Facility ID: 1677010830 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

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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
small hard chromium electroplating facility with a composite mesh-pad system: three chrome plating sections and one rinse section (P001)	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provide by the rule.
		19.2 lbs/hr of particulates
	OAC rule 3745-17-11	
	40 CFR Part 63, Subpart N	The permittee shall not allow the concentration of total chromium in the exhaust gases discharged to the atmosphere to exceed 0.03 mg/dscm (1.3x10-5 gr/dscf).
		The actual annual rectifier capacity for this emissions unit shall be less than 60 million amp-hr/yr, by using nonresettable ampere-hr meters and keeping monthly records of actual ampere-hr usage for each 12-month rolling period.

2. **Additional Terms and Conditions**

   (a) None

B. **Operational Restrictions**

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

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

3. Determination of whether acceptable operation and maintenance procedures are being used will be based on information available to the appropriate Ohio EPA District Office or local air agency, which may include, but is not 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 appropriate Ohio EPA District Office or local air agency may require that the permittee make changes to the operation and maintenance plan if that plan:

   a. does not address a malfunction that has occurred;

   b. fails to provide for the operation of the emission units, 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

   c. does not provide adequate procedures for correcting malfunctioning process equipment, air pollution control techniques, or monitoring equipment as quickly as practicable.

4. The permittee shall implement an operation and maintenance plan that includes the following:

   a. The plan shall specify the operation and maintenance criteria for the affected source, the add-on air pollution

control device (if such a device is used to comply with the emissions limits), 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 O/M plan shall incorporate the following work practice standards:

i. Visually inspect the device at least once per quarter to ensure there is proper drainage, no chromic acid buildup on the pads, and no evidence of chemical attack on the structural integrity of the device.

ii. Visually inspect at least once per quarter the back portion of the mesh pad closest to the fan to ensure there is no breakthrough of chromic acid mist.

iii. Visually inspect at least once per quarter the ductwork from tank to the control device to ensure there are no leaks.

iv. Perform washdown of the composite mesh-pads in accordance with the manufacturer's recommendations.

c. If a pitot tube is used for monitoring, the O/M plan shall incorporate the following work practice standards to be performed at least once per quarter:

i. Backflush with water, or remove from the duct and rinse with fresh water.

ii. Replace in the duct and rotate 180 degrees to ensure that the same zero reading is obtained.

iii. Check pitot tube ends for damage. Replace pitot tube if cracked or fatigued.

d. If a stalagmometer is used for monitoring, follow the manufacturer's recommendations.

e. 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.
f. The plan shall include a systematic procedure for identifying malfunctions of process equipment, add-on air pollution control devices, and process and control system monitoring equipment, and for implementing corrective actions to address such malfunctions.

g. 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.

h. 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 within 2 working days after commencing actions inconsistent with the plan. This report shall be followed by a letter within 7 working days after the end of the event, unless the permittee makes alternative reporting arrangements, in advance, with the appropriate Ohio EPA District Office or local air agency.

i. The permittee shall keep the written operation and maintenance plan on record after it is developed to be made available for inspection, upon request, by the appropriate Ohio EPA District Office or local air agency for the life of the emission unit. If the operation and maintenance plan is revised, the permittee shall keep previous versions of the plan on record to be made available for inspection, upon request, by the appropriate Ohio EPA District Office or local air agency for a period of five years after each revision to the plan.

j. 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.

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

1. Composite mesh-pad (CMP) system monitoring requirements to demonstrate continuous compliance

a. During the initial performance test, the permittee determined the outlet chromium concentration using the methods as described in the "Testing Requirements" section of this permit to comply with the emission limitations through the use of a composite mesh-pad system. The permittee established as a site-specific operating parameter the pressure drop across the system, setting the value that corresponds to compliance with the applicable emission limitation, using the procedures in the "Testing Requirements" section of this permit.

b. The permittee may conduct multiple performance tests to establish a range of compliant pressure drop values, or may set as the compliance value the average pressure drop measured over the three test runs of one performance test and accept +/-1 inch of water column from this value as the compliant range.

c. On and after the date on which the initial performance test is required to be completed under section 63.7 of 40 CFR Part 63, Subpart A, the permittee shall monitor and record the pressure drop across the composite mesh-pad system once each day that the emission unit is operating. To be in compliance, the composite mesh-pad system shall be operated within 2.83 to 4.83 inches of water column which was established during the initial performance test.

