



State of Ohio Environmental Protection Agency

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Columbus, OH 43216-1049

6/23/2009

DEAN SPRADLIN  
HALE CHROME SERVICE INC  
2282 ALBION STREET  
TOLEDO, OH 43606

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE  
Facility ID: 0448010041  
Permit Number: P0104440  
Permit Type: Renewal  
County: Lucas

Certified Mail

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR
No	CEMS
Yes	MACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install and Operate ("PTIO") which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully.

Ohio EPA maintains a document entitled "Frequently Asked Questions about the PTIO". The document can be downloaded from the DAPC Web page, [www.epa.state.oh.us/dapc](http://www.epa.state.oh.us/dapc), from the "Permits" link. This document contains additional information related to your permit, such as what activities are covered under the PTIO, who has enforcement authority over the permit and Ohio EPA's authorization to inspect your facility and records. Please contact the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469 if you need assistance.

The issuance of this PTIO is a final action of the Director and may be appealed to the Environmental Review Appeals Commission ("ERAC") under Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and describe the action complained of and the grounds for the appeal. The appeal must be filed with the ERAC within thirty (30) days after notice of the Director's action. A filing fee of \$70.00 must be submitted to the ERAC with the appeal, although the ERAC, has discretion to reduce the amount of the filing fee if you can demonstrate (by affidavit) that payment of the full amount of the fee would cause extreme hardship. If you file an appeal of this action, you must notify Ohio EPA of the filing of the appeal (by providing a copy to the Director) within three (3) days of filing your appeal with the ERAC. Ohio EPA requests that a copy of the appeal also be provided to the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the ERAC at the following address:

Environmental Review Appeals Commission  
309 South Fourth Street, Room 222  
Columbus, OH 43215

If you have any questions regarding this permit, please contact the Toledo Department of Environmental Services. This permit has been posted to the Division of Air Pollution Control (DAPC) Web page [www.epa.state.oh.us/dapc](http://www.epa.state.oh.us/dapc).

Sincerely,

*Michael W. Ahern*  
Michael W. Ahern, Manager  
Permit Issuance and Data Management Section, DAPC

Cc: TDES

Ted Strickland, Governor  
Lee Fisher, Lieutenant Governor  
Chris Korleski, Director





**State of Ohio Environmental Protection Agency  
Division of Air Pollution Control**

**FINAL**

**Air Pollution Permit-to-Install and Operate  
for  
HALE CHROME SERVICE INC**

Facility ID: 0448010041  
Permit Number: P0104440  
Permit Type: Renewal  
Issued: 6/23/2009  
Effective: 6/23/2009  
Expiration: 6/23/2019





**Air Pollution Permit-to-Install and Operate**  
for  
**HALE CHROME SERVICE INC**

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State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install and Operate**  
**Permit Number:** P0104440  
**Facility ID:** 0448010041  
**Effective Date:** 6/23/2009

## Authorization

Facility ID: 0448010041  
Application Number(s): A0036898  
Permit Number: P0104440  
Permit Description: modification to chrome plating process permit to relax stack testing frequency to once every 10 yr  
Permit Type: Renewal  
Permit Fee: \$0.00  
Issue Date: 6/23/2009  
Effective Date: 6/23/2009  
Expiration Date: 6/23/2019  
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15  
This document constitutes issuance to:

HALE CHROME SERVICE INC  
2282 ALBION STREET  
TOLEDO, OH 43606

of a Permit-to-Install and Operate for the emissions unit(s) identified on the following page.

Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Toledo Department of Environmental Services  
348 South Erie Street  
Toledo, OH 43604  
(419)936-3015

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section 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 described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Chris Korleski  
Director



## Authorization (continued)

Permit Number: P0104440  
Permit Description: modification to chrome plating process permit to relax stack testing frequency to once every 10 yr

Permits for the following emissions unit(s) or groups of emissions units are in this document as indicated below:

- Emissions Unit ID: P001**  
Company Equipment ID: P001  
Superseded Permit Number:  
General Permit Category and Type: Not Applicable
- Emissions Unit ID: P002**  
Company Equipment ID: P002  
Superseded Permit Number:  
General Permit Category and Type: Not Applicable
- Emissions Unit ID: P003**  
Company Equipment ID: P003  
Superseded Permit Number:  
General Permit Category and Type: Not Applicable
- Emissions Unit ID: P007**  
Company Equipment ID: P007  
Superseded Permit Number:  
General Permit Category and Type: Not Applicable
- Emissions Unit ID: P008**  
Company Equipment ID: P008  
Superseded Permit Number:  
General Permit Category and Type: Not Applicable

**Group Name: Tanks #10 through #14 -P011-P015**

<b>Emissions Unit ID:</b>	<b>P011</b>
Company Equipment ID:	P011
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P012</b>
Company Equipment ID:	P012
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P013</b>
Company Equipment ID:	P013
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P014</b>
Company Equipment ID:	P014
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P015</b>
Company Equipment ID:	P015
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install and Operate**

**Permit Number:** P0104440

**Facility ID:** 0448010041

**Effective Date:** 6/23/2009

## **A. Standard Terms and Conditions**



**1. What does this permit-to-install and operate ("PTIO") allow me to do?**

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

**2. Who is responsible for complying with this permit?**

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

**3. What records must I keep under this permit?**

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

**4. What are my permit fees and when do I pay them?**

There are two fees associated with permitted air contaminant sources in Ohio:

- PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

- Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. For facilities that are permitted as synthetic minor sources, the fee schedule is adjusted annually for inflation. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

**5. When does my PTIO expire, and when do I need to submit my renewal application?**

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.



If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

**6. What happens to this permit if my project is delayed or I do not install or modify my source?**

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

**7. What reports must I submit under this permit?**

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

**8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?**

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

**9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?**

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.

**10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?**

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Toledo Department of Environmental Services in accordance with



OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

**11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?**

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

**12. What happens if one or more emissions units operated under this permit is/are shut down permanently?**

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emission unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

**13. Can I transfer this permit to a new owner or operator?**

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install and Operate**

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**Effective Date:** 6/23/2009

**14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?**

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

**15. What happens if a portion of this permit is determined to be invalid?**

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install and Operate**

**Permit Number:** P0104440

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## **B. Facility-Wide Terms and Conditions**



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install and Operate**

**Permit Number:** P0104440

**Facility ID:** 0448010041

**Effective Date:** 6/23/2009

1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
  - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
    - (1) None.
  - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
    - (1) None.



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install and Operate**

**Permit Number:** P0104440

**Facility ID:** 0448010041

**Effective Date:** 6/23/2009

## **C. Emissions Unit Terms and Conditions**



**1. P001, Hard Chrome Plating Tanks (2,3,4,5 & 6) 500 gallons each, controlled by a packed bed scrubber/composite mesh pad system**

**Operations, Property and/or Equipment Description:**

hard chrome plating tanks (2,3,4,5,&6) 500 gallons each, controlled by a packed bed scrubber/composite mesh system

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. b)(1)c., b(2), c), d), f)(1)a., f(2) & f(3)

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions (PE) shall not exceed 20% opacity as a six-minute average, unless otherwise specified by the rule.
b.	OAC rule 3745-17-11(B)(1)	PE shall not exceed 0.551 pound per hour.
c.	40 CFR 63, Subpart N	See b)(2)a. through b)(2)c.

(2) Additional Terms and Conditions

a. The application and enforcement of the provisions of the National Emission Standards for Hazardous Air Pollutants (NESHAPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 63, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 63 are also federally enforceable.

b. The permittee, having a maximum potential cumulative rectifier capacity of 60 million ampere-hours per year or more, shall be considered a small hard



chromium electroplating facility as long as the actual cumulative rectifier capacity is less than 60 million ampere-hours per year and the permittee has maintained and continues to maintain monthly records showing the actual ampere-hour usage for each 12-month rolling period (following the compliance date) to be less than 60 million ampere-hours and these records have been documented by using non-resettable ampere-hour meter(s).

If monthly records demonstrate that 60 million ampere-hours has been met or exceeded over any 12-month rolling period, the hard chromium electroplating tanks shall be subject to the emission limitation(s) applicable to those located at a large hard chromium electroplating facility.

