California Environmental Protection Agency

Air Resources Board

Final Statement of Reasons for Rulemaking
Including Summary of Comments and Agency Responses

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

First Public Hearing Date: September 28, 2006
Continued to: December 7, 2006
Agenda Item No.: 06-08-3

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State of California
AIR RESOURCES BOARD

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Continued to: December 7, 2006
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I. GENERAL

On December 7, 2006, the Air Resources Board (ARB or Board) conducted a public hearing to consider amendments to the Hexavalent Chromium Airborne Toxic Control Measure (ATCM) for Chrome Plating and Chromic Acid Anodizing Operations, which are contained in section 93102 (renumbered to sections 93102 to 93102.16), title 17, California Code of Regulations (CCR). The proposed amendments were first considered at the Board's September 28, 2006, hearing. After consideration of the testimony and comments received, the Board continued the hearing until December 7, 2006. The Staff Report: Initial Statement of Reasons for Proposed Rulemaking, entitled "Proposed Amendments to the Hexavalent Chromium Airborne Toxic Control Measure for Chrome Plating and Chromic Acid Anodizing Operations" (ISOR), was made available to the public beginning August 11, 2006. The ISOR, which is incorporated by reference herein, contains a description of the rationale for the proposed amendments. At the hearing, the Board approved the proposed amendments with various modifications to the original proposal. These modifications were made available for public comment beginning April 13, 2007, for a period of 15 days (15-day comment period).

In accordance with section 11346.9(a)(1), this Final Statement of Reasons for Rulemaking (FSOR) updates the ISOR by identifying and explaining the modifications that were made to the original proposal. The FSOR also summarizes the written and oral comments received during the 45-day comment period preceding the September 28, 2006, hearing; additional comments received prior to the December 7, 2006, public hearing; comments received at both hearings, and comments received during the 15-day comment period. ARB's responses to all of these comments are also included.

Economic and Fiscal Impacts. The Board determined that this regulatory action will not create costs or savings, as defined in Government Code sections

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.

This regulatory action will also impose a mandate upon and create costs to local air pollution control and air quality management districts (the "districts"). However, these costs to the districts are recoverable by fees that are within the districts' authority to assess (see Health and Safety Code sections 42311 and 40510). Therefore, this 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.

The Board's Executive Officer has also determined that pursuant to Government Code section 11346.5(a)(5), the ATCM will affect small businesses. Staff estimates that profitability for these businesses could decline by 33 percent in order to comply with the proposed amendments. A detailed description of these impacts is included in the ISOR. The adopted regulations are considered "major regulations" within the meaning of Health and Safety Code section 57005 (enacted by Senate Bill 1082: Stats. 1993, ch. 418). No reasonable alternative considered by the agency or that has otherwise been identified and brought to the attention of the agency would be more effective in carrying out the purpose for which the regulatory action was proposed, or would be as effective and less burdensome to affected private persons or businesses, including small businesses, than the action taken by the ARB.

II. MODIFICATIONS MADE TO THE ORIGINAL PROPOSAL

Various modifications to the original proposal were made to address comments received during the 45-day comment period preceding the September 28, 2006, hearing; additional comments received prior to the continued December 7, 2006, hearing; comments received at the September 28, 2006 hearing; and to clarify the regulatory language. These modifications are described below. A "Notice of Public Availability of Modified Text," together with a copy of the modified sections of the Chromium Plating ATCM, was mailed on April 13, 2007, to each of the individuals described in subsections (a)(1) through (a)(4) of section 44, title 1, CCR, including all people who submitted written or oral comments. Additionally, this notice was made available on ARB's website on the same date. By these actions, the modified Chromium Plating ATCM was made available to the public for a supplemental comment period from April 13, 2007 to April 30, 2007. After the close of the 15-day comment period, the Board's Executive Officer determined that no additional modifications should be made to the Chromium Plating ATCM. The Executive Officer subsequently issued Executive

Order R-07-006, which adopted the proposed amendments to the Chromium Plating ATCM.

Following is a summary of the modifications that were made to the original proposal.

Section 93102.3 was modified to add definitions for “Executive Officer,” “School under construction,” and “Substantial use.” Defining these terms was necessary to clarify other portions of the regulation.

Sections 93102.4(a)(1)(C) and (a)(2) were modified to ensure that early emission reductions are achieved by requiring use of specific chemical fume suppressants six months after the regulation becomes legally effective.

