 MMBtu/hour boiler	Dc

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

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

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

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Reports are to be sent to:

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

and OEPA Southeast District Office - DAPC
2195 Front Street
Logan, Ohio 43138

WASTE DISPOSAL

The owner/operator shall comply with any applicable state and federal requirements governing the storage, treatment, transport and disposal of any waste material generated by the operation of the sources.

MAINTENANCE OF EQUIPMENT

This source and its associated air pollution control system(s) shall be maintained regularly in accordance with good engineering practices and the recommendations of the respective manufacturers in order to minimize air contaminant emissions.

MALFUNCTION/ABATEMENT

In accordance with OAC RULE 3745-15-06, any malfunction of the source(s) or associated air pollution control system(s) shall be reported immediately to the **Southeast District Office - DAPC, 2195 Front Street, Logan, Ohio 43138.**

Except as provided by OAC Rule 3745-15-06(A)(3), scheduled maintenance of air pollution control equipment that requires the shutdown or bypassing of air pollution control system(s) must be accompanied by the shutdown of the associated air pollution sources.

AIR POLLUTION NUISANCES PROHIBITED

The air contaminant source(s) identified in this permit may not cause a public nuisance in violation of OAC Rule 3745-15-07.

CONSTRUCTION COMPLIANCE CERTIFICATION

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

ADDITIONAL SPECIAL TERMS AND CONDITIONS

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A. Applicable Emission Limitations and/or Control Requirements

1. The following is the Best Available Technology (BAT) determination for emissions unit P068:
 - a. The nitrogen oxide (NO_x), hydrofluoric acid (HF) and nitric acid (HNO₃) emissions from emissions unit P068 shall not exceed 26.0, 0.25, and 0.20 pounds per hour, respectively. These emission limits are based on the maximum usage thus, hourly usage recordkeeping is not required;
 - b. The total production from emissions unit P068 shall not exceed 6100 tons per year as a rolling twelve-month total. To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the production limits specified in the following table:

<u>Month</u>	<u>Maximum Allowable Production</u> (tons)
1-3	1525
1-6	3050
1-9	4575
1-12	6100

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual production limitation shall be based upon a rolling, 12-month summation of the monthly production; and,

- c. The total annual tons per year emissions of NO_x, HF, and HNO₃ from emission unit P068 shall not exceed the following: NO_x = 16.6 tons/year, HF = 1.10 tons/year, and HNO₃ = 0.9 ton/year.
2. The following is the Best Available Technology (BAT) determination for emissions units P069, P070, P071, P072, P073 and P074:
 - a. The PM, SO₂, VOC, NO_x, and CO emissions from each emissions units P069, P070, P071, P072, P073, P074, and P075 shall not exceed 0.047, 0.016, 0.135, 1.22, 2.06 pounds per hour, respectively. These emission limits are based on the maximum usage thus, hourly usage recordkeeping is not required;

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- b. The natural gas usage for emissions units P069, P070, P071, P072, P073, and P074 shall not exceed a total of 382,718 thousand cubic feet per year as a rolling twelve-month total. To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the natural gas usage limitation specified in the following table:

<u>Month</u>	<u>Maximum Allowable Natural Gas Usage</u> (Thousand Cubic Feet, MCF)
1-3	95,680
1-6	191,359
1-9	287,039
1-12	382,718

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

- c. The total annual tons per year emissions of PM, SO₂, CO, VOC, and NO_x from emissions units P069 through P074 shall not exceed the following: PM = 0.37, SO₂ = 0.12, VOC = 1.06, CO = 16.23, and NO_x = 9.66 tons/year; and,
- d. The individual tons per year emissions of PM, SO₂, CO, VOC, and NO_x from emissions unit P069 through P074 shall not exceed the following: PM = 0.20, SO₂ = 0.07, VOC = 0.59, NO_x = 5.37, CO = 9.01.
3. The following is the Best Availability Technology (BAT) determination for emissions unit B009:
- a. The PM, SO₂, CO, VOC, and NO_x emissions from the emission unit B009 shall not exceed 0.039, 0.012, 1.72, 0.113, and 2.34 pound per hour, respectively;
- b. The natural gas consumption for emissions unit B009 shall not exceed 160,130 thousand cubic feet per year as a rolling twelve-month total. To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the natural gas consumption specified in the following table:

<u>Month</u>	<u>Maximum Allowable Natural Gas Usage</u> (Thousand Cubic Feet MCF)
1-3	40,830
1-6	80,070
1-9	120,170
1-12	160,130

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After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual natural gas usage limitation shall be based upon a rolling, 12-month summation of the monthly gas usage; and,

- c. The annual tons per year emissions of PM, SO₂, CO, VOC, and NO_x from emission unit B009 shall not exceed the following: PM = 0.154 tons/year, SO₂ = 0.05 ton/year, VOC = 0.113 ton/year, CO = 6.79 tons/year, and NO_x = 9.23 tons/year.
4. Visible particulate emissions from any stack associated with emissions units P069, P070, P071, P072, P073, P074, and B009 shall not exceed 5 percent opacity, as a six-minute average, except as specified by rule.

