



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

12/3/2015

JOHN TANKOVICH
DIAMOND HARD CHROME INC
6110 GRAND AVE
CLEVELAND, OH 44104

Certified Mail

No	TOXIC REVIEW
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
Yes	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MODELING SUBMITTED
No	SYNTHETIC MINOR TO AVOID TITLE V
No	FEDERALLY ENFORCABLE PTIO (FEPTIO)
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 1318008143
Permit Number: P0119438
Permit Type: Administrative Modification
County: Cuyahoga

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) 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. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

How to appeal this permit

The issuance of this PTIO is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
77 South High Street, 17th Floor
Columbus, OH 43215

How to save money, reduce pollution and reduce energy consumption

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: www.ohioairquality.org/clean_air

How to give us feedback on your permitting experience

Please complete a survey at www.epa.ohio.gov/survey.aspx and give us feedback on your permitting experience. We value your opinion.

How to get an electronic copy of your permit

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

If you have any questions, please contact Cleveland Division of Air Quality at (216)664-2297 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



Michael E. Hopkins, P.E.
Assistant Chief, Permitting Section, DAPC

Cc: CDAQ



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
DIAMOND HARD CHROME INC**

Facility ID:	1318008143
Permit Number:	P0119438
Permit Type:	Administrative Modification
Issued:	12/3/2015
Effective:	12/3/2015
Expiration:	11/10/2024



Division of Air Pollution Control
Permit-to-Install and Operate
for
DIAMOND HARD CHROME INC

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Final Permit-to-Install and Operate
DIAMOND HARD CHROME INC
Permit Number: P0119438
Facility ID: 1318008143
Effective Date: 12/3/2015

Authorization

Facility ID: 1318008143
Application Number(s): M0003561
Permit Number: P0119438
Permit Description: PTIO Administrative Modification to restrict the maximum rectifier capacity of P003, a hard chrome plating tank from 6,500 amperes (per Administrative Consent Order, EPA-5-14-113(a)-OH-02) to 4,500 amperes. This lowered capacity reflects the maximum rectifier capacity achieved during the February 19, 2015 performance test conducted on the stack serving P003. Although this permit will modify the terms and conditions for P003 only, because P001 - P007 had been grouped together in P0094916, all seven emissions units were included in this administrative modification.
Permit Type: Administrative Modification
Permit Fee: \$100.00
Issue Date: 12/3/2015
Effective Date: 12/3/2015
Expiration Date: 11/10/2024
Permit Evaluation Report (PER) Annual Date: Oct 1 - Sept 30, Due Nov 15

This document constitutes issuance to:

DIAMOND HARD CHROME INC
6110 GRAND AVE
Cleveland, OH 44104

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

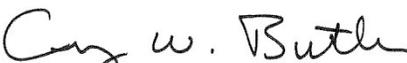
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Cleveland Division of Air Quality
2nd Floor
75 Erieview Plaza
Cleveland, OH 44114
(216)664-2297

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


Craig W. Butler
Director



Authorization (continued)

Permit Number: P0119438

Permit Description: PTIO Administrative Modification to restrict the maximum rectifier capacity of P003, a hard chrome plating tank from 6,500 amperes (per Administrative Consent Order, EPA-5-14-113(a)-OH-02) to 4,500 amperes. This lowered capacity reflects the maximum rectifier capacity achieved during the February 19, 2015 performance test conducted on the stack serving P003. Although this permit will modify the terms and conditions for P003 only, because P001 - P007 had been grouped together in P0094916, all seven emissions units were included in this administrative modification.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

Group Name: Hard Chrome Electroplating Lines

Emissions Unit ID:	P001
Company Equipment ID:	1-2100 gal chromic acid tank and 1 1050 gal water rinse
Superseded Permit Number:	P0094916
General Permit Category andType:	Not Applicable
Emissions Unit ID:	P002
Company Equipment ID:	Hard chrome plating line#2
Superseded Permit Number:	P0094916
General Permit Category andType:	Not Applicable
Emissions Unit ID:	P003
Company Equipment ID:	Hard Chrome Plating Line #3
Superseded Permit Number:	P0094916
General Permit Category andType:	Not Applicable
Emissions Unit ID:	P004
Company Equipment ID:	Hard Chrome Plating Line #4
Superseded Permit Number:	P0094916
General Permit Category andType:	Not Applicable
Emissions Unit ID:	P005
Company Equipment ID:	Hard Chrome Plating Line #5
Superseded Permit Number:	P0094916
General Permit Category andType:	Not Applicable
Emissions Unit ID:	P006
Company Equipment ID:	Hard Chrome Plating Line #6
Superseded Permit Number:	P0094916
General Permit Category andType:	Not Applicable
Emissions Unit ID:	P007
Company Equipment ID:	Hard Chrome Plating Line #7
Superseded Permit Number:	P0094916
General Permit Category andType:	Not Applicable



Final Permit-to-Install and Operate
DIAMOND HARD CHROME INC
Permit Number: P0119438
Facility ID: 1318008143
Effective Date: 12/3/2015

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 of this permit 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 [DO/LAA] 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.

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.



Final Permit-to-Install and Operate
DIAMOND HARD CHROME INC
Permit Number: P0119438
Facility ID: 1318008143
Effective Date: 12/3/2015

B. Facility-Wide Terms and Conditions

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) B.2.
2. The following emissions units contained in this permit to 40 CFR Part 63, Subpart N, National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks: P001, P002, P003, P004, P005, P006, and P007. The complete NESHAP requirements, including the Subpart A General Provisions, may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website at <http://ecfr.gpoaccess.gov> or by contacting the Cleveland Division of Air Quality (CDAQ).

