TITLE 17. CALIFORNIA AIR RESOURCES BOARD

NOTICE OF PUBLIC HEARING TO CONSIDER AMENDMENTS TO THE HEXAVALENT CHROMIUM AIRBORNE TOXIC CONTROL MEASURE FOR CHROME PLATING AND CHROMIC ACID ANODIZING OPERATIONS

The Air Resources Board (ARB or Board) will conduct a public hearing at the time and place noted below to consider adopting amendments to the existing Hexavalent Chromium Airborne Toxic Control Measure (ATCM) for Chrome Plating and Chromic Acid Anodizing Operations (Chromium Plating ATCM). The amendments are proposed to further reduce the public's exposure to hexavalent chromium by reducing hexavalent chromium emissions.

DATE: September 28, 2006

TIME: 9:00 a.m.

PLACE: California Environmental Protection Agency
Air Resources Board
Byron Sher Auditorium, Second Floor
1001 I Street
Sacramento, California 95814

This item will be considered at a two-day meeting of the Board, which will commence at 9:00 a.m. on September 28, 2006, and may continue to 8:30 a.m., September 29, 2006. Please consult the agenda for the meeting, which will be available at least ten days before September 28, 2006, to determine the day on which this item will be considered.

For individuals with sensory disabilities, this document is available in Braille, large print, audiocassette, or computer disk. Please contact ARB's Disability Coordinator at (916) 323-4916 by voice or through the California Relay Services at 711, to place your request for disability services. If you are a person with limited English and would like to request interpreter services, please contact ARB's Bilingual Manager at (916) 323-7053.

INFORMATIVE DIGEST OF PROPOSED ACTION AND POLICY STATEMENT OVERVIEW

Sections Affected: Proposed amendments to section 93102, title 17, California Code of Regulations (CCR), and proposed adoption of new sections 93102.1 to 93102.16, title 17, CCR.

Background: In 1986, the Board identified hexavalent chromium as a Toxic Air Contaminant (TAC). Hexavalent chromium was determined to be an extremely potent human carcinogen with no known safe level of exposure. It was found that exposure over a lifetime to very low ambient hexavalent chromium concentrations could very substantially increase a person's chance of developing cancer from the hexavalent

chromium emissions. Subsequent to that finding and to control hexavalent chromium emissions, the Board adopted the Chromium Plating ATCM (title 17, CCR, section 93102). The regulation set forth the requirements for reducing hexavalent chromium emissions based on the type of operation. Most hard chromium plating facilities were required to reduce hexavalent chromium emissions by 99 percent or more. This was achieved through installation of add-on air pollution control devices. Decorative chromium plating and chromic acid anodizing facilities were required to reduce emissions by 95 percent; however, they were not required to use add-on air pollution control devices.

The Chromium Plating ATCM was amended in 1998 to include provisions for controlling emissions of trivalent chromium from trivalent chromium plating facilities. The 1998 amendments also added requirements for monitoring, inspection, maintenance, recordkeeping, and reporting. These amendments were necessary to establish equivalency with the federal regulation for chromium plating and chromic acid anodizing facilities.

Due to the carcinogenicity of hexavalent chromium, and in response to community concerns, ARB staff undertook an evaluation of the Chromium Plating ATCM. The staff evaluated if people located near chromium plating or chromic acid anodizing facilities were adequately protected from emissions of hexavalent chromium. Staff also evaluated if technologies were available to reduce hexavalent chromium emissions, if necessary. As part of the evaluation, staff determined that 43 percent of the hexavalent chromium operations are located within 100 meters of a sensitive receptor, such as a residence or school. By conducting an emissions testing program and air quality modeling, staff determined that these sensitive receptors may be exposed to unacceptable hexavalent chromium concentrations. ARB staff also found that reliable add-on air pollution control devices such as high efficiency particulate arrestor (HEPA) filters are now available and are used by many facilities to reduce hexavalent chromium emissions. Use of HEPA filters, or other combinations of controls that are as effective as HEPA filters, represents best available control technology (BACT) for intermediate and large throughput facilities. BACT for small facilities is represented by use of ARB specified chemical fume suppressants.

Several facilities in California currently use the trivalent chromium process to perform decorative chromium plating. Therefore, staff also evaluated if using this alternative process could be employed for all decorative chromium plating operations. Trivalent chromium is not considered to be a human carcinogen. If feasible, use of the trivalent chromium process would potentially eliminate the cancer risk from decorative chromium plating operations. However, although improvements in the process have been made, use of trivalent chromium is not available for all applications.