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B. Operational Restrictions

1. The pressure drop across the scrubber serving source P068 shall be continuously maintained at a value of not less than 4 inches of water at all times while the emissions unit is in operation.
2. The scrubber water flow rate serving source P068 shall be continuously maintained at a value of not less than 13.6 gallons per minute at all times while the emissions unit is in operation.
3. The pH of the scrubber water serving source P068 shall be continuously maintained at a value of not less than 8 and a maximum of 12 at all times while the emissions unit is in operation.

C. Monitoring and Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to continuously monitor the static pressure drop across the scrubber and the scrubber water flow rate while source P068 is in operation. Appropriate procedures and analytical method shall be followed to sample and analyze the scrubber water for pH. The monitoring devices and any recorders shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.
2. The permittee shall collect and record the following information each day:
 - a. the pressure drop across the scrubber, in inches of water, on a once/day basis;
 - b. the scrubber water flow rate, in gallons per minute, on a once per day bases;
 - c. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit;
 - d. the scrubber water pH on a once per day basis; and,
 - e. the tons of production for emission unit P068.
3. The permittee shall collect and record the following information each month:
 - a. the total quantity of natural gas used in emission unit B009 recorded in thousand of

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cubic feet; and,

- b. the total quantity of natural gas used in emission units P069 through P074 based on hourly operating data and total volume of gas used in the furnaces recorded in thousand of cubic feet.

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D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify all periods of time during which the following scrubber parameters were not maintained at or above the required levels:
 - a. the static pressure drop across the scrubber;
 - b. the scrubber water flow rate; and,
 - c. the scrubber water pH.
2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 12-month limitation for production and natural gas usage and for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the quarterly maximum allowable cumulative natural gas usage limitations.
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 Ohio EPA Southeast District; and,
 - b. except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (1) 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, (2) the probable cause of such deviations, and (3) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Ohio EPA Southeast District Office. 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 30, April 30, July 30, and October 30 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.)
4. The permittee shall also submit annual reports which specify the total NO_x emissions from emissions units P069, P070, P071, P072, P073, P074, P075, and B009 for the previous calendar year. These reports shall be submitted by January 31 of each year.

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E. Compliance Methods/Testing Requirements

1. Compliance with the emission limitations in the Air Emission Summary for emissions unit P068 shall be determined in accordance with the following methods:

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a. Emission Limitation

NO_x : 26.0 pounds NO_x/hour

Applicable Compliance Method

Employ the facility derived emission factors of 0.32 pound NO_x per pound of titanium removed for standard sheets and 1.280 pound NO_x per pound of titanium removed for Beta Alloy sheet and the actual production rates of each product. Determine the volume of titanium metal removed per hour by multiplying the length, width of the sheet, quantity of sheets and thickness (0.001 inch) removed times the density of titanium (0.163 pound per cubic inch) and multiply by the appropriate emission factor. Multiply this uncontrolled NO_x emission rate by the scrubber control efficiency of (1-.25) to arrive at the hourly controlled NO_x emission rate.

If required stack testing using USEPA, 40 CFR Part 60, Appendix A, Method 7.

b. Emission Limitation

NO_x : 16.6 tons NO_x/year

Applicable Compliance Method

Employ the facility derived emission factors provided above and the actual production rate of standard and beta alloy sheet throughput. The allowable emission rate is based on facility production data. The majority of sheets processed are three feet by eight feet. The four by twelve sheets normally account for ten percent of annual production. Beta alloy sheet production is two percent of each size of titanium sheet's throughput. If tested, multiply the latest hourly tested emission rate by the hours of operation and divide by 2000 pounds per ton.

c. Emission Limitation

HF : 0.25 pound HF/hour

Applicable Compliance Method

The maximum hourly uncontrolled hydrofluoric acid (HF) emission rate is determined by using mass balance analysis. Approximately 110 gallons of 49