Section 93102.4(b)(1) was modified to revise emission limits, compliance dates, and ampere-hour thresholds based on proximity to sensitive receptors. The revised table of limits is shown below:

Table 93102.4: Hexavalent Chromium Emission Limits for Existing Tanks

Sensitive Receptor Distance [1]	Annual Permitted Ampere-Hours	Emission Limitation	Effective Date
≤ 330 feet	≤ 20,000	Use Chemical Fume Suppressants as specified in section 93102.8 [2]	[Six Months after Effective Date]
≤ 330 feet	> 20,000 and ≤ 200,000	0.0015 milligrams/ampere-hour as measured after add-on air pollution control device(s)	[Three Years after Effective Date]
≤ 330 feet	> 200,000	0.0015 milligrams/ampere-hour as measured after add-on air pollution control device(s) [3]	[Two Years after Effective Date]
> 330 feet	≤ 50,000	Use Chemical Fume Suppressant as specified in section 93102.8 [2]	[Six Months after Effective Date]
> 330 feet	> 50,000 and ≤ 500,000	0.0015 milligrams/ampere-hour	[Four Years after Effective Date]
> 330 feet	> 500,000	0.0015 milligrams/ampere-hour as measured after add-on air pollution control device(s) [3]	[Two Years after Effective Date]

[1] Distance shall be measured as specified in section 93102.4(b)(2)(A).

[2] Alternatively, a facility may install an add-on air pollution control device(s) that controls emissions to below 0.0015 milligrams per ampere-hour.

[3] When annual emissions exceed 15 grams a site specific risk analysis must be conducted in accordance with the permitting agency’s procedures, unless a site specific risk analysis has already been conducted and

approved by the permitting agency. The analysis shall be submitted to the permitting agency.

Section 93102.4(b)(2)(A) was added to specify how the measurement to the nearest sensitive receptor is to be made. This is necessary to determine applicable regulatory requirements.

Section 93102.4(b)(3) was added to clarify that districts may approve alternative methods of compliance, as provided in Health and Safety Code 39666(f), as long as a facility demonstrates that the alternative method is enforceable and will achieve an equal or greater amount of reduction in emissions and health risk. If an alternative method is approved, section 93102.4(b)(3) also clarifies what provisions of the regulations will apply to a facility operating under an approved alternative method.

Section 93102.4(d)(1) was modified to increase the distance to 1,000 feet as the distance any new hexavalent chromium facility must be located from areas zoned residential, zoned mixed use, or a school or school under construction, in order to operate. This measurement is consistent with that in ARB's Land Use Guidance document.

Section 93102.4(d)(2) was modified to lower the emission limit that must be met for any new hexavalent chromium plating facility. The limit was lowered to 0.0011 milligrams/ampere-hour from the previous 0.0015 milligrams/ampere-hour. Through additional data analysis staff determined that new facilities are able to design add-on air pollution control devices capable of meeting the revised lower limit.

Section 93102.5(b) was modified to clarify that the owner or operator of a facility must insure that chromium plating or chromic acid anodizing operations are conducted under the direction of a person who has completed environmental compliance training and is onsite during plating or anodizing operations. This provision was added to help ensure compliance.

Section 93102.6(a)(2) was changed to require new trivalent chromium plating facilities to conduct a facility-wide site specific risk analysis in accordance with district permitting procedures. This provision ensures that new trivalent chromium plating facilities do not adversely impact receptors located near-by.

Section 93102.6(a)(4) was added to clarify portions of the ATCM that are not applicable to trivalent chromium plating facilities meeting the concentration standard of no more than 0.01 milligrams per dry standard cubic meter of air.

Section 93102.6(a)(5) was added to clarify that if a facility conducts both trivalent and hexavalent chromium plating, the hexavalent chromium plating tanks must be in compliance with the requirements related to hexavalent chromium facilities.

Section 93102.6(b)(3) was added to clarify requirements for facilities with both enclosed and open surface hexavalent chromium plating tanks.

Section 93102.6(b)(4) was added to clarify that a new facility with enclosed hexavalent chromium plating tanks must comply with section 93102.4(d)(1). Section 93102.4(d)(1) relates to where new hexavalent chromium facilities must be located in order to operate.

Section 93102.7(a)(1) was modified to specify which facilities must conduct a performance test.

Section 93102.7(a)(3) was added to specify the timeline for conducting the performance test for existing facilities. The performance test must be conducted no later than the applicable compliance date in Table 93102.4.