The permittee must comply with all applicable requirements of 40 CFR Part 63, Subpart N. The permittee shall also comply with all applicable requirements of 40 CFR Part 63, Subpart N (General Provisions) as identified in Table 1 of 40 CFR Part 63, Subpart N. Compliance with all applicable requirements shall be achieved by the dates set forth in 40 CFR Part 63, Subpart N, and Subpart A.

Diamond Hard Chrome and U.S. EPA have agreed to an administrative order that includes operational requirements consistent with those in this permit. The operational limitations, pressure drop range established during performance testing, record keeping, and monitoring requirements are incorporated as federally enforceable limitations.

Emissions testing has been conducted to show compliance with the 0.011 mg/dscm chromium limit in Subpart N at Scrubber #1 outlet, Scrubber #2 outlet, and Scrubber #3 outlet servicing the open top hard chromium electroplating tanks.



Final Permit-to-Install and Operate
DIAMOND HARD CHROME INC
Permit Number: P0119438
Facility ID: 1318008143
Effective Date: 12/3/2015

C. Emissions Unit Terms and Conditions

1. Emissions Unit Group - Hard Chrome Electroplating Lines: P001, P002, P003, P004, P005, P006, P007.

EU ID	Operations, Property and/or Equipment Description
P001	Hard Chrome Plating Line # 1 with a restricted capacity of 6,000 amps. Controlled with packed bed scrubber and composite meshpad system.
P002	Hard Chrome Plating Line # 2 with a restricted capacity of 9,000 amps. Controlled with packed bed scrubber and composite meshpad system.
P003	Hard Chrome Plating Line # 3 with a restricted capacity of 4,500 amps. Controlled with packed bed scrubber and composite meshpad system.
P004	Hard Chrome Plating Line # 4 with a restricted capacity of 4,500 amps. Controlled with packed bed scrubber and composite meshpad system.
P005	Hard Chrome Plating Line # 5 with a restricted capacity of 4,000 amps. Controlled with packed bed scrubber and composite meshpad system.
P006	Hard Chrome Plating Line # 6 with a restricted capacity of 10,500 amps. Controlled with packed bed scrubber and composite meshpad system. A small portable tank containing porous pots is occasionally used alongside this plating line.
P007	Hard Chrome Plating Line # 7 with a restricted capacity of 9,500 amps. Controlled with packed bed scrubber and composite meshpad system. A small portable tank containing porous pots is occasionally used alongside this plating line.

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 operation(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 are identified below. 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 P0094916 issued on 11/10/2014.	Chromium emissions shall not exceed 0.00072 lb/hr and 0.0032 ton/yr from each emissions unit. The requirements of this rule include compliance with 40 CFR Part 63 Subpart N.
b.	OAC rule 3745-17-07(A)	Visible particulate emissions from each stack shall not exceed 20% opacity as a six-minute average.
c.	OAC rule 3745-17-11	The particulate emission limit specified by this rule is less stringent than the emission limit established by 40 CFR Part 63, Subpart N.
d.	40 CFR Part 63, Subpart N [In accordance with 40 CFR 63.340 these emissions units are existing hard chrome electroplating tanks located at a large hard chromium electroplating facility subject to the emissions limitations/control measures specified in this section.]	Chromium emissions shall not exceed 0.011 mg/dscm (4.8×10^{-6} gr/dscf) from the outlet of each control device serving these emissions units. See section B.2. See b)(2)a. below.
e.	40 CFR 63.1-16	Appendix B to Subpart N of 40 CFR Part 63 – Applicability of General Provisions to Subpart N shows which parts of the General Provisions in 40 CFR 63.1-16 apply.

(2) Additional Terms and Conditions

- a. As of 9/21/15 perfluorooctane sulfonic acid (PFOS)-based fume suppressants (containing 1% or greater PFOS by weight) shall not be used in open surface, hard chromium electroplating tanks.
- b. Per paragraph 45 of the Administrative Consent Order, the permittee shall achieve, demonstrate, and maintain continuous compliance with the 0.011 mg/dscm emission limit for large, hard chromium electroplating facilities in 40 CFR Part 63 Subpart N, no later than September 19, 2014.
- c. Per paragraph 46 of the Administrative Consent Order, the permittee shall achieve compliance with the limit in b)(2)b. at Scrubber #1 outlet, Scrubber #2

outlet, and Scrubber #3 outlet servicing the permittee's open top hard chromium electroplating tanks.

c) Operational Restrictions

- (1) Per paragraph 48 of the Administrative Consent Order, the operation of each emissions unit shall not exceed the following restricted rectifier capacities:

P001	6,000 amps
P002	9,000 amps
P004	4,500 amps
P005	4,000 amps
P006	10,500 amps
P007	9,500 amps

- (2) Per paragraph 48 of the Administrative Consent Order, the operation of each emissions unit shall not exceed the following restricted rectifier capacities:

P001	52,560,000 amp-hrs/12-month rolling period
P002	78,840,000 amp-hrs/12-month rolling period
P003	39,420,000 amp-hrs/12-month rolling period, see c)(3) below
P004	39,420,000 amp-hrs/12-month rolling period
P005	35,040,000 amp-hrs/12-month rolling period
P006	91,980,000 amp-hrs/12-month rolling period
P007	83,220,000 amp-hrs/12-month rolling period

The above operational limitations shall be achieved by using limiters, non-resettable ampere-hour meters, or other means which physically limit the total ampere-hour usage.

