Project Plan

Emissions Reduction

From

Hexavalent Chromium Plating Facilities

That Qualify as Small Businesses

May 2021

Background

Hexavalent chromium plating facilities, which include chromium electroplating and chromic acid anodizing facilities, are a significant source of hexavalent chromium emissions in impacted communities and are identified in the California Air Resources Board (CARB) Community Air Protection Blueprint as one of the stationary sources most in need of additional emissions reduction measures[1]. According to CARB, hexavalent chromium emissions are situated at a nexus that suggests opportunities for incentives: identification in the Community Air Protection Blueprint, availability of control technology options and less toxic alternatives, potential emissions reductions beyond those required by local rules, and the potential for reductions in toxic air contaminant (TAC) exposure.

As described in Chapter 4 of the Community Air Protection Incentives 2019 Guidelines[2] (2019 CAP Guidelines), hexavalent chromium electroplating and chromic acid anodizing operations involve the electrical application of a coating of chromium onto a surface for decoration, corrosion protection, or for durability.

South Coast Air Quality Management District (South Coast AQMD) Rule 1469 - Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations establishes requirements for reducing hexavalent chromium emissions from chrome plating facilities based on the distance to a sensitive receptor and annual usage. A majority of facilities achieve the Rule 1469 requirements through the installation of add-on air pollution control devices, such as high efficiency particulate arrestor (HEPA) filters. The add-on air pollution control devices are not required for some of the smaller chrome plating facilities that have a lower usage and throughput and can meet the emissions limit through use of certified chemical fume suppressants. These chemical fume suppressants limit the amount of chromium-containing mist emitted by the electroplating process. However, some of these fume suppressants may contain per- and polyfluoroalkyl (PFAS) substances which have been linked with a variety of health problems and other environmental concerns. For many of these facilities, transitioning to non-hexavalent chromium technologies such as trivalent chromium can eliminate the use of these fume suppressants. Add-on control can also be used in place of these fume suppressants.

This incentive program will provide funding for chrome plating facilities classified as small businesses to install add-on air pollution control devices to control hexavalent chromium emissions. There would be an additional environmental benefit of eliminating the use of PFAS chemical fume suppressants at facilities currently using these products. Under this program, conversion to the less toxic trivalent chromium plating operations would also be eligible for funding and can also eliminate the use of PFAS chemical fume suppressants.

[1] Community Air Protection Incentives 2019 Staff Report, May 2019; available on CARB's website at: https://ww2.arb.ca.gov/resources/documents/community-air-protection-incentives-2019-guidelines-staff-report

[2] Available on CARB's website at: https://ww2.arb.ca.gov/resources/documents/community-air-protection-incentives-guidelines

The CAP Guidelines establish different funding limits based on the type of chrome plating facility. For hard chrome plating operations, the CAP Guidelines allow air districts to fund up to 90 percent of a project's eligible cost with CAP incentives. According to the CAP Guidelines staff report, partial funding was intended to strike a balance between providing the majority of the funding to enable projects to be completed quickly, but still have the recipient of the funding have a vested interest in the success of the project. For decorative chrome plating operations, the CAP Guidelines identifies that up to 90 percent of eligible costs can be awarded for conversion to trivalent chromium projects while all other projects would be awarded up to 80 percent of eligible costs. According to CARB, the separate percentage cap is intended to encourage decorative platers to use the less toxic trivalent chromium operation and help prioritize a more cost-effective option.

During the recent amendments to Rule 1469, South Coast AQMD staff gained a detailed understanding of the economic impacts of regulations to hexavalent chromium plating facilities. For example, the smaller facilities which would be eligible to participate in this program would consist mainly of small businesses and the staff report[3] estimated that the operation and maintenance (O&M) costs of air pollution control equipment can represent up to 18 percent of the control device costs. Based on this experience and initial consultations with operators, the costs-share requirements included in Chapter 4 of the CAP Guidelines would represent a significant obstacle for implementing projects. Accordingly, this Project Plan would modify the Chapter 4 Guidelines funding limits for small businesses to provide a maximum funding limit of 100 percent of project costs.