Section 93102.7(a)(5) was added to clarify that small facilities using chemical fume suppressants as the sole control do not have to conduct a performance test. Facilities that are located within 330 feet of a sensitive receptor and with less than or equal to 20,000 annual permitted ampere-hours do not need to conduct a performance test. In addition, facilities located more than 330 feet from a sensitive receptor and with annual permitted ampere-hours less than or equal to 50,000 also do not need to conduct a performance test.

Section 93102.7(a)(6) was moved and modified to clarify that trivalent chromium plating facilities complying by meeting the no more than 0.01 milligrams per dry standard cubic meter of air emission rate must conduct a performance test to determine total chromium emissions.

Section 93102.7(c)(1)(B) was changed to specify that if only total chromium is measured in a performance test, the resulting total chromium emission rate shall be considered the hexavalent chromium emission rate.

Table 93102.8 of section 93102.8 was modified to add additional chemical fume suppressants which can be used for facilities required to use specific chemical fume suppressants.

Section 93102.9(d) was modified to clarify requirements for measuring surface tension of the electroplating or anodizing bath when chemical fume suppressants are used. Paragraph (1) relates to facilities that must use one of the chemical fume suppressants listed in table 93102.8. Paragraph (2) specifies the requirements for measuring surface tension for facilities using chemical fume suppressants as partial control but that are not required to use a chemical fume suppressant listed in Table 93102.8. Finally, paragraph (3) specifies that a facility demonstrating compliance through an alternative method must measure the surface tension of the electroplating or anodizing bath daily.

Section 93102.12(c)(4) relating to monitoring data records for surface tension measurements was modified to clarify the frequency of recording the required data.

Section 93102.12(c)(5) was added to specify that the coverage of mechanical fume suppressants on the electroplating or anodizing bath must be recorded daily if a facility is operating under an approved alternative method which includes mechanical fume suppressants as part of the emission controls.

Section 93102.14 was modified to clarify when the United States Environmental Protection Agency (U.S. EPA) and ARB must concur when alternative requirements are approved under various regulatory provisions. Table 93102.14 was further modified to clarify that when U.S. EPA concurrence is required, it is only required for “major changes.” Minor and intermediate changes would not require U.S. EPA concurrence. Definitions of what constitutes minor, intermediate and major changes were also added.

Appendices 2 and 3 to section 93102.16 were modified to clarify how the distance to the sensitive receptor is to be measured.

Appendix 9 to section 93102.16 was added to list the types of information the owner or operator of a facility must submit to the district when applying for approval of an alternative method of compliance under section 93102.4(b)(3) of the regulations and Health and Safety Code section 39666(f). While Appendix 9 imposes requirements to submit certain information on owners and operators of facilities, it does not impose any requirements on districts.

In addition to the modifications described above, other organizational and language changes were made to improve clarity and ensure consistency with other modifications. Notes citing the authority and references to the Health and Safety Code and the Code of Federal Regulations were also added at the end of each section.

Note to Barclays

Although the ARB is providing the adopted amendments to section 93102, title 17, CCR in an underline and strikeout version, the ARB recommends that Barclays not use this version when making changes to the existing Air Toxic Control Measure in section 93102 of Barclays Official California Code of Regulations. The amendments to the existing ATCM are complex and very extensive. The odds are high that at least a few errors will be made in the process of adding and deleting text in Barclays official version of the existing ATCM. To avoid this potential problem, the ARB is providing a "clean" version of the complete ATCM, as amended, without underlines and strikeouts. The ARB suggests that Barclays simply strike out the entire text of the existing ATCM, and

replace it with the clean version of the amended ATCM. An electronic and paper copy of the clean version is included in the final rulemaking package.

III. SUMMARY OF COMMENTS AND AGENCY RESPONSES

The Board received written and oral comments during the extended 45-day comment period and at the September 28, 2006 and December 7, 2006, hearings for this regulatory action. Additional written comments were received during the April 13, 2007 15-day comment period for this regulatory action. A list of Commenters is set forth below, identifying the date received and form of all comments that were timely submitted. Following the list is a summary of each objection or recommendation made regarding the proposed action, together with an explanation of how the proposed action has been changed to accommodate the objection or recommendation, or the reasons for making no change.