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percent HF stock solution are reacted with Titanium or released from the batch surface every 16 hours. For each pound of Titanium removed, 1.67 pounds of HF are required to form TiF_4 . Using the representative product mix, approximately 14.9 pounds of titanium are removed each

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hour. Pound of HF used/hour - 110 gallon 91.18) (8.33 pounds/gallon) (49/100) /16=33.1 pounds-HF/hour. Amount of HF reacted with titanium = 14.9 pounds - titanium/hour x 1.67 pounds-HF/pound- titanium = 24.8 pounds-HF/hour. Uncontrolled HF emission rate = 33.1 - 24.8=8.3 pounds-HF/hour. Controlled HF = 8.3 (1.97)=0.249 pound HF/hour.

d. Emission Limitation

HF : 1.10 ton HF/year

Applicable Compliance Method

The annual uncontrolled hydrofluoric acid (HF) emission rate is determined by sing the hourly controlled emission rate and multiply by 8760 hours per year and dividing by 2000 pounds per ton.

e. Emission Limitation

HNO₃ : 0.20 pound HNO₃/hour

Applicable Compliance Method

The maximum hourly uncontrolled nitric acid (HNO₃) emission rate is determined by using the U.S. EPA's WATERS (Version 4) emission factor for open tanks and a spreadsheet developed by ESCO Engineering. The maximum uncontrolled HNO₃ emission rate occurs when processing Bata Alloy Titanium sheets. The HNO₃ hourly emission rate is the sum of the hourly emission rates from the rinse bath (.009 pound HNO₃/hour), P-6 acid bath tank (.00425 pound/HNO₃/hour) and the P-8 acid bath (0.0887 pound HNO₃/hour). This total hourly HNO₃ emission rate is multiplied by the control efficiency of (1-.97) to determine the actual hourly emission and multiplied by a confidence factor of 653.

f. Emission Limitation

HNO₃ : 0.90 ton HNO₃/year

Applicable Compliance Method

The annual uncontrolled nitric acid (HNO₃) emission rate is determined by using the U.S. EPA WATERS (Version 4) emission factor for open tanks and a spreadsheet

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developed by ESCO Engineering. The hourly allowable emission rate is multiplied by 8760 hours per year and divided by two thousand pounds per ton to determine the actual annual emission.

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2. Compliance with the emission limitations in the Air Emission Summary for emissions units P069, P070, P071, P072, P073 and P074 shall be determined in accordance with the following methods:

a. Emission Limitation

PM : 0.047 pounds PM/hour (each furnace)

Applicable Compliance Method

Multiply the USEPA, AP-42 Section 1.4, July, 1998, emission factor of 1.9 pounds of PM/10⁶ cubic feet of natural gas usage by one cubic foot/1020 Btu, and then multiply by maximum hourly firing rate (million Btu/hour).

b. Emission Limitation

PM : 0.37 pounds PM/year

Applicable Compliance Method

Multiply the hourly emissions rate of 0.047 by the following: 8760 hours/year and the annual capacity 30 percent, six furnaces and then divide by 2000 pounds/ton.

c. Emission Limitation

NO_x : 1.22 pounds NO_x/year (each furnace)

Applicable Compliance Method

USEPA, 40 CFR Part 60, Appendix A, Method 7

d. Emission Limitation

NO_x : 9.66 tons NO_x/year

Applicable Compliance Method

Multiply the hourly emissions rate from the most recent stack test by the following: 8760 hours/year and the annual capacity factor of 30 percent, six furnaces and then divide by 2000 pounds/ton.

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e. Emission Limitation

CO : 2.06 pound CO/hour (each furnace)

Applicable Compliance Method

Multiply the USEPA, AP-42 Section 1.4 published in July, 1998, emission factor of 84.0 pounds of CO/10⁶ cubic feet of natural gas usage by one cubic foot/1020 Btu, and then multiply by maximum hourly natural gas firing rate (million Btu/hour).

f. Emission Limitation

CO : 16.23 tons CO/year

Applicable Compliance Method

Multiply the hourly emissions rate of 2.06 by the following: 8760 hours/year and the annual capacity factor of 30 percent, six furnaces and then divide by 2000 pounds/ton.

g. Emission Limitation

SO₂ : 0.016 pound SO₂/hour (each furnace)

Applicable Compliance Method

Multiply the USEPA, AP-42 Section 1.4, published in July, 1998, emission factor of 0.6 pound of SO₂/10⁶ cubic feet of natural gas usage by 1020 Btu, and then multiply by maximum hourly natural gas firing rate (million Btu/hour).

h. Emission Limitation

SO₂ : 0.12 ton SO₂/year

Applicable Compliance Method

Multiply the hourly emissions rate of 0.016 by the following: 8760 hours/year and the annual capacity factor of 30 percent, six furnaces and then divide by 2000 pounds/ton.