The staff determined that estimated cancer risk from intermediate and large production facilities now controlled with chemical fume suppressants alone could be reduced very substantially by requiring the use of HEPA filter systems or the equivalent. By applying

this approach to all but very small sources, an additional 40 percent of facilities would be able to control their emissions of hexavalent chromium by over 99 percent. This would result in reducing estimated cancer risk from current levels up to 85 percent for individual facilities. Finally, ARB staff determined that the hexavalent chromium emissions from chromium plating and chromic acid anodizing are not solely from electroplating or anodizing, but also from fugitive dust containing hexavalent chromium that is reintroduced into outside air. Implementing housekeeping measures to reduce dust accumulation can reduce these fugitive emissions.

As allowed by State law, in 2003 the South Coast Air Quality Management District (South Coast AQMD) amended its Rule 1469, Control of Hexavalent Chromium Emissions from Chrome Plating and Chromic Acid Anodizing Operations (Rule 1469), and made the rule more protective than the then-applicable ATCM. The amended rule requires hexavalent chromium facilities located within 25 meters from a sensitive receptor or within 100 meters from a school to reduce hexavalent chromium emissions such that the residential cancer risk will be no more than ten chances per million people. The rule also requires facilities located greater than 25 meters from a sensitive receptor or 100 meters from a school to reduce emissions such that cancer risk will be no more than 25 chances per million people. Rule 1469 establishes production thresholds that allow the use of chemical fume suppressants added to the plating bath as the sole control method (as is currently allowed by the Chromium Plating ATCM). However, the only chemical fume suppressants that can be used are those that are "certified" to reduce hexavalent chromium emissions from the plating bath to no more than 0.01 milligrams/ampere-hour at specified surface tensions. Rule 1469 also establishes housekeeping requirements. The amended rule is in full effect.

There are also federal regulations for chromium plating and chromic acid anodizing facilities; these regulations are discussed in this notice under the heading "Comparable Federal Regulations."

Description of the Proposed Regulatory Action: The proposed amendments to the Chromium Plating ATCM would require use of more stringent add-on air pollution control devices such as HEPA filters or equivalent systems to further reduce the public's exposure to hexavalent chromium from most chromium plating and chromic acid anodizing facilities. This add-on air pollution control equipment requirement would apply to facilities over time, except for facilities with very low throughput (measured in annual permitted ampere-hours), that would be required to use chemical fume suppressants.

The existing Chromium Plating ATCM establishes different control requirements based on the type of operation, with hard chromium plating operations subject to the most stringent limits. Rather than continued bifurcation of requirements, staff is proposing that all facilities using the hexavalent chromium process, whether they perform decorative plating, hard plating, or chromic acid anodizing, be subject to the same requirements.

Very low production (≤ 20,000 ampere-hours per year) facilities could continue to reduce hexavalent chromium emissions through use of ARB specified chemical fume suppressants to lower surface tension of the plating or anodizing bath. Using specified chemical fume suppressants to lower surface tension reduces hexavalent chromium emissions to 0.01 milligrams/ampere-hour.

Requiring HEPA filters or the equivalent for all other facilities translates to the use of control technologies rated at 99.97 percent efficient for collecting particles of 0.3 micrometers in diameter. This is the control efficiency achieved through installation of a HEPA add-on air pollution control device. The emission limitation equivalent to this level of control is 0.0015 milligrams/ampere-hour. Therefore, the proposed amendments would require all facilities that have greater than 20,000 annual ampere-hours to achieve this emission limitation. The timing for requiring compliance with the emission limitation for each facility would be based on its annual production and proximity to sensitive receptors.

Intermediate-sized facilities (> 20,000 and ≤ 200,000 permitted ampere-hours per year) would have five years to comply if the facility is located more than 100 meters from a sensitive receptor. To protect sensitive receptors at the earliest possible time, other intermediate-sized facilities located at or within 100 meters of a sensitive receptor would be required to meet the emission limitation in two years. All intermediate-sized facilities would have the option to demonstrate compliance with the emission limitation without the installation of add-on air pollution control devices.

The largest facilities (greater than 200,000 permitted ampere-hours per year) would be required to install add-on air pollution control device(s) and to comply with the emission limitation of 0.0015 milligrams/ampere-hour within two years.

As proposed, a facility would be defined as modified if throughput levels increased such that the facility would be subject to a more stringent emission limitation. Modified facilities would be required to demonstrate compliance with the emission limitation of 0.0015 milligrams/ampere-hour by using an add-on air pollution control device(s).