- (3) Per the most recent stack test, conducted on February 19, 2015, the maximum rectifier capacity for P003 has been further reduced from 6,500 amps and 56,940,000 amp-hrs/12-month rolling period, required by the Administrative Consent Order, to 4,500 amps and 39,420,000 amp-hrs/12-month rolling period.
- (4) Per paragraph 47 of the Administrative Consent Order, the permittee shall continuously maintain and operate the existing control systems on all seven of the open top hard chromium electroplating tanks as well as the upgrades it made to existing control equipment on Tanks 6 and 7 to ensure emissions of total chromium are reduced and maintained at or below the 0.011 mg/dscm emission limit. Control equipment upgrades which must be continuously maintained and operated include;
- a. the existing mesh pad mist eliminators on Tanks 1, 2, 3, 4, and 5;
 - b. the existing packed bed scrubbers on Stacks 1 and 2;

- c. the redesigned and rebuilt mesh pad mist eliminator with the new tri-mesh pads on Tank 6;
- d. the second redesigned and rebuilt mesh pad mist eliminator with the new tri-mesh pads added to Tank 6;
- e. the two redesigned and rebuilt mesh pad mist eliminators with the new tri-mesh pad on Tank 7 (first floor); and
- f. the two existing mesh pad mist eliminators on Tank 7 (second floor).

Nothing in this paragraph prohibits the permittee from implementing additional upgrades to existing or upgraded mesh pad mist eliminators or packed bed scrubbers to further reduce total chromium emissions below the 0.011 mg/dscm emission limit.

- (5) The permittee shall implement the following operational, maintenance, and work practices standards for the chromium electroplating and anodizing tanks, excluding those using a trivalent chromium bath containing a wetting agent as a component ingredient in the bath:
 - 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 good air pollution control practices.
 - b. Malfunctions shall be corrected as soon as practicable after their occurrence.
 - c. The 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 Cleveland Division of Air Quality (Cleveland DAQ) upon request, and which may include, but not be limited to: monitoring results; review of the operation and maintenance plan, operational procedures, and records; and inspection of the tank(s). Based on this information, the regulating agency may require the permittee to make changes to the operation and maintenance plan if the plan:
 - i. does not address a malfunction that has occurred;
 - ii. fails to provide for the proper operation of the tank(s), 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.

- e. These operation and maintenance standards are enforceable independent of the emission standards.
- (6) 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 operation and maintenance practices for the add-on air pollution control device(s) and monitoring equipment as identified in Table 1 to Subpart N; or if the equipment is not identified in Table 1, the operation and maintenance plan shall incorporate operation and maintenance practices.
 - 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. The plan shall include housekeeping procedures as specified in Table 2 to Subpart N.
 - f. 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.
 - g. 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 Cleveland DAQ 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 regulating agency.
 - h. 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 regulating agency and for the life of the tank(s). If the operation and maintenance plan is revised, the permittee shall maintain previous versions of the plan at the facility for a period of 5 years following each revision; the

superseded version(s) of the plan shall also be made available for inspection, if so requested by the regulating agency.

- i. The permittee may use applicable standard operating procedure (SOP) manuals, Occupational Safety and Health Administration (OSHA) plans, or other existing plans to meet the operation and maintenance plan requirements, as long as the alternative plans meet the requirements of 40 CFR 63.342(f)(3).
- (7) The operation and maintenance plan shall incorporate the following work practice standards for the packed-bed scrubber and composite mesh-pad system control; the plan shall provide procedures for:
- a. quarterly visual inspections of the composite mesh-pad systems to ensure there is proper drainage, no chronic acid buildup on the pads, and no evidence of chemical attack on the structural integrity of the system;
 - b. quarterly visual inspections of the back portion of the mesh pad closest to the fan and to ensure there is no breakthrough of chromic acid mist;
 - c. quarterly visual inspections of the ductwork from tank to the composite mesh-pad systems to ensure there are no leaks; and
 - d. washdown of the composite mesh-pads in accordance with manufacturer's recommendations.
- (8) In accordance with 40 CFR Part 63.343(c)(1)(ii), the composite meshpad system shall be operated with pressure drops within +/- 2 inches of water column of the pressure drop values established during the most recent stack test that demonstrated compliance.
- (9) The permittee shall comply with the applicable operational restrictions and requirements under 40 CFR, Part 63 Subpart N, including the following sections:

63.342(b)	Applicability of emissions limitations.
63.342(c)(1)(i)	Total chromium concentration in exhaust gas stream limit for existing effected sources located at large hard chromium electroplating facilities.
63.342(f)	Operation and maintenance practices and plan requirements, including requirements identified in Table 1 of §63.342.
63.342(g)	Chromic acid baths shall not be reduced from hexavalent to trivalent.

d) **Monitoring and/or Recordkeeping Requirements**

- (1) The permittee shall maintain daily records of the rectifier output amps achieved by each emissions unit after reaching operational conditions.
- (2) Per paragraph 53 of the Administrative Consent Order, the permittee shall install, calibrate, maintain, and continuously operate a parametric monitoring system capable of

continuously monitoring and recording pressure drop across the entire control system (mesh pads and scrubber) on each of the three control devices. Each parametric monitoring system must be capable of continuously measuring and recording pressure drop across the entire control system at least once every 15 minutes.