For the purposes of this program, a small business is defined as a facility that is independently owned and operated with average annual gross receipts of three million dollars ($3,000,000) or less, averaged over the previous three years, and with 25 or fewer employees. Facilities that are not small businesses are still able to receive incentive fund if a proposed project results in hexavalent chromium emission reductions in excess of regulatory requirements, however, these facilities would be subject to requirements included in Chapter 4 of the 2019 CAP Guidelines.

Project Identification

Provide financial incentives to hexavalent chromium plating facilities that are considered small businesses[4] to implement projects to reduce hexavalent chromium emissions beyond regulatory requirements.

This is a stationary source project prioritized by the California Air Resources Board (CARB), as listed in Chapter 6 of the 2019 CAP Guidelines.

This program will reduce hexavalent chromium emissions from hexavalent chromium plating facilities by providing financial incentives to facilities that qualify as a small business within the South Coast AQMD to install add-on air pollution control systems in

[3] Proposed Amended Rule 1469, Final Staff Report; available on South Coast AQMD's website at: http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2018/2018-nov2-029.pdf?sfvrsn=6

[4] Facility that is independently owned and operated with average annual gross receipts of three million dollars ($3,000,000) or less, averaged over the previous three years, and 25 or fewer employees (threshold used in development of South Coast AQMD Rule 1480 to exclude facilities from monitoring provisions).

lieu of using certified chemical fume suppressants, or to switch to alternative technologies such as trivalent chromium plating processes. The projects funded under this program are required to result in emissions reductions above and beyond existing regulatory requirements.

Stationary Source Projects –Community Outreach for Projects Not Located Within an AB 617 Community

To achieve maximum community benefits, the program will be open to small business facilities within South Coast AQMD's jurisdiction, which includes the four-county South Coast Air Basin (all of Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino counties), and the Riverside County portion of the Salton Sea Air Basin and the non-Palo Verde, Riverside County portion of the Mojave Desert Air Basin. South Coast AQMD has gained valuable experience in working with community members during the AB 617 process and will incorporate this experience into a program outreach for the stationary sources which will include efforts such as the following:

- Social Media
- South Coast AQMD web site
- Press releases
- Community Events

Stationary Source Projects – Community Outreach for Projects Located Within an AB 617 Community With a CERP That Identifies Emissions Reductions From Hexavalent Chromium Plating Facilities as a Priority

This program received support during development of the East Los Angeles, Boyle Heights, West Commerce Community Emission Reduction Plan (CERP) in 2019. Specifically, the East Los Angeles, Boyle Heights, West Commerce Community Steering Committee (CSC) identified exposure to fugitive emissions from metal processing facilities as a community air quality priority. To address this concern, CERP Action 2 from Chapter 5 recommended the use of incentive funds to reduce emissions from metal processing facilities (e.g., transitioning hexavalent chromium electroplating operations to trivalent chromium or installing air pollution controls to reduce emissions where emission reductions exceed rule requirements). Information about the East Los Angeles, Boyle Heights, West Commerce CSC is included below:

1. Name of the community group
   East Los Angeles, Boyle Heights, West Commerce Steering Committee Map[5]
2. Purpose of the community group
   Community Engagement and Public Input
3. Total number of members in the community group

[5] Available on South Coast AQMD's website at: https://scaqmd-online.maps.arcgis.com/apps/View/index.html?appid=3e6b40c9a9d94d01bf8d1cc02767370c&extent=-118.2963,33.9664,-118.0650,34.0778

34 CSC members and 16 alternate members[6]

4. Date of formation/establishment
   Boyle Heights meeting November 2018
5. A description of the decision-making process
   CSC Charter[7]

Staff provided a briefing to the East Los Angeles, Boyle Heights, West Commerce Community Steering Committee in March 2021 to inform community members of the program goals and solicit input on program implementation. At the conclusion of the meeting, CSC members were asked to list the top three categories for emission reduction projects in their community. Results of the polling confirmed the CSC members' support to implement emission reduction projects from metal processing facilities.