2. The permittee shall fulfill all recordkeeping requirements in the General Provisions to 40 CFR Part 63, according to the applicability of Subpart A.

3. The permittee also shall maintain the following records:

a. inspection records for the add-on air pollution control device, if such a device is used, and monitoring equipment, to document that the inspection and maintenance required by the work practice standards of this permit have taken place (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 consistence 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 emission unit during the reporting period;

l. all documentation supporting the notifications and reports as outlined in the reporting requirements of this permit and section 63.9 and section 63.10 of 40 CFR Part 63, Subpart A; and

m. records of the actual cumulative rectifier capacity of hard chromium electroplating tanks expended during each month of the reporting period, and the total capacity expended to date for a reporting period.

D. **Reporting Requirements**

1. The permittee shall fulfill all reporting requirements as outlined in 40 CFR Part 63, Subpart A. These reports shall be made to the appropriate Ohio EPA District Office or local air agency and shall be sent by U.S. mail, fax or by another courier.

   a. Submittals sent by U.S. mail shall be postmarked on or before the specified date.

   b. Submittals sent by other methods shall be received by the appropriate Ohio EPA District Office or local air agency on or before the specified date.

2. The permittee shall report to the appropriate Ohio EPA District Office or local air agency the results of any performance test conducted. The report shall be submitted no later than 90 days following the completion of the performance test, and shall be submitted as part of the notification of compliance status report required by this section.

3. The permittee shall prepare an ongoing compliance status report annually (unless a request to reduce frequency of ongoing compliance status reports has been approved) to the appropriate Ohio EPA District Office or local air agency to document the ongoing compliance status of the emissions unit. This report shall include the following:

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

   b. an identification of the operating parameter that is monitored for compliance determination;

   c. the relevant emission limitation for the emissions unit, and the operating parameter value, or range of values, that correspond to compliance with this emission limitation as specified in the Notification of Compliance Status required by this section;

   d. the beginning and ending dates of the reporting period;

   e. the total operating time of the emissions unit during the reporting period;

   f. 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;

   g. 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;

   h. 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;
   i. a description of any changes in monitoring, processes, or controls since the last reporting period;

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

   k. the date of the report; and

   l. the actual cumulative rectifier capacity expended during the reporting period, on a month-by-month basis.

4. The permittee shall submit semiannual reports if 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 monitoring equipment is 5 percent or greater of the total operating time.

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

6. The appropriate Ohio EPA District Office or local air agency may determine on a case-by-case basis that the summary report shall be completed more frequently and submitted, or that the annual report shall be submitted instead of being retained on site, if these measures are necessary to accurately assess the compliance status of the emissions unit.

7. The permittee who is required to submit ongoing compliance status 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 and/or be allowed to maintain the annual report on site 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 recordkeeping and monitoring requirements of 40 CFR Part 63, Subpart A and this permit; and

c. the appropriate Ohio EPA District Office or local air agency does not object to a reduced reporting frequency.

The frequency of submitting ongoing compliance status reports may be reduced if the following requirements are met:

i. The permittee notifies the appropriate Ohio EPA District Office or local air agency in writing of its intentions to make such a change. The [local air agency or district office] may review information concerning the facility's previous performance history during the 5-year recordkeeping period prior to the intended change, or the recordkeeping period since the emission 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 appropriate Ohio EPA District Office or local air 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.
ii. If monitoring data show that the emissions unit is not in compliance with the relevant emission limit, the frequency of reporting shall revert to semiannual, and the permittee shall state this exceedance in the ongoing compliance status 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.

E. **Testing Requirements**

1. Performance test results shall be documented in complete test reports that contain the following information:

a. a brief process description;

b. sampling location description(s);

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

d. 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 test plan shall be made available to the appropriate Ohio EPA District Office or local air agency prior to testing, if requested.

