Facility ID: 1409030643 Issuance type: Final State Permit To Operate

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In addition to the terms and conditions, hyperlinks have been inserted into the document so you may more readily access the section of the document you wish to review.

Finally, the term language under "Part II" and before "A. Applicable Emissions Limitations..." has been added to aid in document conversion, and was not part of the original issued permit.

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1409030643 Emissions Unit ID: P002 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

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.

A. **Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P002 - Hard chrome plating operation with packed bed scrubber and mist eliminator - Line 2	OAC rule 3745-31-05(A)(3) (PTI 14-1755)	The total chromium emissions shall not exceed 0.008 pound per hour and 0.035 ton per year. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A) and 40 CFR Part 63, Subpart N.
	40 CFR Part 63, Subpart N	See term A.2.a and Sections B.1 through B.4.
	OAC rule 3745-17-07(A)	See term A.2.b.
	OAC rule 3745-17-11(B)(1)	The emission limitation established by this rule is less stringent than that established by 40 CFR Part 63, Subpart N.

2. **Additional Terms and Conditions**

(a) 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), emissions unit P002, to exceed 0.03 mg/dscm (1.3x10-5 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.

[40 CFR 63.342(c)(1)(ii)]
Visible particulate emissions from any stack shall not exceed 20 percent opacity as a six-minute average, except as specified by rule.

B. **Operational Restrictions**

1. 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 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 regulating agency (appropriate Ohio EPA Division of Air Pollution Control, District Office or local air agency) 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 regulating agency 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.

[40 CFR 63.342(f)(1) and (2)] & [40 CFR 63.342(g)]

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 regulating agency (appropriate Ohio EPA Division of Air Pollution Control, District Office or local air agency) 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.

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 regulating agency 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 regulating agency.

h. 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).

[40 CFR 63.342(f)(3)]

3. The operation and maintenance plan shall incorporate the following work practice standards for the packed-bed scrubber control; the plan shall provide procedures for:

a. quarterly visual inspections of the packed-bed scrubber to ensure there is proper drainage, no chromic acid buildup on the packed beds, and no evidence of chemical attack on the structural integrity of the device;

b. quarterly visual inspections of the back portion of the chevron blade mist eliminator to ensure that it is dry and there is no breakthrough of chromic acid mist;

c. quarterly visual inspections of the ductwork from the tank to the packed-bed scrubber to ensure there are no leaks; and

d. adding fresh makeup water to the top of the packed bed. If greater than 50 percent of the scrubber water is drained (e.g., for maintenance purposes), makeup water may be added to the scrubber basin.

[40 CFR 63.342 Table 1]

4. The operation and maintenance plan shall incorporate the following work practice standards for the fiber-bed mist eliminator control; the plan shall provide procedures for:

a. quarterly visual inspections of the fiber-bed unit and prefiltering device to ensure there is proper drainage, no chromic acid buildup in the units, and no evidence of chemical attack on the structural integrity of the devices;

b. quarterly visual inspections of the ductwork from the tank or tanks to the fiber-bed unit to ensure there are no leaks; and

c. washdown of the fiber elements in accordance with manufacturer's recommendations.

[40 CFR 63.342 Table 1]

C. **Monitoring and/or Record Keeping Requirements**

1. 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 emissions unit, 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 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; 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.

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

[40 CFR 63.346(b)]

2. The permittee shall perform the following monitoring and record keeping requirements in order to demonstrate compliance through the use of the packed-bed scrubber system:

a. During the initial performance test, the permittee shall determine the outlet chromium concentration using the methods as described in the "Testing Requirements" section of this permit. The pressure drop across the system and the velocity pressure at the common inlet of the scrubber shall be established as site-specific operating parameters, setting the values that correspond to compliance with the applicable emission limitations, as established during performance testing.

b. The permittee may conduct multiple performance tests to establish a range of compliant operating parameter values. Alternatively, the permittee may set as the compliant values the average pressure drop and average inlet velocity pressure measured over the three test runs of one performance test, and accept 1 inch of water column from the pressure drop value and 10 percent from the velocity pressure value as the compliant ranges.

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 velocity pressure at the inlet to the packed-bed scrubber and the pressure drop across the scrubber system once each day that the emissions unit is in operation. To be in compliance, the scrubber system shall be operated within 10 percent of the velocity pressure value established during the initial performance test, and within 1 inch of water column of the pressure drop value established during compliance performance testing, or within the range of compliant operating parameter values established during multiple performance tests.