South Coast AQMD staff commits to provide future briefings to the East Los Angeles, Boyle Heights, West Commerce CSC if additional projects within the CERP are intended to be funded under this program. CSC members and the public would be notified of the incentive program update through current meeting announcement procedures and staff would provide an oral report to describe additional projects that could be funded in the CERP. As with the previous CSC meeting update, staff would seek input using a survey or poll to identify community support if there were competing priorities.

Program Eligibility

Receipt of Application. At time of application, participants must:

A. Meet federal, State, and local requirements applicable to chrome plating operations.
B. Have authority to make any necessary building modifications.
C. Show proof of regulatory compliance and valid operating permit.
D. Submit a quote from an independent contractor. The quote from the selected contractor does not have to match the final invoice submitted for reimbursement if additional work is required for the installation, but parts and labor costs for the major components of the technology should match the initial quote.

Participant Requirements

Contract Execution. After contract execution, participants must meet the following requirements:

A. Maintain the control technology to manufacturer's specifications during the contract period.

[6] Available on South Coast AQMD's website at: http://www.aqmd.gov/docs/default-source/ab-617-ab-134/steering-committees/east-la/roster-with-bios.pdf?sfvrsn=29 .

[7] Available at South Coast AQMD's website at: http://www.aqmd.gov/docs/default-source/ab-617-ab-134/steering-committees/east-la/charter-english.pdf?sfvrsn=8

B. May not claim emissions reduction credits from the incentivized technology during the contract period.
C. Comply with local air district requirements during the contract period, such as parameter monitoring and reporting requirements.
D. Ensure permits for the control technology remain up-to-date and all permit requirements are met during the contract period as required by the South Coast AQMD.
E. Maintain compliance with all federal, State, and local rules and regulations.
F. Make replacement technology available for inspection if requested by South Coast AQMD and/or CARB staff during the contract period.

Contract Period

The contract period will be based on two phases: Project Completion and Project Life. Project Completion is the period after the contract is executed and until a post-construction inspection is made to document that the equipment is installed and operational. Project Life is the time the applicant is required to operate and maintain the grant-funded equipment. Project Completion will be based on the schedule included in the executed contract and the Project Life is three years.

Funding Amounts

Project funding limits are a total maximum grant amount of $300,000, with a maximum limit of $23 per cubic foot per minute for ventilation and filtration systems. Based on facility information, most of the facilities relying on chemical fume suppressants as the sole source of emissions control are decorative operations which are also considered small businesses and might not be able to come up with 20 percent of project costs as required in 2019 CAP Guidelines, Chapter 4. Therefore, as previously discussed, the Project Plan specifies that 100 percent of the project costs are covered for small businesses that perform decorative or non-decorative operations, as long as the emission reductions are above and beyond current regulatory requirements. Facilities would be required to maintain and operate the add-on air pollution control equipment for three years ("Project Life"). During the Project Life, the facility would be responsible for ongoing operation and maintenance costs, such as electricity use. Facilities that are not small businesses can follow procedures and the maximum funding criteria included in 2019 CAP Guidelines, Chapter 4.

Eligible Costs

Grant funds may only pay for items essential to the operation of the control technology. Eligible project costs include:

A. Design and engineering (e.g., labor, site preparation)
B. Control technology and materials
C. Instrumentation and monitoring units
D. Required ventilation ductwork and electrical upgrades
E. Installation

F. Initial performance tests conducted to confirm post-technology emissions
G. Shipping and delivery costs
H. License fees, environmental fees, commissioning fees (safety testing), onsite required safety equipment, and fees incurred during pre-contract execution (i.e., permits, design, engineering, site preparation)
I. HEPA filter replacement for the three-year Project Life

The maximum eligible grant funding amount cannot be exceeded.

Ineligible Costs

Grant funds may not be used for ongoing operation and maintenance of the equipment, except those costs identified as eligible costs. Ineligible costs include:

A. Utilities
B. Labor for device operation, maintenance, or monitoring

Project Eligibility Criteria

The minimum requirements for projects are listed below.