- c. The permittee shall not allow the concentration of total chromium in the exhaust gas stream discharged from the open surface, hard chromium electroplating operation(s), P001, to exceed 0.03 mg/dscm ( $1.3 \times 10^{-5}$  gr/dscf). This limitation also applies during startup and shutdown operations, but not during periods of malfunction where work practice standards address and correct any malfunction event.

c) Operational Restrictions

- (1) The permittee shall implement the following operational, maintenance, and work practices standards for the chromium electroplating and anodizing tanks:
  - a. At all times, including periods of startup, shutdown, and malfunction, the permittee shall operate and maintain the chromium electroplating or anodizing tank(s), including the associated air pollution control device(s) and monitoring equipment, in a manner consistent with the operation and maintenance plan required by these terms and conditions.
  - b. Malfunctions shall be corrected as soon as practicable after their occurrence in accordance with the operation and maintenance plan.
  - c. Determination of whether acceptable operation and maintenance procedures are being used shall be based on the facility records, which shall be made available to the Toledo Division of Environmental Services upon request, and which may include, but not be limited to: monitoring results; review of the operation and maintenance plan, procedures, and records; and inspection of the emissions unit. Based on this information, the Toledo Division of Environmental Services may require that the permittee make changes to the operation and maintenance plan if that plan:
    - i. does not address a malfunction that has occurred;
    - ii. fails to provide for the proper operation of the emissions unit, the air pollution control techniques, or the control system and process monitoring equipment during a malfunction in a manner consistent with good air pollution practices; or
    - iii. does not provide adequate procedures for correcting malfunctioning process equipment, air pollution control equipment, and/or monitoring equipment as quickly as practicable.



- d. The standards and limitations that apply to chromic acid baths shall not be met by using a reducing agent to change the form of chromium from hexavalent to trivalent.
- (2) The permittee shall prepare an operation and maintenance plan to be implemented no later than the startup of the unit or the compliance date. The plan shall include the following elements:
- a. The plan shall specify the operation and maintenance criteria for the affected source, the add-on air pollution control device, and the process and control system monitoring equipment, and shall include a standardized checklist to document the operation and maintenance of the equipment.
  - b. The plan shall incorporate the work practice standards for the add-on air pollution control device and monitoring equipment required to demonstrate compliance with the standard.
  - c. The plan shall specify procedures to be followed to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions do not occur.
  - d. The plan shall include a systematic procedure for identifying malfunctions of process equipment, add-on air pollution control device(s), and process and control system monitoring equipment, and for implementing corrective actions to address any malfunctions.
  - e. If the operation and maintenance plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time the plan is initially developed, the permittee shall revise the operation and maintenance plan within 45 days after such an event occurs. The revised plan shall include procedures for operating and maintaining the process equipment, add-on air pollution control device, or monitoring equipment during similar malfunction events, and a program for corrective action for such events.
  - f. If actions taken by the permittee during periods of malfunction are inconsistent with the procedures specified in the operation and maintenance plan, the permittee shall record the actions taken for that event and shall report such actions by phone to the Toledo Division of Environmental Services within 2 working days following the actions performed inconsistent with the plan. This verbal report shall be followed by a letter within 7 working days following the event, unless the permittee makes alternative reporting arrangements, in advance, with the Toledo Division of Environmental Services.
  - g. The permittee shall maintain the written operation and maintenance plan on record at the facility; and it shall be made readily available for inspection, at the request of the Toledo Division of Environmental Services and for the life of the emissions unit. If the operation and maintenance plan is revised, the permittee shall maintain previous versions of the plan at the facility for a period of five years following each revision; the superceded version(s) of the plan shall also be made available for inspection, if so requested by the Toledo Division of Environmental Services.





- c. records of the occurrence, duration, and cause (if known) of each malfunction of process, add-on air pollution control device, and monitoring equipment;
- d. records of actions taken during periods of malfunction when such actions are inconsistent with the operation and maintenance plan;
- e. other records, which may take the form of checklists, necessary to demonstrate consistency with the provisions of the operation and maintenance plan;
- f. test reports documenting results of all performance tests;
- g. all measurements as may be necessary to determine the conditions of performance tests;
- h. records of monitoring data that are used to demonstrate compliance with the standard including the date and time the data are collected;
- i. the specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions, as indicated by monitoring data, that occurs during malfunction of the process, add-on air pollution control device, or monitoring equipment;
- j. the specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions, as indicated by monitoring data, that occurs during periods other than malfunction of the process, add-on air pollution control device, or monitoring equipment;
- k. the total process operating time of the emissions unit during the reporting period;
- l. all documentation supporting the notifications and reports as outlined in the "Reporting Requirements" section of this permit and the general reporting requirements in 40 CFR 63.9 and 40 CFR 63.10, from subpart A; and
- m. records of the actual cumulative rectifier capacity of hard chromium electroplating tanks expended during each month of the reporting period, and the total capacity expended to date for a reporting period.

All records shall be maintained for a period of five years.

- (2) The permittee shall perform the following monitoring and record keeping requirements in order to demonstrate compliance through the use of the composite mesh-pad system:
  - a. During the initial performance test, the permittee shall determine the outlet chromium concentration using the methods described in the "Testing Requirements" section of this permit. The pressure drop across the composite mesh-pad system shall be established as a site-specific operating parameter, setting the value that corresponds to compliance with the applicable emission limitation, as established during performance testing.
  - b. The permittee may conduct multiple performance tests to establish a range of compliant pressure drop values; or may set as the compliant value, the average pressure drop measured over the three test runs of one performance test and accept 1 inches of water column from this value as the compliant range.



- c. On and after the date on which the initial performance test is required to be completed under 40 CFR 63.7, the permittee shall monitor and record the pressure drop across the composite mesh-pad system once each day that the emissions unit is in operation. To be in compliance, the composite mesh-pad system shall be operated within 1 inches of water column of the pressure drop value established during compliance performance testing, or shall be operated within the range of compliant values for pressure drop established during multiple performance tests.
- d. The permittee may repeat the performance test, as above, and establish a new site-specific operating parameter for the pressure drop across the composite mesh-pad system if the following conditions are met:
  - i. the outlet chromium concentration is determined using the test methods and procedures in the "Testing Requirements" section of this permit;
  - ii. the site-specific operating parameter value is established using the procedures established in the "Testing Requirements" section of this permit;
  - iii. the record keeping requirements contained in this permit are met;
  - iv. the proper notification of the test date (at least 60 days before the test is scheduled) is provided to the Toledo Division of Environmental Services; and
  - v. the results of the performance test are submitted to the Toledo Division of Environmental Services, as required in the "Reporting Requirements" section of this permit.
- e. The requirement to operate the composite mesh-pad system within 1 inches of water column of the pressure drop value established during compliance performance testing does not apply during automatic washdown cycles of the composite mesh-pad system.
  - e) Reporting Requirements
    - (1) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- f) Testing Requirements
  - (1) Compliance with the emission limitation(s) in b) of these terms and conditions shall be determined in accordance with the following method(s):
    - a. Emission Limitation:

The emissions of chromium shall not exceed 0.03 mg/dscm (1.3 E -5 gr/dscf).



Applicable Compliance Method:

Compliance shall be demonstrated based on the most recent stack test (0.0036 mg/dscm, tested 11/18/2008).

If required, the permittee shall demonstrate compliance with this emissions limitation through emission testing performed in accordance with Method 306 or Method 306A of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

b. Emission Limitation:

20 percent opacity, as a six-minute average.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emissions limitation through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(1). Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

c. Emission Limitation:

PE shall not exceed 0.551 pound per hour.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emissions limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(10). Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements, in order to demonstrate compliance with the chromium emission limitation contained in this permit:

a. The emission testing shall be conducted within 6 months of permit expiration.

b. One of the following test methods shall be employed to demonstrate compliance:

i. Method 306 or Method 306A, "Determination of Chromium Emissions From Decorative and Hard Chromium Electroplating and Anodizing Operations" shall be used to determine the chromium concentration from the electroplating or anodizing tank.

(a) The sampling time and sample volume for each run of Methods 306 and 306A shall be at least 120 minutes and 1.7 dscm (60 dscf), respectively.

(b) Methods 306 and 306A allow the measurement of either total chromium or hexavalent chromium emissions. Emissions units



using chromic acid baths can demonstrate compliance with the emission limits by measuring either the total chromium or hexavalent chromium concentration. The hexavalent chromium concentration measured by these methods is equal to the total chromium concentration for the affected operations.

- (3) The permittee shall measure the pressure drop across the add-on air pollution control device in accordance with the following guidelines:
- a. Specifications for differential pressure measurement devices used to measure pressure drop across a control system shall be in accordance with the manufacturer's accuracy specifications.
  - b. Pressure taps shall be installed at any of the following locations:
    - i. at the inlet and outlet of the control system (the inlet tap should be installed in the ductwork just prior to the control device and the corresponding outlet pressure tap should be installed on the outlet side of the control device prior to the blower or on the downstream side of the blower);
    - ii. on each side of the packed bed within the control system or on each side of each mesh pad within the control system; and
    - iii. on the front side of the first mesh pad and back side of the last mesh pad within the control system.
  - c. Pressure taps shall be sited at locations that are:
    - i. as free from pluggage as possible and away from any flow disturbances such as cyclonic demisters; and
    - ii. situated such that no air infiltration at the measurement site will occur that could bias the measurement;
  - d. pressure taps shall be constructed of either polyethylene, polybutylene, or other nonreactive materials;
  - e. nonreactive plastic tubing shall be used to connect the pressure taps to the device used to measure pressure drop;
  - f. any of the following pressure gauges may be used to monitor pressure drop: a magnehelic gauge, an inclined manometer, or a "U" tube manometer;
  - g. prior to connecting any pressure lines to the pressure gauge(s), each gauge shall be zeroed (calibration of the pressure gauges is not required, with every required reading); and
  - h. all monitoring equipment shall be installed such that representative measurements of emissions or process parameters from the affected emissions unit are obtained. Verification of the operational status of the monitoring equipment shall include execution of the manufacturer's written accuracy



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install and Operate**

**Permit Number:** P0104440

**Facility ID:** 0448010041

**Effective Date:** 6/23/2009

specifications or recommendations for installation, operation, and calibration of the system(s).

g) Miscellaneous Requirements

(1) None.



