

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

Facility ID: 1677010830 Emissions Unit ID: P001 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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.
	OAC rule 3745-17-11 40 CFR Part 63, Subpart N	19.2 lbs/hr of particulates The permittee shall not allow the concentration of total chromium in the exhaust gas stream discharged from the small hard chromium electroplating operation to exceed 0.03 milligrams per dry standard cubic meter (mg/dscm) (1.3x10 ⁻⁵ grains per dry standard cubic foot (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. The permittee shall implement the following work practices:
 - a. At all times, including periods of startup, shutdown, and malfunction, the permittee shall operate and maintain the chromium electroplating or anodizing tank, 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 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 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, or monitoring equipment as quickly as practicable.

2. The permittee shall prepare an operation and maintenance plan to be implemented no later than January 25, 1997. 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 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; this/these superceded versions 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).
3. The operation and maintenance plan shall incorporate the following work practice standards for the composite mesh-pad control system; the plan shall provide procedures for:
 - a. quarterly visual inspections of the composite mesh-pad system, 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;
 - b. quarterly visual inspections of the back portion of the mesh pad closest to the fan, to ensure there is no breakthrough of chromic acid mist;
 - c. quarterly visual inspections of the ductwork from tank to the composite mesh-pad system, to ensure there are no leaks; and
 - d. washdown of the composite mesh-pads in accordance with the manufacturer's recommendations.
4. If a pitot tube is used for monitoring, to ensure the accuracy of the instrument, the operation and maintenance plan shall incorporate the necessary work practice standards, to be performed at least once per quarter: backflush with water, or remove from the duct and rinse with fresh water, replace in the duct and rotate 180 degrees to ensure that the same zero reading is obtained, check pitot tube ends for damage, and replace pitot tube if cracked or fatigued.

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 of this permit have been performed. The record can take the form of a checklist and should identify the device inspected, the date of inspection, a brief description of the working condition of the device during the inspection, and any actions taken to correct deficiencies found during the inspection;
 - b. records of all maintenance performed on the emissions unit, add-on air pollution control device, and monitoring equipment;
 - c. records of the occurrence, duration, and cause (if known) of each malfunction of process, add-on air pollution control device, and monitoring equipment;
 - d. records of actions taken during periods of malfunction when such actions are inconsistent with the operation and maintenance plan;
 - e. other records, which may take the form of checklists, necessary to demonstrate consistency with the provisions of the operation and maintenance plan;
 - f. test reports documenting results of all performance tests;
 - g. all measurements as may be necessary to determine the conditions of performance tests;

- h. records of monitoring data that are used to demonstrate compliance with the standard including the date and time the data are collected;
 - i. the specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions, as indicated by monitoring data, that occurs during malfunction of the process, add-on air pollution control device, or monitoring equipment;
 - j. the specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions, as indicated by monitoring data, that occurs during periods other than malfunction of the process, add-on air pollution control device, or monitoring equipment;
- k. the total process operating time of the emissions unit during the reporting period;
- l. all documentation supporting the notifications and reports as outlined in the "Reporting Requirements" section of this permit and 63.9 and 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.

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

- 2. The permittee shall perform the following monitoring and record keeping requirements in order to demonstrate compliance through the use of the composite mesh-pad system:
 - a. During the initial performance test, the permittee shall determine the outlet chromium concentration using the methods described in the "Testing Requirements" section of this permit. The pressure drop across the composite mesh-pad system shall be established as a site-specific operating parameter, setting the value that corresponds to compliance with the applicable emission limitation, as established during performance testing.
 - b. The permittee may conduct multiple performance tests to establish a range of compliant pressure drop values; or may set, as the compliance 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.
 - c. On and after the date on which the initial performance test is required to be completed under 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 emissions unit is in operation. 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 and establish as a new site-specific operating parameter the pressure drop across the composite mesh-pad system according to the requirements in paragraphs 2.a through 2.c of this section. To establish a new site-specific operating parameter for pressure drop, the permittee shall satisfy the requirements specified below:
 - i. determine the outlet chromium concentration using the test methods and procedures in "Testing Requirements" section of this permit;
 - ii. establish the site-specific operating parameter value using the procedures section E.4 of these terms and conditions;
 - iii. satisfy the record keeping requirements in section C.1.f through C.1.h of these terms and conditions; and
 - iv. satisfy the reporting requirements of submitting a Notification of Performance Test and Notification of Compliance Status as required in the "Reporting Requirements" section of this permit.
 - e. The requirement to operate a composite mesh-pad system within the range of pressure drop values established under paragraphs 2.a through 2.d of this section does not apply during automatic washdown cycles of the composite mesh-pad system.