- (3) Per paragraph 54 of the Administrative Consent Order, in lieu of the continuous monitoring required in d)(2) above, the permittee may develop an alternative parametric monitoring program for pressure drop which utilizes its existing pressure drop monitors. Any alternative parametric monitoring program must include monitoring more frequently than once daily as well as clear record keeping and reporting requirements. The proposed alternative monitoring program must be submitted to U.S. EPA for review and approval prior to full implementation. Any approved alternative monitoring plan must be incorporated into the permit as federally enforceable requirements.
- (4) Per paragraph 55 of the Administrative Consent Order, the permittee must install, certify, maintain, and continuously operate a parametric monitoring system for ampere-hour usage on each of the seven open top hard chromium electroplating tanks. Each parametric monitoring system must be capable of continuously measuring and recording the actual ampere-hour usage of each tank (in ampere-hours) at least once every 15 minutes.
- (5) Per paragraph 56 of the Administrative Consent Order, in lieu of the continuous monitoring required in d)(4) above, the permittee may develop and propose an alternative parametric monitoring program which utilizes its existing systems capable of measuring ampere-hour usage or other methods which can clearly document actual ampere-hour usage over a rolling 12-month period. Any alternative parametric monitoring program must include a method that allows direct calculation of a 12-month rolling average usage rate as well as clear record keeping and reporting requirements. The proposed alternative monitoring program must be submitted to U.S. EPA for review and approval prior to full implementation. Any approved alternative monitoring plan must be incorporated into the permit as federally enforceable requirements.
- (6) Per paragraph 57 of the Administrative Consent Order, the permittee shall maintain all applicable records as required by 40 CFR §63.10(b)(1-2) and (c) as well as 40 CFR Part 63, Subpart N.
- (7) Per paragraph 58 of the Administrative Consent Order, the permittee shall maintain all records of pressure drop across each of the three control device systems (mesh pads and scrubbers) in written or electronic format. If the permittee elects to comply with the continuous monitoring requirements, these records must be obtained at least once every 15 minutes and summarized on an hourly basis for all hours (or partial hours) each control device is operating. Record keeping under a proposed and approved alternative monitoring program for pressure drop must be maintained in written or electronic format, readily available for review, and provide all information necessary to evaluate and assure ongoing compliance with applicable limits.
- (8) Per paragraph 59 of the Administrative Consent Order, the permittee shall maintain records of the periods of time each of the seven open top hard chromium electroplating tanks are operated. These records must be obtained daily for each of the open top hard chromium electroplating tanks.

- (9) Per paragraph 60 of the Administrative Consent Order, the permittee shall maintain records of the actual ampere-hour usage, for each of the seven hard chromium electroplating tanks, in written or electronic format. If the permittee elects to comply with the continuous monitoring requirements, these records must be obtained at least once every 15 minutes and summarized on a daily basis for all hours (or partial hours) each of the seven tanks is operating. Record keeping under a proposed and approved alternative monitoring program for ampere-hour usage must be maintained in written or electronic format, readily available for review, and provide all information necessary to evaluate and assure ongoing compliance with applicable limits.
- (10) Per paragraph 61 of the Administrative Consent Order, all records must be maintained in a reviewable form for a minimum of five years. The most recent two years of records must be maintained on site and readily available for review upon request.
- (11) In addition to fulfilling all record keeping requirements contained in the General Provisions to 40 CFR Part 63, Subpart A, as they apply to the chromium electroplating tank(s), the permittee shall also maintain the following records:
- a. inspection records for the add-on air pollution control device and monitoring equipment, to document that the inspection and maintenance required by the work practice standards of 40 CFR 63.342(f) and Table 1 of 40 CFR 63.342 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 tank(s), add-on air pollution control device, and monitoring equipment, except routine housekeeping practices;
 - 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 to minimize emissions in accordance with 40 CFR 63.342(a)(1), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation;
 - e. other records, which may take the form of checklists, necessary to demonstrate consistency with the provisions of the operation and maintenance plan required by 40 CFR 63.342(f)(3);
 - f. test reports documenting results of all performance tests;
 - g. all measurements as may be necessary to determine the conditions of performance tests, including measurements necessary to determine compliance for multiple sources controlled by a common add-on air pollution control device in accordance with the special compliance procedures of 40 CFR 63.344(e);

- h. records of monitoring data, required by 40 CFR 63.343(c) 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 chromium electroplating tank(s) during the reporting period; and
 - 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 40 CFR 63.347.
- (12) The permittee shall perform the following monitoring and record keeping requirements for a composite mesh-pad system, in order to demonstrate compliance using a packed bed scrubber in conjunction with a composite mesh-pad system:
- a. During the initial performance test, the permittee shall determine the outlet chromium concentration using Methods 306 or 306A from Appendix A of Part 63 or The California Air Resources Board (CARB) Method 425. 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 using the procedures in 40 CFR 63.344(d)(5).
 - 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 ± 2 inches of water column from this value as the compliant range; or the permittee may install a continuous pressure monitoring system as allowed per 40 CFR 63.343(c).
 - 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 tank(s) is/are in operation; or the permittee may install a continuous pressure monitoring system as allowed per 40 CFR 63.343(c). To be in compliance, the composite mesh-pad system shall be operated within ± 2 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 Methods 306 or 306A from Appendix A of Part 63 or The California Air Resources Board (CARB) Method 425 and in accordance with the procedures identified in 40 CFR 63.344(c);
 - ii. the site-specific operating parameter value is established using the procedures established in 40 CFR 63.344(d)(5);
 - iii. the recordkeeping requirements contained in 40 CFR 63.346(b)(6) through (8) are met;
 - iv. the reporting requirements of 40 CFR 63.347(d) and (f) are met;
 - v. the proper notification of the test date (at least 60 days before the test is scheduled) is provided to the Cleveland DAQ; and
 - vi. the results of the performance test are submitted to the regulating agency, as required in the "Reporting Requirements" section of this permit.
- e. The requirement to operate the composite mesh-pad system within ± 2 inches of water column of the pressure drop value or range established during compliance performance testing does not apply during automatic washdown cycles of the composite mesh-pad system.