For new facilities, no new facility would be allowed to operate unless it is located outside of an area that is zoned for residential or mixed use and is located at least 150 meters from the boundary of any area zoned for residential or mixed use. All new facilities would also be required to install HEPA add-on air pollution control device(s) and to comply with an emission limitation of 0.0015 milligrams/ampere-hour.

Accounting for the reductions in emissions and cancer risk achieved by South Coast AQMD Rule 1469, the proposed amendments to the Chromium Plating ATCM would further reduce the statewide emissions of hexavalent chromium from chromium plating and anodizing facilities by over 50 percent. Intermediate and large production facilities

required to install BACT would control emissions by over 99 percent and this would result in a reduction in estimated cancer risk from current levels up to 85 percent for individual facilities.

Proposed Additional Amendments

1. A number of new and modified definitions are proposed to implement the new requirements and clarify existing definitions. In particular, a definition is being proposed to define "sensitive receptor." As proposed, a "sensitive receptor" would be defined as: "any residence including private homes, condominiums, apartments, and living quarters; education resources such as preschools and kindergarten through grade twelve (k-12) schools; daycare centers; and health care facilities such as hospitals or retirement and nursing homes. A sensitive receptor includes long term care hospitals, hospices, prisons, and dormitories or similar live-in housing."

2. The proposed amendments would specify the chemical fume suppressants that could be used by very small facilities to comply with the surface tension requirement. Some intermediate-sized facilities would also be required to use the specified chemical fume suppressants if they can demonstrate compliance with the emission limit without the installation of add-on air pollution control devices.

3. Housekeeping measures would be required to reduce fugitive hexavalent chromium emissions.

4. Training on the Chromium Plating ATCM and the requirements, conducted by ARB staff, would be required for employees of chromium plating and chromic acid anodizing facilities every two years. This requirement would not apply to personnel who attend the South Coast AQMD's training class for Rule 1469.

5. As described under "Comparable Federal Regulations," the federal regulation was recently amended. Therefore, staff is proposing to incorporate most of these changes into the Chromium Plating ATCM. However, staff is not proposing to incorporate the provision to allow hard chromium plating facilities to use chemical fume suppressants as the sole source of controlling hexavalent chromium emissions unless they have production levels less than 20,000 ampere-hours.

6. Staff is proposing amendments that would apply to chromium plating and chromic acid anodizing kits. The amendments would prohibit the sale, supply, offer for sale, or manufacture for sale in California of any chromium plating or chromic acid anodizing kit. In addition, any use of such kits to perform chromium electroplating or chromic acid anodizing would be prohibited unless these activities are performed at a permitted facility that complies with the requirements of the Chromium Plating ATCM.

7. New, modified, and some existing facilities would be required to conduct a site specific analysis if annual hexavalent chromium emissions exceed a specified weight.

8. A number of minor or nonsubstantive changes are proposed to re-number and re-organize subsections within the Chromium Plating ATCM. For example, the existing ATCM is contained in a single section (section 93102) but the amended Chromium Plating ATCM would be contained in sections 93102-93102.16. These changes are necessary to accommodate the new provisions and provide clarity.

COMPARABLE FEDERAL REGULATIONS

On January 25, 1995, the United States Environmental Protection Agency (U.S. EPA) promulgated, in 40 Code of Federal Regulations (CFR) Part 63, Subpart N, "The National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks" (Chromium Plating NESHAP). On July 19, 2004, U.S. EPA amended the Chromium Plating NESHAP. The amendments allow the use of chemical fume suppressants as the sole method to control chromium emissions from hard chromium plating facilities as an alternative to the existing concentration emission limit. The existing Chromium Plating ATCM requires hard chromium plating facilities to reduce hexavalent chromium emissions by using add-on air pollution control devices. An exemption exists for facilities with annual ampere-hours below 500,000, if approved by the air pollution control or air quality management district (air district). Among other provisions the amended Chromium Plating NESHAP also established an alternative standard for hard chromium plating tanks equipped with enclosed hoods and modified the surface tension parameter testing to accommodate the margin of error between the use of a stalagmometer or tensiometer.

On March 15, 1999, ARB was granted equivalency to the 1995 Chromium Plating NESHAP under section 112(l) of the federal Clean Air Act (See 64 Federal Register (FR) 12762, March 15, 1999; 40 CFR section 63.99). This approval by U.S. EPA means that chromium plating and chromic acid anodizing facilities in California do not need to comply with the federal Chromium Plating NESHAP. Instead, these facilities must comply with California's Chromium Plating ATCM, in lieu of the federal Chromium Plating NESHAP. ARB staff is confident that requirements of the amended Chromium Plating ATCM are at least as stringent, or more stringent, than the amended Chromium Plating NESHAP.