**2. P002, 3,000 gallon Chromium electroplating tank #7, controlled by a packed bed scrubber/composite mesh pad system**

**Operations, Property and/or Equipment Description:**

3,000 gallon chromium electroplating tank #7, controlled by a packed bed scrubber/composite mesh pad system

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. b)(1)d., b(2), c), d), f)(1)a., f)(1)b., f(2) & f)(3)

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 04-344, issued 9/17/1986)	Chromium emissions shall not exceed 0.036 ton/year.
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions (PE) shall not exceed 20% opacity as a six-minute average, unless otherwise specified by the rule.
c.	OAC rule 3745-17-11(B)(1)	PE shall not exceed 0.551 pound per hour.
d.	40 CFR 63, Subpart N	Total chromium emissions shall not exceed 0.03 mg/dscm (0.000013 gr/dscf). See b)(2)a. through b)(2)c.

(2) Additional Terms and Conditions

a. The application and enforcement of the provisions of the National Emission Standards for Hazardous Air Pollutants (NESHAPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 63, are delegated



to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 63 are also federally enforceable.

- b. The permittee, having a maximum potential cumulative rectifier capacity of 60 million ampere-hours per year or more, shall be considered a small hard chromium electroplating facility as long as the actual cumulative rectifier capacity is less than 60 million ampere-hours per year and the permittee has maintained and continues to maintain monthly records showing the actual ampere-hour usage for each 12-month rolling period (following the compliance date) to be less than 60 million ampere-hours and these records have been documented by using non-resettable ampere-hour meter(s).

If monthly records demonstrate that 60 million ampere-hours has been met or exceeded over any 12-month rolling period, the hard chromium electroplating tanks shall be subject to the emission limitation(s) applicable to those located at a large hard chromium electroplating facility.

- c. The permittee shall not allow the concentration of total chromium in the exhaust gas stream discharged from the open surface, hard chromium electroplating operation(s), P001, to exceed 0.03 mg/dscm ( $1.3 \times 10^{-5}$  gr/dscf). This limitation also applies during startup and shutdown operations, but not during periods of malfunction where work practice standards address and correct any malfunction event.

c) Operational Restrictions

- (1) The permittee shall implement the following operational, maintenance, and work practices standards for the chromium electroplating and anodizing tanks:

- a. At all times, including periods of startup, shutdown, and malfunction, the permittee shall operate and maintain the chromium electroplating or anodizing tank(s), including the associated air pollution control device(s) and monitoring equipment, in a manner consistent with the operation and maintenance plan required by these terms and conditions.

- b. Malfunctions shall be corrected as soon as practicable after their occurrence in accordance with the operation and maintenance plan.

- c. Determination of whether acceptable operation and maintenance procedures are being used shall be based on the facility records, which shall be made available to the Toledo Division of Environmental Services upon request, and which may include, but not be limited to: monitoring results; review of the operation and maintenance plan, procedures, and records; and inspection of the emissions unit. Based on this information, the Toledo Division of Environmental Services may require that the permittee make changes to the operation and maintenance plan if that plan:

- i. does not address a malfunction that has occurred;
- ii. fails to provide for the proper operation of the emissions unit, the air pollution control techniques, or the control system and process monitoring



- equipment during a malfunction in a manner consistent with good air pollution practices; or
- iii. does not provide adequate procedures for correcting malfunctioning process equipment, air pollution control equipment, and/or monitoring equipment as quickly as practicable.
  - d. The standards and limitations that apply to chromic acid baths shall not be met by using a reducing agent to change the form of chromium from hexavalent to trivalent.
- (2) The permittee shall prepare an operation and maintenance plan to be implemented no later than the startup of the unit or the compliance date. The plan shall include the following elements:
- a. The plan shall specify the operation and maintenance criteria for the affected source, the add-on air pollution control device, and the process and control system monitoring equipment, and shall include a standardized checklist to document the operation and maintenance of the equipment.
  - b. The plan shall incorporate the work practice standards for the add-on air pollution control device and monitoring equipment required to demonstrate compliance with the standard.
  - c. The plan shall specify procedures to be followed to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions do not occur.
  - d. The plan shall include a systematic procedure for identifying malfunctions of process equipment, add-on air pollution control device(s), and process and control system monitoring equipment, and for implementing corrective actions to address any malfunctions.
  - e. If the operation and maintenance plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time the plan is initially developed, the permittee shall revise the operation and maintenance plan within 45 days after such an event occurs. The revised plan shall include procedures for operating and maintaining the process equipment, add-on air pollution control device, or monitoring equipment during similar malfunction events, and a program for corrective action for such events.
  - f. If actions taken by the permittee during periods of malfunction are inconsistent with the procedures specified in the operation and maintenance plan, the permittee shall record the actions taken for that event and shall report such actions by phone to the Toledo Division of Environmental Services within 2 working days following the actions performed inconsistent with the plan. This verbal report shall be followed by a letter within 7 working days following the event, unless the permittee makes alternative reporting arrangements, in advance, with the Toledo Division of Environmental Services.
  - g. The permittee shall maintain the written operation and maintenance plan on record at the facility; and it shall be made readily available for inspection, at the





the date of inspection, a brief description of the working condition of the device during the inspection, and any actions taken to correct deficiencies found during the inspection;

- b. records of all maintenance performed on the emissions unit, add-on air pollution control device, and monitoring equipment;
- c. records of the occurrence, duration, and cause (if known) of each malfunction of process, add-on air pollution control device, and monitoring equipment;
- d. records of actions taken during periods of malfunction when such actions are inconsistent with the operation and maintenance plan;
- e. other records, which may take the form of checklists, necessary to demonstrate consistency with the provisions of the operation and maintenance plan;
- f. test reports documenting results of all performance tests;
- g. all measurements as may be necessary to determine the conditions of performance tests;
- h. records of monitoring data that are used to demonstrate compliance with the standard including the date and time the data are collected;
- i. the specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions, as indicated by monitoring data, that occurs during malfunction of the process, add-on air pollution control device, or monitoring equipment;
- j. the specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions, as indicated by monitoring data, that occurs during periods other than malfunction of the process, add-on air pollution control device, or monitoring equipment;
- k. the total process operating time of the emissions unit during the reporting period;
- l. all documentation supporting the notifications and reports as outlined in the "Reporting Requirements" section of this permit and the general reporting requirements in 40 CFR 63.9 and 40 CFR 63.10, from subpart A; and
- m. records of the actual cumulative rectifier capacity of hard chromium electroplating tanks expended during each month of the reporting period, and the total capacity expended to date for a reporting period.

All records shall be maintained for a period of five years.

- (2) The permittee shall perform the following monitoring and record keeping requirements in order to demonstrate compliance through the use of the composite mesh-pad system:
  - a. During the initial performance test, the permittee shall determine the outlet chromium concentration using the methods described in the "Testing Requirements" section of this permit. The pressure drop across the composite mesh-pad system shall be established as a site-specific operating parameter,



setting the value that corresponds to compliance with the applicable emission limitation, as established during performance testing.

- b. The permittee may conduct multiple performance tests to establish a range of compliant pressure drop values; or may set as the compliant value, the average pressure drop measured over the three test runs of one performance test and accept 1 inch of water column from this value as the compliant range.
- c. On and after the date on which the initial performance test is required to be completed under 40 CFR 63.7, the permittee shall monitor and record the pressure drop across the composite mesh-pad system once each day that the emissions unit is in operation. To be in compliance, the composite mesh-pad system shall be operated within 1 inch of water column of the pressure drop value established during compliance performance testing, or shall be operated within the range of compliant values for pressure drop established during multiple performance tests.
- d. The permittee may repeat the performance test, as above, and establish a new site-specific operating parameter for the pressure drop across the composite mesh-pad system if the following conditions are met:
  - i. the outlet chromium concentration is determined using the test methods and procedures in the "Testing Requirements" section of this permit;
  - ii. the site-specific operating parameter value is established using the procedures established in the "Testing Requirements" section of this permit;
  - iii. the record keeping requirements contained in this permit are met;
  - iv. the proper notification of the test date (at least 60 days before the test is scheduled) is provided to the Toledo Division of Environmental Services; and
  - v. the results of the performance test are submitted to the Toledo Division of Environmental Services, as required in the "Reporting Requirements" section of this permit.
- e. The requirement to operate the composite mesh-pad system within 1 inch of water column of the pressure drop value established during compliance performance testing does not apply during automatic washdown cycles of the composite mesh-pad system.

e) Reporting Requirements

- (1) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.



f) Testing Requirements

(1) Compliance with the emission limitation(s) in b) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:

20 percent opacity, as a six-minute average.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emissions limitation through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(1). Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

b. Emission Limitation:

PE shall not exceed 0.551 pound per hour.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emissions limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(10). Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

c. Emission Limitation:

The emissions of total chromium shall not exceed 0.03 mg/dscm ( $1.3 \times 10^{-5}$  gr/dscf).