(13) The permittee shall comply with the applicable monitoring and record keeping requirements under 40 CFR, Part 63 Subpart N, including the following sections:

63.343(a)	Compliance dates.
63.343(b)	Methods to demonstrate initial compliance.
63.343(c)	Monitoring and recording pressure drop to demonstrate continuous compliance.
63.346(a)	Fulfill all record keeping requirements identified in Subpart N including the applicable portions of Subpart A.
63.346(b)	Maintain required records.
63.346(c)	Shall maintain records for a period of 5 years in accordance with §63.10(b)(1).
Table 1 to §63.342	Summary of operation and maintenance practices.

e) Reporting Requirements

- (1) Per paragraph 62 of the Administrative Consent Order, the permittee shall submit quarterly reports to U.S. EPA for review and evaluation of compliance. The quarterly reports must include, at a minimum, applicable information required by 40 CFR §63.10(d) and (e), 40 CFR Part 63, Subpart N, and the Administrative Consent Order.
- (2) Per paragraph 63 of the Administrative Consent Order, the permittee shall submit quarterly reports which identify each hour (or partial hour) when the pressure drop falls outside the pressure drop range. This report must include any period when one or more tanks associated with the respective control device system is operating, including periods of process unit start up, shutdown, and malfunction. This report must include, at minimum, the following information:
 - a. the date of each period when the pressure drop falls outside the established pressure drop range;
 - b. the time (beginning and end time) of each period when the pressure drop falls outside of the established pressure drop range;
 - c. the actual pressure drop measured each periods when the pressure drop falls outside the established pressure drop range;
 - d. the cause of each period when the pressure drop falls outside the established pressure drop range; and
 - e. the corrective action(s) taken or preventative measure(s) adopted to prevent the pressure drop from falling outside the established pressure drop range in the future.
- (3) Per paragraph 64 of the Administrative Consent Order, the permittee shall submit quarterly reports which identify the total hours of operation and the total actual ampere-hour usage of each of the seven open top hard chromium electroplating tanks. This report must summarize the information on a monthly basis for the first four quarterly reports (the first 12 months of operating the parametric monitoring systems). Each quarterly report thereafter must summarize the total hours of operation and the actual ampere-hour usage of each electroplating tank on a monthly and 12-month rolling average basis.
- (4) Per paragraph 65 of the Administrative Consent Order, the permittee may submit a single quarterly report for each reporting quarter which covers all the requirements above.
- (5) Per paragraph 66 of the Administrative Consent Order, the time frame covered by the quarterly reports is January – March, April – June, July – September, and October – December of the respective calendar year. The first quarterly report will be for October – December, 2014, and due by January 30, 2015.

(6) Per paragraph 67 of the Administrative Consent Order, the permittee shall submit each quarterly report no later than 30 days after the end of the reporting quarter, (January 30th, April 30th, July 30th, and October 30th).

(7) Per paragraph 73 of the Administrative Consent Order, the permittee shall send all reports to:

Attention: Compliance Tracker (AE-17J)
Air Enforcement and Compliance Assurance Branch
U.S. Environmental Protection Agency, Region 5
77 W. Jackson Boulevard
Chicago, Illinois 60604

and

Cleveland Division of Air Quality
75 Erieview Plaza, 2nd Floor
Cleveland, Ohio 44114-1839

(8) The permittee shall submit an annual Permit Evaluation Report (PER) to the Cleveland DAQ 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.

(9) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the Cleveland DAQ.

(10) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the composite mesh-pad system during the 12-month reporting period for this/these emissions unit(s):

a. each period of time (start time and date, and end time and date) when the pressure drop was outside of the appropriate range or exceeded the applicable limit contained in this permit;

b. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the composite mesh-pad system;

c. each incident of deviation described in "a" or "b" (above) where a prompt investigation was not conducted;

d. each incident of deviation described in "a" or "b" where prompt corrective action, that would bring the pressure drop into compliance with the appropriate range or limit contained in this permit, was determined to be necessary and was not taken;
and

- e. each incident of deviation described in “a” or “b” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.
- (11) The permittee shall include in the annual PER any exceedance of the restricted rectifier output for each individual emissions unit.
- (12) The permittee shall submit a “Notification of Compliance Status Report” to the Cleveland DAQ, signed by the responsible official who shall certify its accuracy, attesting to whether the affected chromium electroplating tank(s) is/are in compliance. The notification shall include the following information for each chromium electroplating tank subject to the NESHP:
- a. the applicable emission limitation and the methods that were used to determine compliance with this limitation;
 - b. the test report, documenting the results of the performance test and including the following elements:
 - i. a brief description of the process;
 - ii. a description of the sampling location(s);
 - iii. a description of sampling and analytical procedures and any modifications to the standard procedures;
 - iv. the test results;
 - v. quality assurance procedures and results;
 - vi. records of operating conditions during the test, preparation of standards, and calibration procedures;
 - vii. raw data sheets for field sampling and field and laboratory analyses;
 - viii. documentation of calculations; and
 - ix. any other information required by the test method.
 - c. if multiple emissions units are controlled by a common add-on air pollution control device, the calculations used to demonstrate compliance for multiple sources controlled by a common add-on air pollution control device, i.e., the type and quantity of hazardous air pollutants emitted by each emission unit, using the special provisions of 40 CFR 63.344(e), reported in mg/dscm or mg/hr.
- (13) The permittee, qualifying as an area source, shall prepare an annual “Summary Report” (“Ongoing Compliance Status Report”) to document ongoing compliance. The “Summary Report” shall be maintained onsite and made available to the Cleveland DAQ upon request. This report shall include the following:
- a. the company name and address of the chromium electroplating tank(s);