Under the U.S. Department of Labor, the Occupational Health & Safety Administration (OSHA) published a Permissible Exposure Limit (PEL) to protect workers from hexavalent chromium exposures. On February 28, 2006, OSHA approved changes to the hexavalent chromium rule to establish a time-weighted average PEL of 5 micrograms per meter cubed ($\mu g/m^3$), measured and reported as hexavalent chromium (see 71 FR 10100). OSHA also adopted other ancillary provisions for

employee protection such as preferred methods for controlling exposure, respiratory protection, protective work clothing and equipment, housekeeping measures, hygiene areas and practices, medical surveillance, hazard communication, and recordkeeping. The OSHA's PEL for chromic acid and chromates is found in 29 CFR 1910.1000, Table Z-2.

ARB staff is also proposing to include housekeeping measures in the Chromium Plating ATCM. The housekeeping measures are designed to prevent dust that may contain hexavalent chromium from becoming re-entrained into the ambient air. The OSHA measures are designed to protect workers. The measures proposed by ARB would not be in conflict with those required by OSHA to protect workers.

AVAILABILITY OF DOCUMENTS AND AGENCY CONTACT PERSONS

The ARB staff has prepared an "Initial Statement of Reasons for the Proposed Amendments to the Airborne Toxic Control Measure for Chrome Plating and Chromic Acid Anodizing Operations" (Staff Report) for the proposed regulatory action, which includes a summary of the potential environmental and economic impacts of the proposal.

Copies of the Staff Report and the full text of the proposed regulatory language may be obtained from the Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center,1st Floor, Sacramento, California 95814, (916) 322-2990 at least 45 days prior to the September 28, 2006, hearing. The Staff Report is also available on the internet at the website listed below, or by contacting the staff listed below.

Upon its completion, the Final Statement of Reasons (FSOR) will be available and copies may be requested from the agency contact persons in this notice, or may be accessed on the website listed below.

Inquiries concerning the substance of the proposed regulation may be directed to the designated agency contact persons, Carla Takemoto, Manager of the Technical Evaluation Section, at (916) 324-8028 or by email at ctakemot@arb.ca.gov, or Shobna Sahni, Air Pollution Specialist, at (626) 575-7039 or by email at spandhoh@arb.ca.gov.

Further, the agency representative and designated back-up contact persons to whom nonsubstantive inquiries concerning the proposed administrative action may be directed are Artavia Edwards, Manager, Board Administration & Regulatory Coordination Unit, (916) 322-6070, or Alexa Malik, Regulations Coordinator, (916) 322-4011. The Board has compiled a record for this rulemaking action, which includes all the information upon which the proposal is based. This material is available for inspection upon request to the contact persons.

This notice, the Staff Report, and all subsequent regulatory documents, including the Final Statement of Reasons, when completed, are available on the ARB Internet site for this rulemaking at www.arb.ca.gov/regact/chrom06/chrom06.htm

COSTS TO PUBLIC AGENCIES AND TO BUSINESSES AND PERSONS AFFECTED

The determinations of the Board's Executive Officer concerning the costs or savings necessarily incurred by public agencies and private persons and businesses in reasonable compliance with the proposed regulations are presented below and in specific detail in the Staff Report.

The ARB Executive Officer has determined that the proposed regulatory action will not create costs or savings, as defined in Government Code section 11346.5(a)(5) and 11346.5(a)(6), to any State agency or in federal funding to the State, costs or mandate to any school district whether or not reimbursable by the State pursuant to Part 7 (commencing with section 17500), Division 4, title 2 of the Government Code, or other nondiscretionary savings to State or local agencies.

The proposed regulatory action will impose a mandate upon and create costs to local agencies (i.e., air districts). The air districts will be required to implement and enforce the ATCM, or adopt and enforce their own rules that are at least as stringent. However, such administrative costs to the air districts are recoverable by fees that are within the air districts' authority to assess (see Health and Safety Code sections 42311 and 40510). Therefore, the Executive Officer has determined that the proposed regulatory action imposes no costs on local agencies that are required to be reimbursed by the State pursuant to part 7 (commencing with section 17500), Division 4, title 2 of the Government Code, and does not impose a mandate on local agencies that is required to be reimbursed pursuant to Section 6 of Article XIII B of the California Constitution.