Applicable Compliance Method:

Compliance shall be demonstrated based on the most recent stack test (0.0066 mg/dscm, tested 4/28/2009).

If required, the permittee shall demonstrate compliance with this emissions limitation through emission testing performed in accordance with Method 306 or Method 306A of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.  
Emission Limitation:

d. Chromium emissions shall not exceed 0.036 ton/year.

Applicable Compliance Method:

Compliance with this emissions limitation shall be established by a calculation based on the stack testing which demonstrated compliance with the emission limitation of f)(1)c., as follows: multiply the total chromium emissions (gr/dscf) by the volumetric flow rate determined ( dscf/min) by 60 minutes per hour, by the



maximum annual hours of operation (8760 hrs), and then divide by 2000 lbs/ton. Therefore, if continuous compliance is shown with the parametric monitoring parameters established during the stack testing, compliance shall also be shown with the annual emission limitation.

- (2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements, in order to demonstrate compliance with the chromium emission limitation contained in this permit:
  - a. The emission testing shall be conducted within 6 months of permit expiration.
  - b. One of the following test methods shall be employed to demonstrate compliance:
    - i. Method 306 or Method 306A, "Determination of Chromium Emissions From Decorative and Hard Chromium Electroplating and Anodizing Operations" shall be used to determine the chromium concentration from the electroplating or anodizing tank.
      - (a) The sampling time and sample volume for each run of Methods 306 and 306A shall be at least 120 minutes and 1.7 dscm (60 dscf), respectively.
      - (b) Methods 306 and 306A allow the measurement of either total chromium or hexavalent chromium emissions. Emissions units using chromic acid baths can demonstrate compliance with the emission limits by measuring either the total chromium or hexavalent chromium concentration. The hexavalent chromium concentration measured by these methods is equal to the total chromium concentration for the affected operations.
- (3) The permittee shall measure the pressure drop across the add-on air pollution control device in accordance with the following guidelines:
  - a. Specifications for differential pressure measurement devices used to measure pressure drop across a control system shall be in accordance with the manufacturer's accuracy specifications.
  - b. Pressure taps shall be installed at any of the following locations:
    - i. at the inlet and outlet of the control system (the inlet tap should be installed in the ductwork just prior to the control device and the corresponding outlet pressure tap should be installed on the outlet side of the control device prior to the blower or on the downstream side of the blower);
    - ii. on each side of the packed bed within the control system or on each side of each mesh pad within the control system; and
    - iii. on the front side of the first mesh pad and back side of the last mesh pad within the control system.



- c. Pressure taps shall be sited at locations that are:
    - i. as free from pluggage as possible and away from any flow disturbances such as cyclonic demisters; and
    - ii. situated such that no air infiltration at the measurement site will occur that could bias the measurement;
  - d. pressure taps shall be constructed of either polyethylene, polybutylene, or other nonreactive materials;
  - e. nonreactive plastic tubing shall be used to connect the pressure taps to the device used to measure pressure drop;
  - f. any of the following pressure gauges may be used to monitor pressure drop: a magnehelic gauge, an inclined manometer, or a "U" tube manometer;
  - g. prior to connecting any pressure lines to the pressure gauge(s), each gauge shall be zeroed (calibration of the pressure gauges is not required, with every required reading); and
  - h. all monitoring equipment shall be installed such that representative measurements of emissions or process parameters from the affected emissions unit are obtained. Verification of the operational status of the monitoring equipment shall include execution of the manufacturer's written accuracy specifications or recommendations for installation, operation, and calibration of the system(s).
- g) Miscellaneous Requirements
- (1) None.



**3. P003, Chromium electroplating tank #8, controlled by a packed bed scrubber/composite mesh pad system**

**Operations, Property and/or Equipment Description:**

chromium electroplating tank #8, controlled by a packed bed scrubber/composite mesh pad system

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. b)(1)d., b(2), c), d), f)(1)a., f)(1)b., f)(1)c., f)(1)d., f)(1)g., f(2) & f)(3)

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 04-543, issued 12/28/1989)	Chromium emissions shall not exceed 0.008 pound per hour and 0.02 ton/year.
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions (PE) shall not exceed 20% opacity as a six-minute average, unless otherwise specified by the rule.
c.	OAC rule 3745-17-11(B)(1)	PE shall not exceed 0.551 pound per hour.
d.	40 CFR 63, Subpart N	Chromium emissions shall not exceed 1.3 E -5 gr/dscf. See b)(2)a. through b)(2)c.

(2) Additional Terms and Conditions

a. The application and enforcement of the provisions of the National Emission Standards for Hazardous Air Pollutants (NESHAPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 63, are delegated



to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 63 are also federally enforceable.

- b. The permittee, having a maximum potential cumulative rectifier capacity of 60 million ampere-hours per year or more, shall be considered a small hard chromium electroplating facility as long as the actual cumulative rectifier capacity is less than 60 million ampere-hours per year and the permittee has maintained and continues to maintain monthly records showing the actual ampere-hour usage for each 12-month rolling period (following the compliance date) to be less than 60 million ampere-hours and these records have been documented by using non-resettable ampere-hour meter(s).

If monthly records demonstrate that 60 million ampere-hours has been met or exceeded over any 12-month rolling period, the hard chromium electroplating tanks shall be subject to the emission limitation(s) applicable to those located at a large hard chromium electroplating facility.

- c. The permittee shall not allow the concentration of total chromium in the exhaust gas stream discharged from the open surface, hard chromium electroplating operation(s), P001, to exceed 0.03 mg/dscm ( $1.3 \times 10^{-5}$  gr/dscf). This limitation also applies during startup and shutdown operations, but not during periods of malfunction where work practice standards address and correct any malfunction event.

c) Operational Restrictions

- (1) The permittee shall implement the following operational, maintenance, and work practices standards for the chromium electroplating and anodizing tanks:

- a. At all times, including periods of startup, shutdown, and malfunction, the permittee shall operate and maintain the chromium electroplating or anodizing tank(s), including the associated air pollution control device(s) and monitoring equipment, in a manner consistent with the operation and maintenance plan required by these terms and conditions.

- b. Malfunctions shall be corrected as soon as practicable after their occurrence in accordance with the operation and maintenance plan.

- c. Determination of whether acceptable operation and maintenance procedures are being used shall be based on the facility records, which shall be made available to the Toledo Division of Environmental Services upon request, and which may include, but not be limited to: monitoring results; review of the operation and maintenance plan, procedures, and records; and inspection of the emissions unit. Based on this information, the Toledo Division of Environmental Services may require that the permittee make changes to the operation and maintenance plan if that plan:

- i. does not address a malfunction that has occurred;
- ii. fails to provide for the proper operation of the emissions unit, the air pollution control techniques, or the control system and process monitoring



- equipment during a malfunction in a manner consistent with good air pollution practices; or
- iii. does not provide adequate procedures for correcting malfunctioning process equipment, air pollution control equipment, and/or monitoring equipment as quickly as practicable.
  - d. The standards and limitations that apply to chromic acid baths shall not be met by using a reducing agent to change the form of chromium from hexavalent to trivalent.
- (2) The permittee shall prepare an operation and maintenance plan to be implemented no later than the startup of the unit or the compliance date. The plan shall include the following elements:
- a. The plan shall specify the operation and maintenance criteria for the affected source, the add-on air pollution control device, and the process and control system monitoring equipment, and shall include a standardized checklist to document the operation and maintenance of the equipment.
  - b. The plan shall incorporate the work practice standards for the add-on air pollution control device and monitoring equipment required to demonstrate compliance with the standard.
  - c. The plan shall specify procedures to be followed to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions do not occur.
  - d. The plan shall include a systematic procedure for identifying malfunctions of process equipment, add-on air pollution control device(s), and process and control system monitoring equipment, and for implementing corrective actions to address any malfunctions.
  - e. If the operation and maintenance plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time the plan is initially developed, the permittee shall revise the operation and maintenance plan within 45 days after such an event occurs. The revised plan shall include procedures for operating and maintaining the process equipment, add-on air pollution control device, or monitoring equipment during similar malfunction events, and a program for corrective action for such events.
  - f. If actions taken by the permittee during periods of malfunction are inconsistent with the procedures specified in the operation and maintenance plan, the permittee shall record the actions taken for that event and shall report such actions by phone to the Toledo Division of Environmental Services within 2 working days following the actions performed inconsistent with the plan. This verbal report shall be followed by a letter within 7 working days following the event, unless the permittee makes alternative reporting arrangements, in advance, with the Toledo Division of Environmental Services.
  - g. The permittee shall maintain the written operation and maintenance plan on record at the facility; and it shall be made readily available for inspection, at the





work practice standards contained in this permit have been performed. The record can take the form of a checklist and should identify the device inspected, the date of inspection, a brief description of the working condition of the device during the inspection, and any actions taken to correct deficiencies found during the inspection;