- b. a description of the source, type of process performed, and the air pollution control method and monitoring device(s) that is/are/shall be used to demonstrate continuous compliance;
- c. an identification of the operating parameter(s) that is/are/shall be monitored for compliance determination;
- d. the relevant emission limitation for the tank(s), and the operating parameter value(s), or range of values, established during compliance testing and reported in the notification of compliance status report(s);
- e. the beginning and ending dates of the reporting period;
- f. the total operating time of the chromium electroplating tank(s) during the reporting period;
- g. a summary of operating parameter values, including the total duration of excess emissions during the reporting period as indicated by those values, the total duration of excess emissions expressed as a percent of the total operating time during that reporting period; and a breakdown of the total duration of excess emissions during the reporting period into those that are due to process upsets, control equipment malfunctions, other known causes, and unknown causes;
- h. a certification by a responsible official that the work practice standards in this permit were followed in accordance with the operation and maintenance plan for the tank(s);
- i. if the operation and maintenance plan required by this permit was not followed, an explanation of the reasons for not following the provisions, an assessment of whether any excess emission and/or parameter monitoring exceedances are believed to have occurred, and a copy of the reports required by the work practices in this permit;
- j. a description of any changes in monitoring, processes, or controls since the last reporting period;
- k. the number and duration and a brief description of each type of malfunction that occurred during the reporting period and which caused or may have caused an exceedance of any applicable emission limitation; and a description of actions taken by the permittee to minimize emissions in accordance with 40 CFR 63.342(a)(1) and correct the malfunction;
- l. the date of the report;
- m. the name, title, and signature of the responsible official who is certifying the accuracy of the report; and
- n. the report shall be completed annually and retained on site, and made available to the regulating agency upon request.

The "Summary Report" shall be prepared annually, unless it is determined that more frequent reporting is required; semiannual reports shall be prepared and submitted to the Cleveland DAQ if either of the following conditions are met:

- a. the total duration of excess emissions is 1% or greater of the total operating time for the reporting period; and
- b. the total duration of malfunctions of the add-on air pollution control device and/or monitoring equipment is 5% or greater of the total operating time.

Once the permittee reports an exceedance or malfunction meeting these conditions, ongoing compliance status reports shall be submitted semiannually until a request to reduce reporting frequency is approved.

- (14) Based on which measures accurately assess the compliance status of the chromium electroplating tank(s) located at the area source, the Cleveland DAQ may determine, on a case-by-case basis, if the "Summary Report" ("Ongoing Compliance Status Report") must be completed more frequently than annually and if it must be submitted to the agency or can be retained onsite.
- (15) The permittee, who qualifies as an area source but has been required to submit "Summary Reports" on a semiannual (or more frequent) basis, or is required to submit its annual report instead of retaining it on site, may reduce the frequency of reporting to annual (or semi-annual if quarterly) and/or may be permitted to maintain the report on site, rather than submit the annual or semi-annual report, if all of the following conditions are met:
 - a. for 1 full year (e.g., 2 semiannual or 4 quarterly reporting periods), the ongoing compliance status reports demonstrate that the affected tank(s) is/are in compliance with the relevant emission limit;
 - b. the permittee continues to comply with all applicable record keeping and monitoring requirements of 40 CFR Part 63, Subparts A and N; and
 - c. the Cleveland DAQ does not object to a reduced reporting frequency.

The frequency of completing and/or submitting the "Summary Reports" may be reduced or the report maintained on site (not required to be submitted) only after the permittee notifies the Cleveland DAQ in writing of the intention to make the change and the same agency does not object. In deciding whether to approve a reduced reporting frequency or to allow the report to be retained on site, the Cleveland DAQ may request to review information concerning the facility's previous performance history during the 5-year record keeping period prior to the intended change in reporting frequency, or the record keeping period since the compliance date, whichever is shorter. Records subject to review include performance test results, monitoring data, and evaluations of the permittee's conformance with emission limitations and work practice standards. If the permittee's request is disapproved, the regulating agency will notify the permittee in writing within 45 days after receiving notice. This notification will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

As soon as the monitoring data show that the facility is not in compliance with the relevant emission limit, the frequency of reporting shall revert to semiannually, and the permittee shall document this exceedance in the "Ongoing Compliance Status/Summary Report", for the next reporting period. After demonstrating ongoing compliance with the relevant emission limit for another full year, the permittee may again request approval to reduce the reporting frequency.

- (16) The permittee shall comply with the applicable reporting requirements under 40 CFR, Part 63 Subpart N, including the following sections:

63.347(a)	Fulfill all reporting requirements identified in Subpart N and the applicable portions of Subpart A.
63.347(b)	Reporting requirements applicability.
63.347(c)	Initial notifications.
63.347(d)	Notification of performance test.
63.347(e)	Notification of compliance status.
63.347(f)	Reports of performance test results.
63.347(h)	Ongoing compliance status reports for area sources in accordance with §63.347(g)(3).

f) Testing Requirements

- (1) Compliance with the emission limitations and/or control requirements specified in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Chromium emissions shall not exceed 0.011 mg/dscm (4.8×10^{-6} gr/dscf) from the outlet of each control device serving these emissions units.