45-Day Comments

	Abbreviation	Commenter
1	MFASC-1	Daniel A. Cunningham, Executive Director Metal Finishing Association of Southern California (MFASC) and Surface Technology Association (STA) Written, August 23rd, 2006
2	MFASC-2	Daniel A. Cunningham, Executive Director MFASC and STA Written, August 24th2006
3	Sulgit-1	Steven F. Sulgit Environmental Compliance Department United Airlines San Francisco Maintenance Center Written, August 25th, 2006
4	Nole	Dominic Nole, Chemist, REA Alta Plating & Chemical Corp. Written, August 29th, 2006
5	Caswell	Mike Caswell, Founder Caswell & Sons Inc Written, September 6th, 2006
6	Weintraub-1	David Weintraub Environmental Compliance Department United Airlines San Francisco Maintenance Center Written, September 13th, 2006
7	Environmental Groups-1	Diane Takvorian, Executive Director, Environmental Health Coalition; Bill Gallegos, Executive Director, & Bahram Fazeli, Research & Policy Analyst Communities for a Better Environment; Joseph K. Lyou, Ph.D., Executive Director, California Environmental Rights Alliance;

		Robina Suwol, Executive Director, California Safe Schools; Tim Carmichael, President, Coalition for Clean Air; Tim Grabiel, Attorney, Environmental Justice Project Natural Resources Defense Council; Martha Dina Arguello, Director, Health and Environment Program Physicians for Social Responsibility; Shabaka Heru, Executive Director, Society for Positive Action; Sheila Davis, Executive Director, Silicon Valley Toxics Coalition; Penny Newman, Executive Director, Center for Community Action and Environmental Justice; Cynthia Babich, Director, Del Amo Action Committee; Jesse N. Marquez, Executive Director, Coalition for a Safe Environment; Abdullah Muhammad, Chair, & Martha Sanchez, Co-Chair, ACORN; Jane Williams, Executive Director, California Communities Against Toxics Written, September 21st, 2006
8	EWG	Renee Sharp Environmental Working Group Written, September 25th, 2006
9	SDAPCD-1	Thomas R. Weeks, Chief, Engineering Division San Diego Air Pollution Control District Written, September 26th, 2006
10	Wallerstein-1	Barry Wallerstein, D.Env., Executive Officer South Coast Air Quality Management District (SCAQMD) Written, September 26th, 2006
11	MFASC-3	Daniel Cunningham, Executive Director MFASC & STA Written, September 26th, 2006 & Additional Attachments & Photo Submitted September 27th, 2006
12	MFASC-4	Daniel Cunningham, Executive Director MFASC & STA Written, September 27th, 2006
13	BAAQMD-1	Jack Broadbent, Executive Officer & Air Pollution Control Officer Bay Area Air Quality Management District Written, September 27th, 2006
14	SCAQMD-1	Jill Whynot, Planning & Rules Manager SCAQMD Oral Testimony (with slides), September 28th, 2006

15	SCAQMD-2	Ed Pupka, Senior Enforcement Manager South Coast Air Quality Management District Oral Testimony (with slides), September 28th, 2006
16	Bateman-1	Brian Bateman, Director of Engineering BAAQMD Oral Testimony, September 28th, 2006
17	Cunningham-1	Daniel Cunningham, Executive Director MFASC & STA Oral Testimony (with Slides), September 28th, 2006
18	Marrs-1	John Marrs, Vice President & General Manager Chrome Craft Oral Testimony, September 28th, 2006
19	Rodriquez	Sylvia Rodriguez, President & General Manager Amex Plating, Inc. Oral Testimony, September 28th, 2006
20	Olick-1	Alan Olick, President General Plating & Bright Plating and Alpha Polishing Oral Testimony, September 28th, 2006
21	Appleton-1	Ed Appleton Metal Finishing Marketers Oral Testimony, September 28th, 2006
22	Grana-1	Frank Grana, Owner California Electroplating Oral Testimony & Written Source Test Report, September 28th, 2006
23	Jones	Allan Jones, Ph.D. Worldwide Research & Development Group Atotech Oral Testimony, September 28th, 2006
24	High	Dean High, Technical Consultant MFASC & STA Oral Testimony, September 28th, 2006
25	Hernandez	Paramo Hernandez, Processing Engineer Alta Plating and Chemical Corp. Oral Testimony, September 28th, 2006
26	Lucas-1	Ray Lucas, President Valley Chrome & National Association of Metal Finishers Oral Testimony, September 28th, 2006
27	Bell-1	Sam Bell, Owner Metal Surfaces, Inc. Oral Testimony, September 28th, 2006
28	Pomeroy-1	Charles Pomeroy MFASC & STA Oral Testimony, September 28th, 2006
29	Williams-1	Jane Williams, Executive Director