D. Reporting Requirements

- 1. The permittee shall submit a Notification of Performance Test to the appropriate regulating agency at least 60 calendar days before the performance test is scheduled. In the event that the permittee is unable to conduct the performance test as scheduled, the provisions of 63.7(b)(2) of 40 CFR Part 63, subpart A shall apply to the emissions unit.
- 2. The permittee shall report, to the appropriate regulating 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.
- 3. The permittee shall submit a Notification of Compliance Status to the appropriate regulating agency, signed by the responsible official who shall certify its accuracy, attesting to whether the affected emissions unit is in compliance. The notification shall include the following information for each affected emissions unit:
 - a. the applicable emission limitations 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. the description of the sampling location;
 - iii. the 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. the type and quantity of hazardous air pollutants emitted by each of the emissions units under common control, reported in mg/dscm or mg/hr, including the measurements and calculations required in the Testing Section of this permit, to demonstrate compliance with provisions for the multiple emissions units controlled by the common add-on air pollution control device;
 - d. the records of the actual cumulative rectifier capacity from any 12-month period preceding the compliance date, to demonstrate that the facility is a small hard chromium electroplating facility;
 - e. for each monitored parameter for which a compliant value was established, the specific operating parameter value, or range of values, that corresponds to compliance with the applicable emission limit;
 - f. the methods that shall be used to determine continuous compliance;
 - g. a description of the air pollution control method(s) used for each emission point;
 - h. a statement that the permittee has completed and has on file the operation and maintenance plan as required by the work practice standards; and
 - i. a statement by the permittee as to whether the emissions unit is in compliance.
4. The permittee shall prepare annual compliance status reports (unless a more frequent reporting frequency has been determined) to the regulating agency in order 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. 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;
 - 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. the actual cumulative rectifier capacity expended during the reporting period, on a month-by-month basis;
 - i. 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;
 - j. 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;
 - k. a description of any changes in monitoring, processes, or controls since the last reporting period;
 - 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.
5. If both of the following conditions are met, the permittee shall prepare and submit semiannual compliance status reports to the regulating agency:
- 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, ongoing compliance status reports shall be submitted semiannually until a request to reduce reporting frequency is approved.
6. The regulating agency may determine on a case-by-case basis if the summary report shall be completed and submitted more frequently than annually, or if the annual report may be retained on site (for inspection upon request) rather than requiring it be submitted.

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 (or semi-annual if quarterly) and/or may be permitted to maintain the report on site, rather than submit an annual or semi-annual report, if all of the following conditions are met:
- 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;
 - the permittee continues to comply with all applicable record keeping and monitoring requirements of 40 CFR Part 63, subpart A and this permit; and
 - the regulating agency does not object to a reduced reporting frequency.
- The frequency of submitting ongoing compliance status reports may be reduced only after the permittee notifies the regulating agency in writing of his or her intention to make such a change, and the regulating agency does not object to the intended change. In deciding whether to approve a reduced reporting frequency or to allow the report to be retained on site, the 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. Such information may be used by the regulating agency to make a judgement about the source's potential for noncompliance in the future. 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 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

- Performance test results shall be documented in complete test reports that contain the following information:
 - a brief process description;
 - sampling location description(s);
 - a description of sampling and analytical procedures and any modifications to standard procedures;
 - test results;
 - quality assurance procedures and results;
 - records of operating conditions during testing, preparation of standards, and calibration procedures;
 - raw data sheets for field sampling and field and laboratory analyses;
 - documentation of calculations; and
 - any other information required by the test method.

The test plan shall be submitted to the regulating agency at least 60 days before the date the test is scheduled to begin.
- Any performance test used to demonstrate compliance shall meet the following requirements:
 - the test methods and procedures identified in this permit shall be used during the performance test;
 - the performance test shall be conducted under representative operating and/or worst-case conditions;
 - the performance test report shall contain all the information required per 40 CFR 63.344(a); and
 - the permittee shall have sufficient data to establish the operating parameter value(s) that corresponds to compliance as required for continuous compliance monitoring.
- The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements, in order to demonstrate compliance with the chromium emission limitation contained in this permit:
 - The emission testing shall be conducted within 6 months after issuance of this permit.
 - One of the following test methods shall be employed to demonstrate compliance:
 - 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.
 - 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.
 - 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.

- (2). The California Air Resources Board (CARB) Method 425 shall be used to determine the chromium concentration from the electroplating or anodizing tank 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).
 - c. A minimum of three separate runs of the test method must be conducted in order to demonstrate compliance. All applicable requirements of 63.7 of 40 CFR Part 63, subpart A must also be met.
 - d. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA regulating 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's refusal to accept the results of the emission test(s).
 - e. Personnel from the regulating 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.
 - f. A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the regulating agency within 30 days following completion of the test (s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the regulating agency.
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. 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 may be used to monitor pressure drop: a magnehelic gauge, an inclined 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; and
 - g. 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).
5. The composite mesh-pad system controls multiple affected sources performing the same type of operation and subject to the same emission limitation, therefore the emission limitation of 0.03 mg/dscm (1.3x10⁻⁵ gr/dscf) must be met at the outlet of this control device regardless of the number of emissions units vented to the device.
6. 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 or CARB Method 425.

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