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i. Emission Limitation

VOC : 0.135 pound VOC/hour (each furnace)

Applicable Compliance Method

Multiply the USEPA, AP-42 Section 1.4 published in July, 1998, emission factor of 5.5 pounds of VOC/10⁶ cubic feet of natural gas usage by one cubic foot/1020 Btu, and then multiply by maximum hourly natural gas firing rate (million Btu/hour).

j. Emission Limitation

VOC : 1.06 ton VOC/year

Applicable Compliance Method

Multiply the hourly emissions rate of 0.135 by the following: 8760 hours/year and the annual capacity factor of 30 percent, six furnaces and then divide by 2000 pounds/ton.

k. Emission Limitation

Opacity: 5 percent as 6-minute average

Applicable Compliance Method

Visible particulate emissions shall be determined in accordance with OAC rule 3745-17-03 (B) (1) using the methods and procedures specified in USEPA Reference Method 9.

3. The permittee shall conduct, or have conducted, emission testing for emissions unit P068 in accordance with the following requirements:
- a. The emission testing shall be conducted within 6 months after startup of the emissions unit;
 - b. The emission testing shall be conducted to demonstrate compliance with the allowable emission rate of 26 pounds NO_x/hour;
 - c. The following test method (s) shall be employed to demonstrate compliance with the allowable nitrogen oxide emission rate: Method 7 of 40 CFR Part 60, Appendix A;

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- d. 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 Central Office of the Ohio Environmental Protection Agency; and,
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Central Office of the Ohio Environmental Protection 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 Central Office of the Ohio Environmental Protection Agency's refusal to accept the results of the emission test (s).

Personnel from the Central Office of the Ohio Environmental Protection Agency shall be permitted to witness the tests, 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 Central Office of the Ohio Environmental Protection Agency within 30 days following completion of the test (s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Central Office of the Ohio Environmental Protection Agency.

4. The permittee shall conduct, or have conducted, emission testing for one of the following listed identical emissions unit P069, P070, P071, P072, P073 and P074 in accordance with the following requirements:
 - a. The emission testing shall be conducted within 6 months after startup of the emission unit;
 - b. The emission testing shall be conducted to demonstrate compliance with the allowable emission rate of 1.22 pounds NO_x/hour;
 - c. The following test method (s) shall be employed to demonstrate compliance with the allowable nitrogen oxide emission rate: Method 7 of 40 CFR Part 60, Appendix A;

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- d. 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 Central Office of the Ohio Environmental Protection Agency; and,
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Central Office of the Ohio Environmental Protection 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 Central Office of the Ohio Environmental Protection Agency's refusal to accept the results of the emission test (s).

Personnel from the Central Office of the Ohio Environmental Protection Agency shall be permitted to witness the tests, 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 Central Office of the Ohio Environmental Protection Agency within 30 days following completion of the test (s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Central Office of the Ohio Environmental Protection Agency.

5. Compliance with the emission limitations in the Air Emissions Summary for emissions unit B009 shall be determined in accordance with the following methods:

- a. Emission Limitation

PM : .0.039 pounds PM/hour

Applicable Compliance Method

Multiply the USEPA, AP-42 Section 1.4, July, 1998, emission factor of 1.9 pounds of PM/10⁶ cubic feet of natural gas usage by one cubic foot/1020 Btu, and then multiply by maximum hourly firing rate (million Btu/hour).

- a. Emission Limitation

PM : 0.154 pounds PM/year

Applicable Compliance Method

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Multiply the pound per hour emissions rate of 0.039 by 8760 hours/year and the annual capacity 90 percent and then divide by 2000 pounds/ton.

b. Emission Limitation

NO_x : 2.34 pounds NO_x/hour

Applicable Compliance Method

USEPA, 40 CFR Part 60, Appendix A, Method 7 or the manufacturer's tested emission factor of 115.29 pounds NO_x/MM cubic feet.

c. Emission Limitation

NO_x : 9.23 tons NO_x/year

Applicable Compliance Method

Multiply the pounds per million Btu emissions rate from the most recent stack test by the following: maximum heat input 20.92 MM Btu/hour, 8760 hours/year and the annual capacity factor of 90 percent, and then divide by 2000 pounds/ton if tested. Or multiply the manufacturer's tested emission factor of 115.29 pound NO_x per million cubic feet by the following: million cubic feet natural gas combusted per year, 90 percent capacity factor and divide by 2000 pounds per ton.