Applicable Compliance Method:

If required, 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.

b. Emission Limitation:

Chromium emissions shall not exceed 0.00072 lb/hr and 0.0032 ton/yr from each emissions unit.

Applicable Compliance Method:

Compliance with the above short-term (lb/hr) emissions limitation shall be determined for each emissions unit by the following equation:

$$E_a = (E_f) \times (R_c) \times (1 \text{ lb}/7000 \text{ grains}) \times (100 \text{ dscf}/A\text{-hr})$$

$$E_a = (4.8 \times 10^{-6} \text{ gr}/\text{dscf}) \times (R_c) \times (1 \text{ lb}/7000 \text{ grains}) \times (100 \text{ dscf}/A\text{-hr})$$

Where:

E_a = actual chromium emissions (lb/hr)

E_f = emission factor for hard Chromium electroplating line with composite mesh-pad mist eliminator (4.8×10^{-6} gr/dscf, 40 CFR Part 63 Subpart N limit)

R_c = rectifier capacity in amps (A)

Compliance with the above long-term (ton/yr) emissions limitation shall be determined for each emissions unit by multiplying the hourly emission rate (lb/hr) by 8760 hrs/yr and then dividing by 2000 lbs/ton.

c. Emission Limitation:

Visible particulate emissions from any stack shall not exceed 20 percent opacity as a six-minute average, except as specified by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

- (2) 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 tank(s) 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).
- (3) The Scrubber 1 controls multiple open surface hard chromium electroplating tanks identified as emissions units P001, P002 and P003, which are performing the same type of operation and subject to the same emission limitation identified in 40 CFR 63.342. The emissions of chromium from the shared control device shall not exceed 0.011 mg/dscm (4.8×10^{-6} gr/dscf), the emission limitation for existing open surface hard chromium electroplating tanks located at large hard chromium electroplating facilities.
- (4) The Scrubber 2 controls multiple open surface hard chromium electroplating tanks identified as emissions units P004, P005 and P006, which are performing the same type of operation and subject to the same emission limitation identified in 40 CFR 63.342. The emissions of chromium from the shared control device shall not exceed 0.011 mg/dscm (4.8×10^{-6} gr/dscf), the emission limitation for existing open surface hard chromium electroplating tanks located at large hard chromium electroplating facilities.
- (5) The Scrubber 3 controls open surface hard chromium electroplating tank identified as emissions unit P007, which is subject to the same emission limitation identified in 40 CFR 63.342. The emissions of chromium from the control device shall not exceed 0.011 mg/dscm (4.8×10^{-6} gr/dscf), the emission limitation for existing open surface hard chromium electroplating tanks located at large hard chromium electroplating facilities.
- (6) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- a. Emissions testing shall be conducted to show compliance with Subpart N. The permittee shall achieve compliance with the 0.011 mg/dscm chromium limit at Scrubber #1 outlet, Scrubber #2 outlet, and Scrubber #3 outlet servicing the open top hard chromium electroplating tanks.

Per this requirement, the permittee conducted emissions testing on September 3, 2014, December 5, 2014, and February 19, 2015. Scrubber #2 has achieved compliance based upon emissions testing conducted on September 3, 2014, Scrubber #3 has achieved compliance based upon emissions testing conducted on December 5, 2015, and Scrubber 1 has achieved compliance based upon emissions testing conducted on February 19, 2015.

The Intent to Test notification submitted for the emissions testing conducted on February 19, 2015 requested a further reduction in the maximum rectifier capacity of P003 from 6,500 amperes, as requested by US EPA, to 4,500 amperes, due to limitations of the equipment and safety issues.

- b. The emissions testing shall be conducted to demonstrate compliance with the allowable concentration of chromium in the exhaust stream.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):
- i. Method 306 or 306A of 40 CFR Part 63, Appendix A.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- d. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the Cleveland DAQ. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.
- e. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland DAQ. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).
- f. Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures

provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

- g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

- (7) Per paragraph 49 of the Administrative Consent Order, the permittee shall demonstrate initial compliance with the applicable emission limit by conducting performance testing for total chromium emissions at each of the three scrubber outlets (Scrubber #1, Scrubber #2, and Scrubber #3). At least one of the testing scenarios must include plating activities associated with the portable tanks with the portable tank emissions vented to one of the ventilation and control systems being tested.

Testing conducted on September 3, 2014 for P006 included plating activities associated with the portable tank. P006 was shown to have passed with an average emission rate of 0.0047 mg/dscm.