In developing this regulatory proposal, the ARB staff evaluated the potential economic impacts on representative private persons or businesses. The Executive Officer has initially determined that there will be a potential cost impact on private persons or businesses directly affected as a result of the proposed regulatory action. The cost impact on the businesses will vary depending on how much a facility is already in compliance with the proposed requirements. As explained below, the proposed amendments may have a significant adverse impact on some individual businesses but the overall statewide impacts are not expected to be significant.

There are currently about 226 chromium plating and chromic acid anodizing facilities in California, with about 170 of those located in the South Coast AQMD. The estimated first year cost impacts for chromium plating or chromic acid anodizing owners or operators ranges from $450 to $217,000. The lower cost represents facilities that would have to file a one-time compliance status report, while the upper cost represents amortized costs for purchasing add-on air pollution control device(s), plus the operational and maintenance costs of the device(s). The average annual cost for a facility required to install an add-on air pollution control device(s) would be

about $53,000. The average one-time cost for facilities that are already almost fully compliant is $5,300, with the highest cost being about $21,000. About 60 percent of existing facilities would have no appreciable compliance costs after the first year.

Some smaller volume plating or anodizing businesses may decide to cease chromium plating or anodizing operations rather than make the investments needed to comply. In order to minimize the economic impact to chromium plating and chromic acid anodizing facility owners or operators, a loan guarantee program has been established through the Business, Transportation, and Housing Agency.

Apart from the impacts described above on individual chromium plating and chromic acid anodizing businesses, the Executive Officer has made an initial determination that the proposed regulatory action will not have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states, or on representative private persons.

In accordance with Government Code section 11346.3, the Executive Officer has initially determined that the proposed amendments should have minimal impacts on the creation or elimination of jobs within the State of California, minimal impacts on the creation of new businesses and the elimination of existing businesses within the State of California, and minimal impacts on the expansion of businesses currently doing business within the State of California.

The Executive Officer has also determined, pursuant to title 1, CCR, section 4, that the proposed regulatory action will affect small businesses.

In accordance with Government Code sections 11346.3(c) and 11346.5(a)(11), the Executive Officer has found that the proposed reporting requirements of the ATCM which apply to businesses are necessary for the health, safety, and welfare of the people of the State of California.

Before taking final action on the proposed regulatory action, the Board must determine that no reasonable alternative considered by the Board or that has otherwise been identified and brought to the attention of the Board would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action.

A detailed assessment of the economic impacts of the proposed regulatory action can be found in the Staff Report.

SUBMITTAL OF COMMENTS

The public may present comments relating to this matter orally or in writing at the hearing, and in writing or by e-mail before the hearing. To be considered by the Board, written submissions not physically submitted at the hearing must be received **no later than 12:00 noon, September 27, 2006**, and addressed to the following:

Postal mail is to be sent to:

Clerk of the Board, Air Resources Board
1001 I Street, Sacramento, California 95814

Electronic submittal: http://www.arb.ca.gov/lispub/comm/bclist.php

Facsimile submittal: (916) 322-3928

The Board requests but does not require 30 copies of any written statement be submitted and that all written statements be filed at least ten days prior to the hearing so that ARB staff and Board Members have time to fully consider each comment. The Board encourages members of the public to bring to the attention of staff in advance of the hearing any suggestions for modification of the proposed regulatory action.

STATUTORY AUTHORITY AND REFERENCES

This regulatory action is proposed under the authority granted to the ARB in Health and Safety Code sections 39600, 39601, 39650, 39658, 39659, 39666, and 41511. This action is proposed to implement, interpret, or make specific Health and Safety Code sections 39650, 39658, 39659, 39666, and 41511; and 40 Code of Federal Regulations Part 63, subpart N.

HEARING PROCEDURES

The public hearing will be conducted in accordance with the California Administrative Procedure Act, title 2, division 3, part 1, chapter 3.5 (commencing with section 11340) of the Government Code.

Following the public hearing, ARB may adopt the regulatory language as originally proposed or with nonsubstantial or grammatical modifications. The Board may also adopt the proposed regulatory language with other modifications if the text as modified is sufficiently related to the originally proposed text that the public was adequately placed on notice that the regulatory language as modified could result from the proposed regulatory action. In the event that such modifications are made, the full regulatory text, with the modifications clearly indicated, will be made available to the public for written comment at least 15 days before it is adopted.

The public may request a copy of the modified regulatory text from the ARB's Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, 1st Floor, Sacramento, California 95814, (916) 322-2990.

CALIFORNIA AIR RESOURCES BOARD

Catherine Witherspoon
Executive Officer

Date: August 1, 2006