- b. records of all maintenance performed on the emissions unit, add-on air pollution control device, and monitoring equipment;
- c. records of the occurrence, duration, and cause (if known) of each malfunction of process, add-on air pollution control device, and monitoring equipment;
- d. records of actions taken during periods of malfunction when such actions are inconsistent with the operation and maintenance plan;
- e. other records, which may take the form of checklists, necessary to demonstrate consistency with the provisions of the operation and maintenance plan;
- f. test reports documenting results of all performance tests;
- g. all measurements as may be necessary to determine the conditions of performance tests;
- h. records of monitoring data that are used to demonstrate compliance with the standard including the date and time the data are collected;
- i. the specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions, as indicated by monitoring data, that occurs during malfunction of the process, add-on air pollution control device, or monitoring equipment;
- j. the specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions, as indicated by monitoring data, that occurs during periods other than malfunction of the process, add-on air pollution control device, or monitoring equipment;
- k. the total process operating time of the emissions unit during the reporting period;
- l. all documentation supporting the notifications and reports as outlined in the "Reporting Requirements" section of this permit and the general reporting requirements in 40 CFR 63.9 and 40 CFR 63.10, from subpart A; and
- m. records of the actual cumulative rectifier capacity of hard chromium electroplating tanks expended during each month of the reporting period, and the total capacity expended to date for a reporting period.

All records shall be maintained for a period of five years.

- (2) The permittee shall perform the following monitoring and record keeping requirements in order to demonstrate compliance through the use of the composite mesh-pad system:
  - a. During the initial performance test, the permittee shall determine the outlet chromium concentration using the methods described in the "Testing



Requirements" section of this permit. The pressure drop across the composite mesh-pad system shall be established as a site-specific operating parameter, setting the value that corresponds to compliance with the applicable emission limitation, as established during performance testing.

- b. The permittee may conduct multiple performance tests to establish a range of compliant pressure drop values; or may set as the compliant value, the average pressure drop measured over the three test runs of one performance test and accept 1 inch of water column from this value as the compliant range.
- c. On and after the date on which the initial performance test is required to be completed under 40 CFR 63.7, the permittee shall monitor and record the pressure drop across the composite mesh-pad system once each day that the emissions unit is in operation. To be in compliance, the composite mesh-pad system shall be operated within 1 inch of water column of the pressure drop value established during compliance performance testing, or shall be operated within the range of compliant values for pressure drop established during multiple performance tests.
- d. The permittee may repeat the performance test, as above, and establish a new site-specific operating parameter for the pressure drop across the composite mesh-pad system if the following conditions are met:
  - i. the outlet chromium concentration is determined using the test methods and procedures in the "Testing Requirements" section of this permit;
  - ii. the site-specific operating parameter value is established using the procedures established in the "Testing Requirements" section of this permit;
  - iii. the record keeping requirements contained in this permit are met;
  - iv. the proper notification of the test date (at least 60 days before the test is scheduled) is provided to the Toledo Division of Environmental Services; and
  - v. the results of the performance test are submitted to the Toledo Division of Environmental Services, as required in the "Reporting Requirements" section of this permit.
- e. The requirement to operate the composite mesh-pad system within 1 inch of water column of the pressure drop value established during compliance performance testing does not apply during automatic washdown cycles of the composite mesh-pad system.

e) Reporting Requirements

- (1) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall



cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:

20 percent opacity, as a six-minute average.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emissions limitation through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(1). Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

b. Emission Limitation:

PE shall not exceed 0.551 pound per hour.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emissions limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(10). Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

c. Emission Limitation:

The emissions of total chromium shall not exceed 0.03 mg/dscm ( $1.3 \times 10^{-5}$  gr/dscf).

Applicable Compliance Method:

Compliance shall be demonstrated based on the most recent stack test (0.0077 mg/dscm, tested 4/28/2009).

If required, the permittee shall demonstrate compliance with this emissions limitation through emission testing performed in accordance with Method 306 or Method 306A of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

d. Emission Limitation:

Chromium emissions shall not exceed 0.008 pound per hour.



Applicable Compliance Method:

Compliance may be determined through calculations based on an emission factor provided by the U.S. EPA in 1989, as follows: multiply the emission factor of 10 mg/amp-hr by a maximum of 18,000 amps multiplied by a control efficiency (1-0.98) and divided by 1,000 mg/gram and divided by 454 grams/pound.

If required, the permittee shall demonstrate compliance with this emissions limitation through emission testing performed in accordance with Method 306 or 306A of 40 CFR Part 63. Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

e. Emission Limitation:

Chromium emissions shall not exceed 0.02 ton/year.

Applicable Compliance Method:

The 0.02 ton/yr emission limitation was developed by multiplying the 0.004 lb/hr emission limitation by 24 hours/day multiplied by 5 days/week multiplied by 52 weeks/year and dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

This emission limitation was developed by multiplying the hourly allowable particulate emission limitation (2.35 lbs/hr) by the maximum annual hours of operation (8760 hrs), and then dividing by 2000 lbs/ton. Therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements, in order to demonstrate compliance with the chromium emission limitation contained in this permit:

- a. The emission testing shall be conducted within 6 months of permit expiration.
- b. One of the following test methods shall be employed to demonstrate compliance:
  - i. Method 306 or Method 306A, "Determination of Chromium Emissions From Decorative and Hard Chromium Electroplating and Anodizing Operations" shall be used to determine the chromium concentration from the electroplating or anodizing tank.
    - (a) The sampling time and sample volume for each run of Methods 306 and 306A shall be at least 120 minutes and 1.7 dscm (60 dscf), respectively.
    - (b) Methods 306 and 306A allow the measurement of either total chromium or hexavalent chromium emissions. Emissions units using chromic acid baths can demonstrate compliance with the emission limits by measuring either the total chromium or hexavalent chromium concentration. The hexavalent chromium



concentration measured by these methods is equal to the total chromium concentration for the affected operations.

- (3) The permittee shall measure the pressure drop across the add-on air pollution control device in accordance with the following guidelines:
- a. Specifications for differential pressure measurement devices used to measure pressure drop across a control system shall be in accordance with the manufacturer's accuracy specifications.
  - b. Pressure taps shall be installed at any of the following locations:
    - i. at the inlet and outlet of the control system (the inlet tap should be installed in the ductwork just prior to the control device and the corresponding outlet pressure tap should be installed on the outlet side of the control device prior to the blower or on the downstream side of the blower);
    - ii. on each side of the packed bed within the control system or on each side of each mesh pad within the control system; and
    - iii. on the front side of the first mesh pad and back side of the last mesh pad within the control system.
  - c. Pressure taps shall be sited at locations that are:
    - i. as free from pluggage as possible and away from any flow disturbances such as cyclonic demisters; and
    - ii. situated such that no air infiltration at the measurement site will occur that could bias the measurement;
  - d. pressure taps shall be constructed of either polyethylene, polybutylene, or other nonreactive materials;
  - e. nonreactive plastic tubing shall be used to connect the pressure taps to the device used to measure pressure drop;
  - f. any of the following pressure gauges may be used to monitor pressure drop: a magnehelic gauge, an inclined manometer, or a "U" tube manometer;
  - g. prior to connecting any pressure lines to the pressure gauge(s), each gauge shall be zeroed (calibration of the pressure gauges is not required, with every required reading); and
  - h. all monitoring equipment shall be installed such that representative measurements of emissions or process parameters from the affected emissions unit are obtained. Verification of the operational status of the monitoring equipment shall include execution of the manufacturer's written accuracy specifications or recommendations for installation, operation, and calibration of the system(s).



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install and Operate**

**Permit Number:** P0104440

**Facility ID:** 0448010041

**Effective Date:** 6/23/2009

g) Miscellaneous Requirements

(1) None.



**4. P007, Lead Anode Melting Pot, with no controls**

**Operations, Property and/or Equipment Description:**

lead anode melting pot with no controls

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 04-712, issued 10/17/1991)	Lead emissions shall not exceed 0.004 lb/hr and 35 lb/yr, 0.0175 ton per year.
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions (PE) shall not exceed 20% opacity as a six-minute average, unless otherwise specified by the rule.
c.	OAC rule 3745-17-11(B)(1)	PE shall not exceed 0.551 pound per hour.