		California Communities Against Toxics Oral Testimony, September 28th, 2006
30	Forbis-1	Paula Forbis Environmental Health Coalition Oral Testimony & Photo, September 28th, 2006
31	Brock	Maria Brock, Resident Oral Testimony, September 28th, 2006
32	Sison	Anita Sison, Resident Oral Testimony, September 28th, 2006
33	Holmes-Gen	Bonnie Holmes-Gen American Lung Association Oral Testimony, September 28th, 2006
34	Magavern	Bill Magavern Sierra Club of California Oral Testimony, September 28th, 2006
35	MFASC-5	Daniel Cunningham MFASC & STA Executive Director Written, November 2nd, 2006
36	Sulgit-2	Steven F. Sulgit United Airlines San Francisco Maintenance Center Environmental Compliance Department Written, November 10th, 2006
37	MFASC-6	Daniel Cunningham MFASC & STA Executive Director Written, November 22nd, 2006
38	Hunter Chemical	Benjamin Brock Hunter Chemical LLC Written (with source test report), November 30th, 2006
39	Weintraub-2	David Weintraub United Airlines San Francisco Maintenance Center Environmental Compliance Department Written, December 1st, 2006
40	MFASC-7	Daniel Cunningham MFASC & STA Executive Director Written, December 1st, 2006
41	U.S. EPA	Deborah Jordon, Director, Air Division U.S. EPA, Region IX Written, December 4th, 2006
42	BAAQMD-2	Jack Broadbent, Executive Officer & Air Pollution Control Officer Bay Area Air Quality Management District Written, December 5th, 2006
43	MFASC-8	Daniel Cunningham, Executive Director MFASC & STA Written, December 6th, 2006
44	SDAPCD-2	Thomas R. Weeks, Chief, Engineering Division

		San Diego Air Pollution Control District Written, September 26th, 2006 (Posted on December 6th, 2006)
45	Wallerstein-2	Barry Wallerstein, D.Env., Executive Officer SCAQMD Written, December 6th, 2006
46	Environmental Groups-2	Bonnie Holmes-Gen, American Lung Association; Annie Waterman, Action Now; Jane Williams, Executive Director, California Communities Against Toxics Joseph K. Lyou, Ph.D., Executive Director, California Environmental Rights Alliance; Robina Suwol, Executive Director, California Safe Schools; Penny Newman, Executive Director, Center for Community Action and Environmental Justice; Tim Carmichael, President, Coalition for Clean Air; Bill Gallegos, Executive Director, Communities for a Better Environment; Cynthia Babich, Director, Del Amo Action Committee; Roland Valentine, Desert Citizens Against Pollution; Diane Takvorian, Executive Director, Environmental Health Coalition; Bradley Angel, Greenaction; Tim Grabiel, Attorney, Environmental Justice Project Natural Resources Defense Council; Felipe Aguirre, ProUno; Luis Cabrales, Residents of Pico Rivera for Environmental Justice; Sheila Davis, Executive Director, Silicon Valley Toxics Coalition; Shabaka Heru, Executive Director, Society for Positive Action Written, December 6th, 2006
47	Bateman-2	Brian Bateman, Director of Engineering BAAQMD Oral Testimony, December 7th, 2006
48	Cunningham-2	Daniel Cunningham, Executive Director MFASC & STA Oral Testimony (with Slides & Letter from U.S. EPA to Jay Chen, SCAQMD, Dated September 24, 2002), December 7th, 2006
49	Blake	Geoffrey Blake Drilube/All Metals Company Oral Testimony, December 7th, 2006

50	Appleton-2	Ed Appleton Metal Finishing Marketers Oral Testimony, December 7th, 2006
51	Becvar	Dennis Becvar Professional Environmental Services, Inc. Oral Testimony, December 7th, 2006
52	Grana-2	Frank Grana, Owner California Electroplating Oral Testimony, December 7th, 2006
53	Olick-2	Alan Olick, President General Plating & Bright Plating and Alpha Polishing Oral Testimony, December 7th, 2006
54	Marrs-2	John Marrs, Vice President & General Manager Chrome Craft Oral Testimony, December 7th, 2006
55	Bell-2	Sam Bell, Owner Metal Surfaces, Inc. Oral Testimony, December 7th, 2006
56	McBride	Bob McBride, President A.C. Plating Oral Testimony, December 7th, 2006
57	Lucas-2	Ray Lucas, President Valley Chrome & National Association of Metal Finishers Oral Testimony, December 7th, 2006
58	Pomeroy-2	Charles Pomeroy MFASC & STA Oral Testimony, December 7th, 2006
59	Forbis-2	Paula Forbis Environmental Health Coalition Oral Testimony, December 7th, 2006
60	Jimenez	Francisca Jimenez Environmental Health Coalition Oral Testimony, December 7th, 2006
61	Romero	Blanca Romero Environmental Health Coalition Oral Testimony, December 7th, 2006
62	Williams-2	Jane Williams, Executive Director California Communities Against Toxics Oral Testimony, December 7th, 2006
63	Sharpe	Sara Sharpe Coalition for Clean Air, San Joaquin Valley and American Lung Association Oral Testimony, December 7th, 2006
64	SCAQMD-3	Jill Whynot, Planning and Rules Manager South Coast Air Quality Management District