[40 CFR 63.343(c)(2)]

3. The permittee shall perform the following monitoring and record keeping requirements in order to demonstrate compliance through the use of the fiber-bed mist eliminator:

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 fiber-bed mist eliminator and the pressure drop across the control device installed upstream of the fiber bed to prevent plugging shall be established as a site-specific operating parameters, setting the values that correspond to compliance with the applicable 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 values the average pressure drop measured over the three test runs of one performance test and accept 1 inch of water column from these values as the compliant ranges.

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 fiber-bed mist eliminator and the pressure drop across the control device installed upstream of the fiber bed to prevent plugging once each day that the emissions unit is in operation. To be in compliance, both the fiber-bed mist eliminator and the upstream control device 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.

[40 CFR 63.343(c)(4)]

D. **Reporting Requirements**

1. The permittee shall submit a "Notification of Performance Test" or "Intent to Test" to the regulating agency (appropriate Ohio EPA Division of Air Pollution Control, District Office or local air agency) at least 60 calendar days before the performance test is scheduled. The permittee shall notify the regulating agency as soon as practicable if the performance test cannot be conducted as scheduled, and shall specify the date it will be rescheduled (provisions of 40 CFR 63.7(b)(2)).

   [40 CFR 63.347(d)]

2. The permittee shall report, to the regulating agency (appropriate Ohio EPA Division of Air Pollution Control, District Office or local air agency), the results of any performance test conducted within 30 days of completion of such test. Reports of performance test results shall also be submitted in the "Notification of Compliance Status Report", no later than 90 days following the completion of the performance test. Performance test results shall be documented in complete test reports that contain the following information:

   a. a brief description of the process;

   b. a description of the sampling location(s);

   c. a description of sampling and analytical procedures and any modifications to standard procedures;

   d. the test results;

   e. quality assurance procedures and results;

   f. records of operating conditions during testing, preparation of standards, and calibration procedures;

   g. raw data sheets for field sampling and field and laboratory analyses;

   h. documentation of calculations; and

   i. any other information required by the test method.

   The permittee shall have sufficient data to establish the operating parameter value(s) that corresponds to compliance as required for continuous compliance monitoring.

   [40 CFR 63.347(e) and (f)] & [40 CFR 63.344(a) and (b)] & [OAC 3745-15-04(A)]

3. 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 regulating agency (appropriate Ohio EPA Division of Air Pollution Control, District Office or local air agency) upon request. This report shall include the following:

   a. the company name and address of the emissions unit;

   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 emissions unit, 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 emissions unit 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 emissions unit 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 emissions unit;

   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 date of the report;

   l. the name, title, and signature of the responsible official who is certifying the accuracy of the report; and

   m. 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 regulating agency (appropriate Ohio EPA Division of Air Pollution Control, District

Office or local air agency) if both of the following conditions are met:

a. the total duration of excess emissions is one percent 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 percent 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.

[40 CFR 63.347(h)(1) and (2)]

4. The regulating agency may determine, on a case-by-case basis, if the "Summary Report" ("Ongoing Compliance Status Report") shall be completed more frequently than annually or if to require it be submitted (rather than retained onsite), if these measures are necessary to accurately assess the compliance status of the emissions unit(s).

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 emissions unit is 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, subpart A and this permit; and

c. the regulating agency 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 regulating agency 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 Ohio EPA regulating agency 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 emissions unit's 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.

[40 CFR 63.347(h)(3)]

E. **Testing Requirements**

1. Compliance with the emission limitations in Section A.I of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitations:
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), emissions unit P002, to exceed 0.03mg/dscm (1.3X10-5 gr/dscf).

Applicable Compliance Method:
A performance test was conducted on August 20, 1997 with results showing an average chromium emission rate of 0.000964 mg/dscm. If required, additional performance testing shall be conducted in accordance with the test methods and procedures specified in 40 CFR, Part 63, Subpart N. Ongoing compliance shall be based upon the established operating parameters for the pressure drop across the packed bed scrubber and mist eliminator emission control system.

b. 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:
Compliance with this emission limitation shall be determined in accordance with Test Method 9 as set forth in "Appendix A" of 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources," as such Appendix existed on July 1, 1996).
c. Emission Limitations:
The total chromium emissions shall not exceed 0.008 pound per hour and 0.035 ton per year.

Applicable Compliance Method:
Compliance is determined by multiplying 0.000013 grains/dscf by 1 pound/7000 grains then by 7265 cubic feet/minute then by 60 minutes per hour. The 0.008 pound per hour number is multiplied by 8760 hours per year then divided by 2000 pounds per ton.

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 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).

[40 CFR 63.344(d)(2) and (5)]

F. **Miscellaneous Requirements**

1. None