(2) Additional Terms and Conditions

a. The hourly and annual emissions limitations were established to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping, reporting requirements, and/or testing requirements to ensure compliance with these limitations.

c) Operational Restrictions

(1) None.



d) Monitoring and/or Recordkeeping Requirements

(1) None.

e) Reporting Requirements

(1) None.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:

Lead emissions shall not exceed 0.004 lb/hr.

Applicable Compliance Method:

Compliance was established by calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 12.15-2 dated 1/95, as follows: multiply the emission factor of 0.77 pound of lead per 1000 batteries by a maximum of 150 pounds of lead melted per hour divided by an average weight of 26 lbs per battery.

If required, the permittee shall demonstrate compliance with this emissions limitation through emission testing performed in accordance with Methods 1 through 4 and Method 12 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

b. Emission Limitation:

Lead emissions shall not exceed 35.0 lb/yr.

Applicable Compliance Method:

The 35.0 lb/yr emission limitation was developed by multiplying the 0.004 lb/hr emission limitation by 8,760 hours/year. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

c. Emission Limitation:

Lead emissions shall not exceed 0.0175 ton/yr.

Applicable Compliance Method:

The 0.0175 ton/yr emission limitation was developed by multiplying the 0.004 lb/hr emission limitation by 8,760 hours/year and dividing by 2,000 pounds/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.



d. Emission Limitation:

20 percent opacity, as a six-minute average.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emissions limitation through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(1). Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

e. Emission Limitation:

PE shall not exceed 0.551 pound per hour.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emissions limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(10). Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

g) Miscellaneous Requirements

(1) None.



**5. P008, Hard Chrome Plating Tank (V-09)**

**Operations, Property and/or Equipment Description:**

hard chrome plating tank (V09)

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. b)(1)d., b(2), c), d), f)(1)a., f)(1)d., f(2) & f)(3)

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 04-989, issued 2/14/1996)	Chromium emissions shall not exceed 1.5 E -3 ton per year. See b)(2)a.
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions (PE) shall not exceed 20% opacity as a six-minute average, unless otherwise specified by the rule.
c.	OAC rule 3745-17-11(B)(1)	PE shall not exceed 0.551 pound per hour.
d.	40 CFR 63, Subpart N	See b)(2)a. through b)(2)c.

(2) Additional Terms and Conditions

a. The application and enforcement of the provisions of the National Emission Standards for Hazardous Air Pollutants (NESHAPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 63, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 63 are also federally enforceable.



b. The permittee shall not allow the concentration of total chromium in the exhaust gas stream discharged from the open surface, hard chromium electroplating operation(s), P008, to exceed 0.015 mg/dscm ( $6.6 \times 10^{-6}$  gr/dscf). This limitation also applies during startup and shutdown operations, but not during periods of malfunction where work practice standards address and correct any malfunction event.

c. The permittee, having a maximum potential cumulative rectifier capacity of 60 million ampere-hours per year or more, shall be considered a small hard chromium electroplating facility as long as the actual cumulative rectifier capacity is less than 60 million ampere-hours per year and the permittee has maintained and continues to maintain monthly records showing the actual ampere-hour usage for each 12-month rolling period (following the compliance date) to be less than 60 million ampere-hours and these records have been documented by using non-resettable ampere-hour meter(s).

If monthly records demonstrate that 60 million ampere-hours has been met or exceeded over any 12-month rolling period, the hard chromium electroplating tanks shall be subject to the emission limitation(s) applicable to those located at a large hard chromium electroplating facility.

d. Permit to Install (PTI) No. 04-989, issued 2/14,1996, was appropriate to a maximum hard chrome plating rate of 0.5 pound of chrome per hour with an installed rectifier capacity of 2,000 amperes. Any modifications to the product description, current density, or to the rate of production, which may result in an increase in emissions must be reported to the Toledo Division of Environmental Services as required by OAC rule 3745-35.

c) Operational Restrictions

(1) The permittee shall implement the following operational, maintenance, and work practices standards for the chromium electroplating and anodizing tanks:

a. At all times, including periods of startup, shutdown, and malfunction, the permittee shall operate and maintain the chromium electroplating or anodizing tank(s), including the associated air pollution control device(s) and monitoring equipment, in a manner consistent with the operation and maintenance plan required by these terms and conditions.

b. Malfunctions shall be corrected as soon as practicable after their occurrence in accordance with the operation and maintenance plan.

c. Determination of whether acceptable operation and maintenance procedures are being used shall be based on the facility records, which shall be made available to the Toledo Division of Environmental Services upon request, and which may include, but not be limited to: monitoring results; review of the operation and maintenance plan, procedures, and records; and inspection of the emissions unit. Based on this information, the Toledo Division of Environmental Services may require that the permittee make changes to the operation and maintenance plan if that plan:

i. does not address a malfunction that has occurred;



- ii. fails to provide for the proper operation of the emissions unit, the air pollution control techniques, or the control system and process monitoring equipment during a malfunction in a manner consistent with good air pollution practices; or
    - iii. does not provide adequate procedures for correcting malfunctioning process equipment, air pollution control equipment, and/or monitoring equipment as quickly as practicable.
  - d. The standards and limitations that apply to chromic acid baths shall not be met by using a reducing agent to change the form of chromium from hexavalent to trivalent.
- (2) The permittee shall prepare an operation and maintenance plan to be implemented no later than the startup of the unit or the compliance date. The plan shall include the following elements:
  - a. The plan shall specify the operation and maintenance criteria for the affected source, the add-on air pollution control device, and the process and control system monitoring equipment, and shall include a standardized checklist to document the operation and maintenance of the equipment.
  - b. The plan shall incorporate the work practice standards for the add-on air pollution control device and monitoring equipment required to demonstrate compliance with the standard.
  - c. The plan shall specify procedures to be followed to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions do not occur.
  - d. The plan shall include a systematic procedure for identifying malfunctions of process equipment, add-on air pollution control device(s), and process and control system monitoring equipment, and for implementing corrective actions to address any malfunctions.
  - e. If the operation and maintenance plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time the plan is initially developed, the permittee shall revise the operation and maintenance plan within 45 days after such an event occurs. The revised plan shall include procedures for operating and maintaining the process equipment, add-on air pollution control device, or monitoring equipment during similar malfunction events, and a program for corrective action for such events.
  - f. If actions taken by the permittee during periods of malfunction are inconsistent with the procedures specified in the operation and maintenance plan, the permittee shall record the actions taken for that event and shall report such actions by phone to the Toledo Division of Environmental Services within 2 working days following the actions performed inconsistent with the plan. This verbal report shall be followed by a letter within 7 working days following the event, unless the permittee makes alternative reporting arrangements, in advance, with the Toledo Division of Environmental Services.





work practice standards contained in this permit have been performed. The record can take the form of a checklist and should identify the device inspected, the date of inspection, a brief description of the working condition of the device during the inspection, and any actions taken to correct deficiencies found during the inspection;

- b. records of all maintenance performed on the emissions unit, add-on air pollution control device, and monitoring equipment;
- c. records of the occurrence, duration, and cause (if known) of each malfunction of process, add-on air pollution control device, and monitoring equipment;
- d. records of actions taken during periods of malfunction when such actions are inconsistent with the operation and maintenance plan;
- e. other records, which may take the form of checklists, necessary to demonstrate consistency with the provisions of the operation and maintenance plan;
- f. test reports documenting results of all performance tests;
- g. all measurements as may be necessary to determine the conditions of performance tests;
- h. records of monitoring data that are used to demonstrate compliance with the standard including the date and time the data are collected;
- i. the specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions, as indicated by monitoring data, that occurs during malfunction of the process, add-on air pollution control device, or monitoring equipment;
- j. the specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions, as indicated by monitoring data, that occurs during periods other than malfunction of the process, add-on air pollution control device, or monitoring equipment;
- k. the total process operating time of the emissions unit during the reporting period;
- l. all documentation supporting the notifications and reports as outlined in the "Reporting Requirements" section of this permit and the general reporting requirements in 40 CFR 63.9 and 40 CFR 63.10, from subpart A; and
- m. records of the actual cumulative rectifier capacity of hard chromium electroplating tanks expended during each month of the reporting period, and the total capacity expended to date for a reporting period.

All records shall be maintained for a period of five years.

- (2) The permittee shall perform the following monitoring and record keeping requirements in order to demonstrate compliance through the use of the composite mesh-pad system:
  - a. During the initial performance test, the permittee shall determine the outlet chromium concentration using the methods described in the "Testing



Requirements" section of this permit. The pressure drop across the composite mesh-pad system shall be established as a site-specific operating parameter, setting the value that corresponds to compliance with the applicable emission limitation, as established during performance testing.