d. Emission Limitation

CO : 1.72 pound CO/hour

Applicable Compliance Method

Multiply the USEPA, AP-42 Section 1.4 published in July, 1998, emission factor of 84.0 pounds of CO/10⁶ cubic feet of natural gas usage by one cubic foot/1020 Btu, and then multiply by maximum hourly natural gas firing rate (million Btu/hour).

e. Emission Limitation

CO : 6.79 tons CO/year

Applicable Compliance Method

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Multiply the pound per hour emissions rate of 1.72 by 8760 hours/year and the annual capacity factor of 90 percent and then divide by 2000 pounds/ton.

f. Emission Limitation

SO₂ : 0.12 pound SO₂/hour

Applicable Compliance Method

Multiply the USEPA, AP-42 Section 1.4, published in July, 1998, emission factor of 0.6 pound of SO₂/10⁶ cubic feet of natural gas usage by 1020 Btu, and then multiply by maximum hourly natural gas firing rate (million Btu/hour).

g. Emission Limitation

SO₂ : 0.05 ton SO₂/year

Applicable Compliance Method

Multiply the pound per hour emissions rate of 0.12 by 8760 hours/year and the annual capacity factor of 90 percent, and then divide by 2000 pounds/ton.

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i. Emission Limitation

VOC : 0.113 pound VOC/hour

Applicable Compliance Method

Multiply the USEPA, AP-42 Section 1.4 published in July, 1998, emission factor of 5.5 pounds of VOC/10⁶ cubic feet of natural gas usage by one cubic foot/1020 Btu, and then multiply by maximum hourly natural gas firing rate (million Btu/hour).

j. Emission Limitation

VOC : 0.445 ton VOC/year

Applicable Compliance Method

Multiply the pound per hour emissions rate of 0.113 by 8760 hours/year and the annual capacity factor of 90 percent, and then divide by 2000 pounds/ton.

k. Emission Limitation

Opacity: 5 percent as 6-minute average

Applicable Compliance Method

Visible particulate emissions shall be determined in accordance with OAC rule 3745-17-03 (B) (1) using the methods and procedures specified in USEPA Reference Method 9.

A. Miscellaneous Requirements

1. This permit allows the use of hydrofluoric acid (HF) containing materials specified by the permittee in the application for PTI number 17-1602. In conjunction with the best available technology requirements of OAC rule 3745-31-05, the P068 emission limitations specified in this permit were established in accordance with the Ohio EPA's "Air Toxics Policy" and are based on both the used of hydrofluoric acid (HF) containing materials and the design parameters of the emissions unit's exhaust system, as specified in the application. Compliance with the Ohio EPA's "Air Toxics Policy" was demonstrated for each pollutant based on the SCREEN3 model and a comparison of the predicated 1 hour maximum ground-level concentration to the MAGLC. The following summarizes the results of the modeling for each pollutant:

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Pollutant: hydrofluoric acid (HF)
TLV (ug/m³): 2600
Maximum Hourly Emission Rate (pounds/hour): 0.25
Predicated 1 hour Maximum Ground-level Concentration at the Fence line (ug/m³): 7.53
Maximum Acceptable Ground - Level Concentration (MAGLC) (ug/m³): 61.9

Any of the following changes may be deemed a "modification" to the emissions unit and, as such, prior notification to and approval from the Ohio EPA Southeast District Office is required, including the possible issuance of modifications to PTI number 17-1602 and the operating permit:

- a. Any changes in the composition of the hydrofluoric acid (HF) containing materials, or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH), " than the lowest TLV value specified in the above table;
 - b. Any change to the emissions unit or its exhaust parameters (e.g., increased emission rate, reduction of exhaust gas flow rate, and decreased stack height) that would result in an exceedance of any MAGLC specified in the above table; and,
 - c. Any change to the emissions unit or its method of operation that would either require an increase in the emission limitation (s0 established by this permit or would otherwise be considered a "modification" as defined in OAC rule 3745-31-01.
2. All waste water generated by the facilities contained in the approved plans must receive treatment at the existing waste water treatment plant.
 3. Discharges from the approved facilities shall not cause hydraulic overload or upset of the existing waste water treatment plant or cause exceedances of the effluent limitations contained in the facility NPDES permit.