- (8) Per paragraph 50 of the Administrative Consent Order, the permittee shall submit a performance testing protocol to U.S. EPA for review and approval. The stack test protocol must include, at a minimum, the following information:
 - a. the proposed testing dates;
 - b. the EPA reference method(s) to be used during the test;
 - c. the number and duration of runs to be conducted for each test;
 - d. a schematic drawing of the test port locations, including the distances to the nearest upstream and downstream disturbances. (If any of the test port locations do not meet any of the disturbance distance requirements in 40 CFR Part 60, Appendix A, Reference Method 1, Section 11.1, this description must include a discussion of the means in which the permittee will either ensure or verify laminar flow at the testing location);
 - e. a schematic drawing of the velocity traverses to be conducted at each testing location;
 - f. a description of how the control equipment will be continuously monitored during the test;
 - g. the production rate (in terms of amperes per hour) at which each tank will be operated during each test. (If any tank is to be operated at less than its rated capacity, the protocol must include a justification for the reduced operation);
 - h. the name, address, and contact information (including e-mail address and telephone number) of the contractor the permittee will be using to conduct the testing;

- i. any potential modifications to the reference method to be used; and
 - j. any other information regarding the units being tested, operational conditions under which the units will be tested, and testing methods to be used that the permittee or its chosen contractor feels is necessary to allow EPA to adequately review and evaluate the stack testing protocol.
- (9) Per paragraph 51 of the Administrative Consent Order, the permittee shall continuously monitor and record pressure drop across the entire control system (mesh pads and scrubber systems) for each stack during the performance testing. If alternative monitoring is proposed by the permittee, then the alternative monitoring must be conducted during the performance testing to establish appropriate parametric monitoring to assure ongoing compliance with all applicable limits.
- (10) Per paragraph 52 of the Administrative Consent Order, the permittee shall submit a final report of the performance test results to U.S. EPA and Cleveland DAQ no later than 60 days after completing the testing. This final report must include all results obtained during the testing even if some tests were stopped part way through due to unforeseen errors or upset conditions. The final report must also include, at a minimum, the following information:
- a. all measured results of total chromium emissions in milligrams of total chromium per dry standard cubic meter;
 - b. all measured pressure drop readings for each stack as measured during the stack testing; this must include both the average value recorded during each testing run across each stack system and a copy of the actual data sheet where individual readings are recorded during testing;
 - c. a stack specific evaluation of the pressure drop readings obtained during testing to identify and establish a range of pressure drop across which the stack testing shows continuous compliance with the applicable emission limits; this pressure drop range will be used to evaluate and determine ongoing compliance with applicable emission limits at all times, including periods of process unit start up, shut down, and malfunction; failure to maintain pressure drop within the established range will be considered a failure to maintain continuous compliance with applicable emission limits;
 - d. actual production rates achieved at each tank (in amperes per hour), and at each control system (gas and liquid flow rates), during the test;
 - e. the moisture content, temperature, and flow rate of the gases being emitted from the stack being tested, including raw field data;
 - f. calibration procedures and results of calibrations performed on all testing equipment, including Pitot tube, nozzle, meter box, thermometer, and barometer;
 - g. the name, affiliation, and contact information for all representatives of the testing firm and any regulatory agencies that witnessed or participated in the test;

- h. a description of all maintenance performed on any tank or control system tested; this must include major cleaning operations, parts or equipment replacement, repairs made, and modifications of functional components of either the process or control equipment made within this time frame;
 - i. an identification, discussion, and explanation of any errors encountered during the testing (both real and apparent) and the causes of such errors; and
 - j. raw field data which may include additional operational conditions monitored, readings obtained during testing, and raw data gathered by the contractor as part of the stack testing.
- (11) Per paragraph 47 of the Administrative Consent Order, if performance testing conducted shows emission of total chromium in excess of the 0.011 mg/dscm emission limit, the permittee must implement upgrades (or additional upgrades) to one or more of its control systems associated with the violating tank(s) such that the violating tank(s) achieve and maintain continuous compliance with the 0.011 mg/dscm emission limit. The permittee must, subsequent to implementation of the control system upgrades required in the above sentence, retest the affected tank(s) to demonstrate compliance with the 0.011 mg/dscm limit.
- (12) The permittee shall comply with the applicable testing methods under 40 CFR, Part 63 Subpart N, including the following sections:

63.344(a)	Performance test requirements.
63.344(c)	Test methods in accordance with §63.343(c)(1).
63.344(d)	Site specific operating parameter values.
63.344(e)	Emission limitation for multiple sources sharing pollution control device.

g) **Miscellaneous Requirements**

- (1) Emissions units P001, P002, and P003 were installed on 7/1/1991. Emissions units P004, P005, P006, and P007 were installed on 1/1/1992.
- (2) The small portable tank that contains the porous pots used with P006 and P007 is not used for plating parts but to treat the chromium solution. The small tank containing the porous pots is wheeled up alongside of either Tank 6 or Tank 7 when plating a certain part called 'Mining Screens'. A current of approximately 800 amps is applied to the porous pots from a separate rectifier than what is used for Tanks 1 - 7. The pots treat the chromium plating solution to reduce trivalent chromium that builds up as these particular parts are plated. The small tank that holds the porous pots has its own hood. When running the porous pots, a five-inch diameter tubing from the small tank hood is attached to either the Tank 6 or Tank 7 ventilation system to vent the pot fumes to the control system.



Final Permit-to-Install and Operate
DIAMOND HARD CHROME INC
Permit Number: P0119438
Facility ID: 1318008143
Effective Date: 12/3/2015

Testing conducted on September 3, 2014 for P006 included plating activities associated with the portable tank. P006 was shown to have passed with an average emission rate of 0.0047 mg/dscm.

- (3) Alternative parametric monitoring plan shall be submitted to U.S, EPA for review by December 3, 2014.

Per paragraphs 71 and 72 of the Administrative Consent Order, the permittee shall revise its existing Permit to Install and Operate to incorporate alternative monitoring, record keeping, and reporting requirements by means of an Administrative Modification.

- (4) Per paragraph 84 of the Administrative Consent Order, the permittee shall achieve compliance with all requirements of this Order no later than one year after the effective date of this Order.