- b. The permittee may conduct multiple performance tests to establish a range of compliant pressure drop values; or may set as the compliant value, the average pressure drop measured over the three test runs of one performance test and accept 1 inch of water column from this value as the compliant range.
- c. On and after the date on which the initial performance test is required to be completed under 40 CFR 63.7, the permittee shall monitor and record the pressure drop across the composite mesh-pad system once each day that the emissions unit is in operation. To be in compliance, the composite mesh-pad system shall be operated within 1 inch of water column of the pressure drop value established during compliance performance testing, or shall be operated within the range of compliant values for pressure drop established during multiple performance tests.
- d. The permittee may repeat the performance test, as above, and establish a new site-specific operating parameter for the pressure drop across the composite mesh-pad system if the following conditions are met:
  - i. the outlet chromium concentration is determined using the test methods and procedures in the "Testing Requirements" section of this permit;
  - ii. the site-specific operating parameter value is established using the procedures established in the "Testing Requirements" section of this permit;
  - iii. the record keeping requirements contained in this permit are met;
  - iv. the proper notification of the test date (at least 60 days before the test is scheduled) is provided to the Toledo Division of Environmental Services; and
  - v. the results of the performance test are submitted to the Toledo Division of Environmental Services, as required in the "Reporting Requirements" section of this permit.
- e. The requirement to operate the composite mesh-pad system within 1 inch of water column of the pressure drop value established during compliance performance testing does not apply during automatic washdown cycles of the composite mesh-pad system.

e) Reporting Requirements

- (1) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall



cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:

The emissions of total chromium shall not exceed 0.03 mg/dscm ( $1.3 \times 10^{-5}$  gr/dscf).

Applicable Compliance Method:

Compliance shall be demonstrated based on the most recent stack test (0.0066 mg/dscm, tested 4/28/2009).

The  $1.5 \times 10^{-3}$  TPY emission limitation was developed by multiplying the  $6.6 \times 10^{-6}$  gr/dscf emissions rate by the maximum air flow rate multiplied by 8,760 hours/year and dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

b. Emission Limitation:

20 percent opacity, as a six-minute average.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emissions limitation through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(1). Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

c. Emission Limitation:

PE shall not exceed 0.551 pound per hour.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emissions limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(10). Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

d. Emission Limitation:

The emissions of chromium shall not exceed  $6.6 \times 10^{-6}$  gr/dscf



Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emissions limitation through emission testing performed in accordance with Method 306 or Method 306A of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

- (2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements, in order to demonstrate compliance with the chromium emission limitation contained in this permit:
  - a. The emission testing shall be conducted within 6 months of permit expiration.
  - b. One of the following test methods shall be employed to demonstrate compliance:
    - i. Method 306 or Method 306A, "Determination of Chromium Emissions From Decorative and Hard Chromium Electroplating and Anodizing Operations" shall be used to determine the chromium concentration from the electroplating or anodizing tank.
      - (a) The sampling time and sample volume for each run of Methods 306 and 306A shall be at least 120 minutes and 1.7 dscm (60 dscf), respectively.
    - ii. Methods 306 and 306A allow the measurement of either total chromium or hexavalent chromium emissions. Emissions units using chromic acid baths can demonstrate compliance with the emission limits by measuring either the total chromium or hexavalent chromium concentration. The hexavalent chromium concentration measured by these methods is equal to the total chromium concentration for the affected operations.
- (3) The permittee shall measure the pressure drop across the add-on air pollution control device in accordance with the following guidelines:
  - a. Specifications for differential pressure measurement devices used to measure pressure drop across a control system shall be in accordance with the manufacturer's accuracy specifications.
  - b. Pressure taps shall be installed at any of the following locations:
    - i. at the inlet and outlet of the control system (the inlet tap should be installed in the ductwork just prior to the control device and the corresponding outlet pressure tap should be installed on the outlet side of the control device prior to the blower or on the downstream side of the blower);
    - ii. on each side of the packed bed within the control system or on each side of each mesh pad within the control system; and
    - iii. on the front side of the first mesh pad and back side of the last mesh pad within the control system.



- c. Pressure taps shall be sited at locations that are:
    - i. as free from pluggage as possible and away from any flow disturbances such as cyclonic demisters; and
    - ii. situated such that no air infiltration at the measurement site will occur that could bias the measurement;
  - d. pressure taps shall be constructed of either polyethylene, polybutylene, or other nonreactive materials;
  - e. nonreactive plastic tubing shall be used to connect the pressure taps to the device used to measure pressure drop;
  - f. any of the following pressure gauges may be used to monitor pressure drop: a magnehelic gauge, an inclined manometer, or a "U" tube manometer;
  - g. prior to connecting any pressure lines to the pressure gauge(s), each gauge shall be zeroed (calibration of the pressure gauges is not required, with every required reading); and
  - h. all monitoring equipment shall be installed such that representative measurements of emissions or process parameters from the affected emissions unit are obtained. Verification of the operational status of the monitoring equipment shall include execution of the manufacturer's written accuracy specifications or recommendations for installation, operation, and calibration of the system(s).
- g) Miscellaneous Requirements
- (1) None.



**6. Emissions Unit Group - Tanks #10 through #14 -P011-P015: P011, P012, P013, P014, P015,**

<b>EU ID</b>	<b>Operations, Property and/or Equipment Description</b>
P011	hard chrome plating tank #10 controlled by a composite mesh pad system
P012	Hard chrome plating tank #11 controlled by a composite mesh pad system
P013	Hard chrome plating tank #12 controlled by a composite mesh pad system
P014	hard chrome plating tank #13 controlled by a composite mesh pad system
P015	hard chrome plating tank #14 controlled by a composite mesh pad system

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. b)(1)d., b(2), c), d), f)(1)a., f)(1)d., f)(2), f)(3) & f)(4)

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 04-01094, issued 2/4/1998)	Chromium emissions shall not exceed 4.4 E-3 ton per year combined for P011 through P015.
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions (PE) shall not exceed 20% opacity as a six-minute average, unless otherwise specified by the rule.
c.	OAC rule 3745-17-11(B)(1)	PE shall not exceed 0.551 pound per hour.
d.	40 CFR Part 63, Subpart N	See b)(2)a. through b)(2)c.

(2) Additional Terms and Conditions

a. The application and enforcement of the provisions of the National Emission Standards for Hazardous Air Pollutants (NESHAPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 63, are delegated



to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 63 are also federally enforceable.

- b. The permittee shall not allow the concentration of total chromium in the exhaust gas stream discharged from the open surface, hard chromium electroplating operation(s), P011-P015, to exceed 0.015 mg/dscm (6.6x10<sup>-6</sup> gr/dscf). This limitation also applies during startup and shutdown operations, but not during periods of malfunction where work practice standards address and correct any malfunction event.
- c. The permittee, having a maximum potential cumulative rectifier capacity of 60 million ampere-hours per year or more, shall be considered a small hard chromium electroplating facility as long as the actual cumulative rectifier capacity is less than 60 million ampere-hours per year and the permittee has maintained and continues to maintain monthly records showing the actual ampere-hour usage for each 12-month rolling period (following the compliance date) to be less than 60 million ampere-hours and these records have been documented by using non-resettable ampere-hour meter(s).

If monthly records demonstrate that 60 million ampere-hours has been met or exceeded over any 12-month rolling period, the hard chromium electroplating tanks shall be subject to the emission limitation(s) applicable to those located at a large hard chromium electroplating facility.

c) Operational Restrictions

- (1) The permittee shall implement the following operational, maintenance, and work practices standards for the chromium electroplating and anodizing tanks:
  - a. At all times, including periods of startup, shutdown, and malfunction, the permittee shall operate and maintain the chromium electroplating or anodizing tank(s), including the associated air pollution control device(s) and monitoring equipment, in a manner consistent with the operation and maintenance plan required by these terms and conditions.
  - b. Malfunctions shall be corrected as soon as practicable after their occurrence in accordance with the operation and maintenance plan.
  - c. Determination of whether acceptable operation and maintenance procedures are being used shall be based on the facility records, which shall be made available to the Toledo Division of Environmental Services upon request, and which may include, but not be limited to: monitoring results; review of the operation and maintenance plan, procedures, and records; and inspection of the emissions unit. Based on this information, the Toledo Division of Environmental Services may require that the permittee make changes to the operation and maintenance plan if that plan:
    - i. does not address a malfunction that has occurred;
    - ii. fails to provide for the proper operation of the emissions unit, the air pollution control techniques, or the control system and process monitoring