		Oral Testimony, December 7th, 2006
65	Coy	Carol Coy, Deputy Executive Officer SCAQMD Oral Testimony, December 7th, 2006

15-Day Comments

	Abbreviation	Commenter
1	Sulgit-3	Steven F. Sulgit United Airlines San Francisco Maintenance Center Environmental Compliance Department Written, April 13th, 2007
2	MFASC-9	Daniel Cunningham, Executive Director MFASC & STA Written, April 26th, 2007
3	Weintraub-3	David Weintraub United Airlines San Francisco Maintenance Center Environmental Compliance Department Written, April 26th, 2007

A. 45-Day Comments Related to the Proposed Amendments Set Forth in the Initial Statement of Reasons and Considered at the September 28, 2006 Hearing

Comments 1 through 117 are directed at the proposed amendments to the Airborne Toxic Control Measure for Chromium Plating and Chromic Acid Anodizing Facilities (Chromium Plating ATCM or ATCM) that were described in the Initial Statement of Reasons (ISOR or Staff Report) and were presented for the Air Resources Board's (ARB or Board) consideration at the September 28, 2006 hearing. At the hearing, after considering the written comments and oral testimony, the Board continued the hearing until December 7, 2006. The Board further directed staff to return with a revised proposal in consideration of the comments received. At the December 7, 2006 hearing, the Board approved modifications to the staff's original proposal.

i. General Comments on the Proposed Amendments

1. Comment: A very small percentage of the market specifically needs hex chrome to match their old and original work. These are the restorers. Seeing as it is really only they and the 'hard chrome' platers who need hex chrome, I suggest you consider closing down all the other operations using hex, forcing them to use trivalent or other alternatives; as it is they who have been the polluters for far too long. I suggest the following as an alternative: [The Commenter quotes page 97 of the Staff Report related to staff's evaluation of

whether the trivalent chromium process could be used for all decorative plating operations.] (Caswell)

Agency Response: As described in the Staff Report, Chapter IX, page 98, staff determined that the trivalent chromium plating process was not yet a feasible alternative for all decorative plating applications. Requiring this process for all decorative chromium plating would create business competitiveness issues. Therefore, staff rejected this approach.

2. Comment: We ask the Board to direct the staff to report back every six months on the progress and feasibility of using cleaner technologies such as chromium III in decorative plating or other innovate control technologies available for plating operations. Staff should also amend this ATCM upon completion of cumulative impact criteria, which ARB has committed to incorporate into its regulatory framework under their Environmental Justice Program. (Environmental Groups-1)

Agency Response: We do not agree that it is necessary to report every six months on development of cleaner technologies. However, in the Staff Report, Chapter VI, page 62, staff acknowledges that a number of alternative processes, including use of trivalent chromium, hold promise for the future. Staff intends to follow these developments and will propose modifications, if appropriate. Staff will also evaluate if further amendments to the ATCM are warranted when cumulative impact criteria are available to use in the evaluation.

3. Comment: Environmental Working Group (EWG) is also writing to alert the Board to the chromium industry's long history of manipulating scientific evidence in an attempt to make hexavalent chromium appear less harmful. The Board will no doubt be presented with conflicting scientific data as it considers what actions to take with respect to the ATCM. We feel it is important that the Board be familiar with some of the tactics industry has used to influence similar standards in the past. To this end, we have attached a recent paper by George Washington University professor David Michaels that details an industry campaign to use shady science to undermine the OSHA hexavalent chromium standard.

We have also attached a December, 2005 front-page Wall Street Journal article that describes how the environmental consulting firm ChemRisk was paid to re-do a study that linked hexavalent chromium exposures to cancer and eliminate this inconvenient finding.

EWG urges the Board to reflect on their findings and only consider the best – and most objective – science when deciding how it should revise the ATCM for Chrome Plating and Chromic Acid Anodizing Facilities.