The results of tests conducted prior to December 1991, in which Method 306A was used to demonstrate the performance of a control technique, are not acceptable.

2. The permittee shall use the following test methods to conduct an initial performance test:

a. 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 hard or decorative chromium electroplating tanks or chromium anodizing tanks.

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

ii. Methods 306 and 306A allow the measurement of either total chromium or hexavalent chromium emissions. Emissions units using chromic acid baths can demonstrate compliance with the emission limits by measuring either the total chromium or hexavalent chromium concentration. Hence, the hexavalent chromium concentration measured by these methods is equal to the total chromium concentration for the affected operations.

b. The California Air Resources Board (CARB) Method 425 may be used to determine the chromium concentration from hard and decorative chromium electroplating tanks and chromium anodizing tanks if the following conditions are met:

i. If a colorimetric analysis method is used, the sampling time and volume shall be sufficient to result in 33-66 micrograms of catch in the sampling train.

ii. If an Atomic Absorption Graphite Furnace (AAGF) or Ion Chromatography (with a Post-column Reactor (ICPCR) analyses) is used, the sampling time and volume should be sufficient to result in a sample catch that is 5 to 10 times the minimum detection limit of the analytical method (i.e., 1.0 microgram per liter of sample for AAGF and 0.5 microgram per liter of sample for ICPCR).

iii. A minimum of three separate runs must be conducted. The other requirements of Section 63.7 of 40 CFR Part 63, subpart A must also be met.

3. All monitoring equipment shall be installed such that representative measurements of emissions or process parameters from the affected emissions unit are obtained. For monitoring equipment purchased from a vendor, verification of the operational status of the monitoring equipment shall include execution of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system.

4. The permittee shall measure the pressure drop across the add-on air pollution control device in accordance with the following guidelines:

a. 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.

b. 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.

c. Pressure taps shall be constructed of either polyethylene, polybutylene, or other nonreactive materials.

d. Nonreactive plastic tubing shall be used to connect the pressure taps to the device used to measure pressure drop.

e. Any of the following pressure gauges can be used to monitor pressure drop: a magnehelic gauge, an included manometer, or a "U" tube manometer.

f. Prior to connecting any pressure lines to the pressure gauge(s), each gauge shall be zeroed. No calibration of the pressure gauges is required.

5. When multiple affected emissions units performing the same type of operation (e.g., all are performing hard chromium electroplating), and subject to the same emission limitations, are controlled with an add-on air pollution control device that is not controlling emissions from any other type of affected operation or from any nonaffected emissions unit, the emission limitation of 0.03 mg/dscm must be met at the outlet of the add-on air pollution control device.

6. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 3 months after issuance of the permit.

b. The emission testing shall be conducted to demonstrate compliance with the allowable concentration of total chromium in the exhaust gases.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable concentration of total chromium: Methods 1-4 of 40 CFR Part 60, Appendix A and Method 306 or 306A of 40 CFR Part 63, Appendix A.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.
Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time (s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 90 days following completion of the test(s). The report shall document the information required in Section E.1 of these terms and conditions. The permittee may request additional time for the submittal of the written report,

where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

7. Compliance with the emission limitations in section A.1 of these terms and conditions shall be determined in accordance with the following methods:
Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

OAC rule 3745-17-03(B)(1)
Emission Limitation:

19.2 lbs/hr of particulates

Applicable Compliance Method:

Multiply the particulate emission factor of 0.25 grain of particulate emissions per ampere-hour by the maximum hourly energy input rate, and then divide by 7000 grains per pound.
Emission Limitation:

0.03 mg/dscm of total chromium

Applicable Compliance Method:

Compliance with the allowable mass emission rate shall be determined using US EPA Methods 1-4 of 40 CFR Part 60, Appendix A and Method 306 or 306A of 40 CFR Part 63, Appendix A.
Emission Limitation:

the actual annual rectifier capacity for this emissions unit shall be less than 60 million amp-hr/yr

Applicable Compliance Method:

Compliance with the allowable emission limitation shall determined by monthly record keeping of the actual cumulative rectifier capacity expended during each month.

F. **Miscellaneous Requirements**

1. None