- equipment during a malfunction in a manner consistent with good air pollution practices; or
- iii. does not provide adequate procedures for correcting malfunctioning process equipment, air pollution control equipment, and/or monitoring equipment as quickly as practicable.
  - d. The standards and limitations that apply to chromic acid baths shall not be met by using a reducing agent to change the form of chromium from hexavalent to trivalent.
- (2) The permittee shall prepare an operation and maintenance plan to be implemented no later than the startup of the unit or the compliance date. The plan shall include the following elements:
- a. The plan shall specify the operation and maintenance criteria for the affected source, the add-on air pollution control device, and the process and control system monitoring equipment, and shall include a standardized checklist to document the operation and maintenance of the equipment.
  - b. The plan shall incorporate the work practice standards for the add-on air pollution control device and monitoring equipment required to demonstrate compliance with the standard.
  - c. The plan shall specify procedures to be followed to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions do not occur.
  - d. The plan shall include a systematic procedure for identifying malfunctions of process equipment, add-on air pollution control device(s), and process and control system monitoring equipment, and for implementing corrective actions to address any malfunctions.
  - e. If the operation and maintenance plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time the plan is initially developed, the permittee shall revise the operation and maintenance plan within 45 days after such an event occurs. The revised plan shall include procedures for operating and maintaining the process equipment, add-on air pollution control device, or monitoring equipment during similar malfunction events, and a program for corrective action for such events.
  - f. If actions taken by the permittee during periods of malfunction are inconsistent with the procedures specified in the operation and maintenance plan, the permittee shall record the actions taken for that event and shall report such actions by phone to the Toledo Division of Environmental Services within 2 working days following the actions performed inconsistent with the plan. This verbal report shall be followed by a letter within 7 working days following the event, unless the permittee makes alternative reporting arrangements, in advance, with the Toledo Division of Environmental Services.
  - g. The permittee shall maintain the written operation and maintenance plan on record at the facility; and it shall be made readily available for inspection, at the





the date of inspection, a brief description of the working condition of the device during the inspection, and any actions taken to correct deficiencies found during the inspection;

- b. records of all maintenance performed on the emissions unit, add-on air pollution control device, and monitoring equipment;
- c. records of the occurrence, duration, and cause (if known) of each malfunction of process, add-on air pollution control device, and monitoring equipment;
- d. records of actions taken during periods of malfunction when such actions are inconsistent with the operation and maintenance plan;
- e. other records, which may take the form of checklists, necessary to demonstrate consistency with the provisions of the operation and maintenance plan;
- f. test reports documenting results of all performance tests;
- g. all measurements as may be necessary to determine the conditions of performance tests;
- h. records of monitoring data that are used to demonstrate compliance with the standard including the date and time the data are collected;
- i. the specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions, as indicated by monitoring data, that occurs during malfunction of the process, add-on air pollution control device, or monitoring equipment;
- j. the specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions, as indicated by monitoring data, that occurs during periods other than malfunction of the process, add-on air pollution control device, or monitoring equipment;
- k. the total process operating time of the emissions unit during the reporting period;
- l. all documentation supporting the notifications and reports as outlined in the "Reporting Requirements" section of this permit and the general reporting requirements in 40 CFR 63.9 and 40 CFR 63.10, from subpart A; and
- m. records of the actual cumulative rectifier capacity of hard chromium electroplating tanks expended during each month of the reporting period, and the total capacity expended to date for a reporting period.

All records shall be maintained for a period of five years.

- (2) The permittee shall perform the following monitoring and record keeping requirements in order to demonstrate compliance through the use of the composite mesh-pad system:
  - a. During the initial performance test, the permittee shall determine the outlet chromium concentration using the methods described in the "Testing Requirements" section of this permit. The pressure drop across the composite mesh-pad system shall be established as a site-specific operating parameter,



setting the value that corresponds to compliance with the applicable emission limitation, as established during performance testing.

- b. The permittee may conduct multiple performance tests to establish a range of compliant pressure drop values; or may set as the compliant value, the average pressure drop measured over the three test runs of one performance test and accept 1 inch of water column from this value as the compliant range.
- c. On and after the date on which the initial performance test is required to be completed under 40 CFR 63.7, the permittee shall monitor and record the pressure drop across the composite mesh-pad system once each day that the emissions unit is in operation. To be in compliance, the composite mesh-pad system shall be operated within 1 inch of water column of the pressure drop value established during compliance performance testing, or shall be operated within the range of compliant values for pressure drop established during multiple performance tests.
- d. The permittee may repeat the performance test, as above, and establish a new site-specific operating parameter for the pressure drop across the composite mesh-pad system if the following conditions are met:
  - i. the outlet chromium concentration is determined using the test methods and procedures in the "Testing Requirements" section of this permit;
  - ii. the site-specific operating parameter value is established using the procedures established in the "Testing Requirements" section of this permit;
  - iii. the record keeping requirements contained in this permit are met;
  - iv. the proper notification of the test date (at least 60 days before the test is scheduled) is provided to the Toledo Division of Environmental Services; and
  - v. the results of the performance test are submitted to the Toledo Division of Environmental Services, as required in the "Reporting Requirements" section of this permit.
- e. The requirement to operate the composite mesh-pad system within 1 inch of water column of the pressure drop value established during compliance performance testing does not apply during automatic washdown cycles of the composite mesh-pad system.

e) Reporting Requirements

- (1) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.



f) Testing Requirements

(1) Compliance with the emission limitation(s) in b) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:

Chromium emissions shall not exceed 4.4 E-3 ton per year combined for P011 through P015.

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable chromium emission limitation (0.0000066 gr/dscf) by the maximum volumetric flow rate to the control device (18,000 cfm), by 60 min/hr and 8,760 hr/yr, and then dividing by 7,000 gr/lb and 2,000 lb/ton. Therefore, if compliance is shown with the allowable chromium emission limitation, compliance shall also be shown with the annual emission limitation.

b. Emission Limitation:

20 percent opacity, as a six-minute average.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emissions limitation through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(1). Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

c. Emission Limitation:

PE shall not exceed 0.551 pound per hour.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emissions limitation through emissions testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(10). Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

d. Emission Limitation:

Chromium emissions shall not exceed 6.6 E-6 gr/dscf (0.015 mg/dscm).

Applicable Compliance Method:

Compliance shall be demonstrated based on the most recent stack test (0.0049 mg/dscm, tested 4/28/2009).



If required, the permittee shall demonstrate compliance with this emissions limitation through emissions testing performed in accordance with Method 306 or Method 306A of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

- (2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements, in order to demonstrate compliance with the chromium emission limitation contained in this permit:
  - a. The emission testing shall be conducted within 6 months of permit expiration.
  - b. One of the following test methods shall be employed to demonstrate compliance:
    - i. Method 306 or Method 306A, "Determination of Chromium Emissions From Decorative and Hard Chromium Electroplating and Anodizing Operations" shall be used to determine the chromium concentration from the electroplating or anodizing tank.
      - (a) The sampling time and sample volume for each run of Methods 306 and 306A shall be at least 120 minutes and 1.7 dscm (60 dscf), respectively.
      - (b) Methods 306 and 306A allow the measurement of either total chromium or hexavalent chromium emissions. Emissions units using chromic acid baths can demonstrate compliance with the emission limits by measuring either the total chromium or hexavalent chromium concentration. The hexavalent chromium concentration measured by these methods is equal to the total chromium concentration for the affected operations.
- (3) The permittee shall measure the pressure drop across the add-on air pollution control device in accordance with the following guidelines:
  - a. Specifications for differential pressure measurement devices used to measure pressure drop across a control system shall be in accordance with the manufacturer's accuracy specifications.
  - b. Pressure taps shall be installed at any of the following locations:
    - i. at the inlet and outlet of the control system (the inlet tap should be installed in the ductwork just prior to the control device and the corresponding outlet pressure tap should be installed on the outlet side of the control device prior to the blower or on the downstream side of the blower);
    - ii. on each side of the packed bed within the control system or on each side of each mesh pad within the control system; and
    - iii. on the front side of the first mesh pad and back side of the last mesh pad within the control system.



- c. Pressure taps shall be sited at locations that are:
    - i. as free from pluggage as possible and away from any flow disturbances such as cyclonic demisters; and
    - ii. situated such that no air infiltration at the measurement site will occur that could bias the measurement;
  - d. pressure taps shall be constructed of either polyethylene, polybutylene, or other nonreactive materials;
  - e. nonreactive plastic tubing shall be used to connect the pressure taps to the device used to measure pressure drop;
  - f. any of the following pressure gauges may be used to monitor pressure drop: a magnehelic gauge, an inclined manometer, or a "U" tube manometer;
  - g. prior to connecting any pressure lines to the pressure gauge(s), each gauge shall be zeroed (calibration of the pressure gauges is not required, with every required reading); and
  - h. all monitoring equipment shall be installed such that representative measurements of emissions or process parameters from the affected emissions unit are obtained. Verification of the operational status of the monitoring equipment shall include execution of the manufacturer's written accuracy specifications or recommendations for installation, operation, and calibration of the system(s).
- (4) The composite mesh-pad system controls multiple affected emissions units, P011-P015, performing the same type of operation and subject to the same emission limitation, therefore the emission limitation of 6.6 E-6 gr/dscf must be met at the outlet of this control device regardless of the number of emissions units vented to the device.
- g) Miscellaneous Requirements
- (1) None.