The clear scientific consensus is that hexavalent chromium is an exceedingly dangerous carcinogen. EWG urges the Board to prioritize public health and set the most health-protective standard possible while moving towards the phase-out of this compound in decorative plating. (EWG)

Agency Response: ARB staff conducted its own evaluation, using the best science, to determine the best methods to control hexavalent chromium emissions. In approving the staff's proposal at the December 7, 2006 hearing, the Board agreed that hexavalent chromium is a potent carcinogen by approving amendments which require BACT for all facilities to reduce health risk as low as is feasible. Related to trivalent chromium, staff determined it was not yet feasible to require use of this process for all decorative plating applications.

4. Comment: Most recently, we were very involved with the Negotiated Rulemaking for Rule 1469 and Rule 1426 with South Coast Air Quality Management District (SCAQMD) and multiple stakeholders. SCAQMD R1469 was amended through a very lengthy and involved Negotiated Rulemaking Pilot Program in 2003 (as part of a Strategic Alliance Initiative) and implemented in 2004 and 2005. It is therefore very disconcerting to have a Proposed Amended ATCM (PAATCM) that ignores these efforts and the benefits they provide and now proposes even further drastic "add-on" control measures for at least 89 facilities, of which, a significant number are located within SCAQMD. Some facilities just completed their construction and implementation last year to comply with R1469 and in several cases, are still paying for the added or upgraded control measures. Furthermore, of the 89 facilities, 45 are small operators (less than 200,000 ampere-hours/year (AH/Y)) and their continued survival is severely threatened by the economic burden imposed by the PAATCM. (MFASC-3)

Agency Response: For the benefit of the reader, Rule 1469 is the control measure for chromium plating and chromic acid anodizing facilities in the SCAQMD. Rule 1469 was amended to further reduce emissions and health risk from chromium plating and anodizing operations in the SCAQMD. Rule 1426 is a data gathering rule for other operations, such as nickel plating, and is not relevant to the actual chromium plating portion of an operation. In response to the Comment, in developing the proposed amendments to the ATCM, staff did not ignore the modifications to Rule 1469. Where feasible, staff's proposal was consistent with Rule 1469. For example, consistent with Rule 1469, small facilities are allowed to use specific chemical fume suppressants to comply and the same emission rate for other facilities (0.0015 milligrams per ampere-hour) was approved.

Facilities that upgraded to add-on controls to comply with Rule 1469 would not have different requirements under the staff's proposal. More facilities, however, would be required to install an add-on air pollution control device. The Staff Report acknowledges that some smaller businesses would likely experience an adverse economic impact to comply. Staff estimated that the return on owner's

equity (ROE), a measure of profitability, for some smaller businesses could decline by up to 41 percent. The Staff Report also acknowledges that this decline in ROE would likely result in some business closures. The Agency Responses to Comments 145 and 148-150 are incorporated herein.

5. Comment: The Staff Report is incorrect when it states that BACT means "best available add-on air pollution control technology (BACT)" since the term "BACT" does not consider whether a technology is add-on equipment or some other form of control, but is only a mechanism to reach an emissions limitation achieved in practice. Likewise, as we demonstrated with our test data and report, a less costly alternative such as in-tank controls "would be equally as effective in achieving increments of environmental protection in a manner that ensures full compliance with statutory mandates within the same amount of time as the proposed regulatory requirements." Health and Safety Code section 57005(a).

The technology of in-tank controls cost only a fraction of add-on controls and can achieve the same result in many cases. We therefore recommend that the emission rate be specified at 0.0015 mg/AH without the mandate that add-on control equipment be required. (MFASC-3)

Agency Response: We agree that BACT does not mean "best available add-on air pollution control technology," but rather, "best available control technology." This error occurs on page 2 of Chapter I in the Staff Report. Staff was intending to describe that for intermediate and larger-sized facilities, BACT is use of an add-on air pollution control device. However, staff also describes BACT for smaller facilities (in the next sentence of the Staff Report) as use of specific chemical fume suppressants, which are not add-on air pollution control devices. Clearly staff does not consider BACT to mean an add-on control device in all cases.

In accordance with Health and Safety Code section 57005(a) the Board evaluated the alternative offered by the Commenter and determined it would not be equally as effective in achieving increments of environmental protection in a manner that ensures full compliance with statutory mandates within the same amount of time as the proposed regulatory requirements. The Agency Responses to Comments 39, 40 and 96 & 97 address this issue and are incorporated herein.