General Requirements

A. Any applicable permits issued by South Coast AQMD for the existing operations and associated equipment must be up-to-date.
B. The participant must certify that any equipment to be replaced will be discarded in a manner that complies with all federal, State, and local requirements.
C. Projects will be approved on a first come, first served basis determined by the submittal of a complete program application.

Control Technology Requirements – Regulatory Compliance

A. The control technology must reduce hexavalent chromium emissions to an emissions level less than what is required by federal, State, and local rules or regulations.
B. The control technology or post-technology emissions from an electroplating or anodizing bath must be 0.0015 mg/amp-hr or less of hexavalent chromium.
C. If the source is not an electroplating or anodizing bath, the post-control emissions must be 0.20 mg/hr or cleaner for ventilation systems with exhaust rates of 5,000 cubic feet/minute (cfm) or less or 0.004 mg/hr-ft2 for ventilation systems with exhaust rates greater than 5,000 cfm (based on the surface area of all source tanks that vent into the ventilation system).
D. Facilities should determine their current regulatory requirements prior to application submission. South Coast AQMD is responsible for verifying whether the project provides emissions reductions in excess of those otherwise required by law or regulation.
E. If applicable, local requirements must also be reviewed to ensure projects provide emissions reductions in excess of those requirements.

F. The control technology installed at a facility must be within the jurisdictional boundaries of the South Coast AQMD. Prior to modification of the existing technology and/or installation of the control technology, applicable permit applications must be submitted to and approved by the South Coast AQMD. Installations must be completed before compliance deadlines.
G. If the replacement technology is sold to a new owner during the contract period, the new owner must agree to abide by the existing contract terms until contract termination. Any change in ownership must be reported to the air district within 30 days.
H. The control technology must be new and have at least a one-year warranty, except for parts with regularly scheduled maintenance. Remanufactured or refurbished equipment and parts are not eligible.
I. Where possible, the control technology must include instrumentation (e.g., mechanical gauges) that can monitor the operating parameters of the technology such as pressures and air flows.
J. The technology must also include a standard operating procedure manual with the recommended factory scheduled maintenance intervals.
K. Applicants must provide contact information of the technology manufacturer and the contractor that performed the equipment replacement. Installation work must be performed by independent contractors that are licensed and bonded/insured.

Response Process

In response to each round of available funding, South Coast AQMD will release two Program Opportunity Notices (PON): a Facility PON to identify candidate facilities and a Contractor PON to identify contractors. Facilities meeting the criteria identified in this Project Plan can respond to the Facility PON and either identify a contractor they will be working with or indicate that they do not have a contractor identified. Contractors that have experience in installing add-on air pollution control devices or trivalent chromium system conversions are encouraged to respond to the Contractor PON. Once a facility is selected for the program, the facility can work with their previously identified contractor or select a contractor from the list generated by the Contractor PON.

Response Submittal and Evaluation

Applicants must respond to the PONs by the due date specified in the solicitation. To initiate the PON period, South Coast AQMD will issue a public notification to advertise the availability of grant funds for this project type. Once the PON period has ended, South Coast AQMD will convene a Review Panel to evaluate the responses received and contact entities as necessary to gather additional information. Based upon this initial evaluation, possible next steps include:

- A request by the Review Panel for more detailed information which would be used to further evaluate the response;
- An offer from South Coast AQMD to enter into contract development based on information submitted;

- Notification that the response has been declined from further consideration.

Reporting Requirements

All projects that receive funding under this program must comply with the reporting requirements described in Chapter 3, Section H of the 2019 CAP Guidelines. Participants must ensure that project-related information is complete, correct, and supported by documentation and provided to South Coast AQMD upon request. South Coast AQMD will compile this information and prepare mid-cycle and annual reports and provide information to CARB. At the conclusion of the project, South Coast AQMD staff will utilize project information to perform an emission reduction calculation using the CARB methodology for quantifying CAP incentives[8].

[8] Available on CARB's website at: https://ww2.arb.ca.gov/resources/documents/quantitative-methodologies-community-air-protection-incentives-2019-guidelines