6. Comment: For whatever reason, CARB has decided that BACT should be the basis for the proposed ATCM regulations to minimize the cancer risk to the surrounding community. (Nole)

Agency Response: Staff chose BACT as the appropriate control requirements as required by Health and Safety Code section 39666(c).

7. Comment: Over the three years of implementing Rule 1469, several important factors have become evident. First, fume suppressants are an effective means to significantly reduce hexavalent chromium emissions and are an important tool in the overall emission reduction program. Source tests have demonstrated over 99.5 percent reduction, and compliance with in-field testing for surface tension is very high. Second, high efficiency particulate arrestor (HEPA) filters, which have a rated reduction efficiency of 99.97 percent, are also very effective. Fume suppressants, which are only a half percent lower reduction efficiency as HEPA filters, are a pollution prevention approach because emissions are minimized before they can leave the tank.

However, with HEPA or any control devices, the collection, or capture, efficiency is critical. If a portion of the emissions from the tank do not reach the HEPA system, the overall reductions are lower. Both fume suppressants and add on control devices need increased recordkeeping and more field presence by inspectors to ensure continuous compliance. (Wallerstein-1)

8. Comment: I think the key issue, and you'll hear a lot of testimony about it today, is the fume suppressants versus the add-on controls, or the HEPA filters. We believe that both approaches can be very effective.

Fume suppressants can be 99.5 percent effective in reducing pollution. It's actually a pollution prevention because the emissions don't get out of the tank. And it's a volume source. That's important for a slide I'll show in a moment. The HEPA systems are certified by the manufacturers to be 99.97 percent. So they are more effective. But either technology has potential problems. They both need consistent operation by trained personnel. And we've found that the HEPA system has potential area of problems and, is very dependent on getting the emissions to the collection device. If they don't get captured or collected efficiently, then you're going to have a lower emission reduction. (SCAQMD-1)

Agency Response to Comments 7 & 8: We agree with the Commenters that chemical fume suppressants are an effective means to reduce emissions and have specified use of certain chemical fume suppressants as the sole control for small facilities.

We also agree that control devices must operate properly and efficiently to provide the necessary control. The existing ATCM already contains detailed maintenance and monitoring requirements and has for years required inspections to ensure systems are working properly. However, it is incumbent on the permitting agency (the district) to review system design to ensure all emissions are captured and properly vented. This should be part of the review of the pre-test protocol that is submitted to the permitting agency as specified in section 93102.7(d).

Any district can choose to require facilities under their jurisdiction to conduct more recordkeeping, or can choose to conduct more frequent inspections, as long as the provisions in their rule are at least as stringent as those in the ATCM.

As the Commenter expressed, there is a need for trained personnel on maintenance and monitoring of control systems and compliance with the ATCM. The amended ATCM requires personnel responsible for environmental compliance at plating operations to undergo ARB-sponsored training every two years to ensure that parameter monitoring and recordkeeping are done properly. The training requirement is described in section 93102.5(b) and provides an exemption for personnel that had attended the SCAQMD's training class for Rule 1469, which is also required every two years.

Finally, while both HEPA filters and in-tank controls can be ineffective if not properly operated and maintained, staff believes that HEPA filtration systems are more reliable and afford consistent emission reductions without as much vigilance and monitoring as in-tank controls.

9. Comment: We note that Health and Safety Code section 39665(c) has not been met as part of the requirements for this rulemaking. Specifically, the section provides that the Staff Report, and relevant comments received during consultation with the districts, affected sources, and the public, shall be made available for public review and comment at least 45 days prior to the public hearing required by section 39666." We requested and reviewed the entire file for this PAATCM and found significant omissions especially for relevant oral comments made before the 45 day period began. These relevant comments made by the affected sources in workshops and on telephone calls are not present in the existing public record. During the workshops, we observed that industry, agency and public comments were being noted by Staff, but when the file was reviewed, those comments and the Staff notes were not made available to us in any manner. While we found written comments from this period of time, we are concerned that these limited written documents do not reflect all relevant comments received and were not used by staff to prepare the PAATCM. As such, the public has not been meaningfully apprised of the relevant comments used to prepare the PAATCM as required pursuant to this section. (MFASC-3)

Agency Response: The ARB has met the requirements of Health and Safety Code section 39665(c). As the Commenter acknowledges, all written comments received during the development of the proposed ATCM were included in the record and made available for public review (see Chapter III, page 27 of the Staff Report). The relevant comments reflected in staff notes were similar to the written comments received.

It should also be noted that Health and Safety Code section 39665(c) requires only that all relevant comments be made available for public review and comment. It is not realistic to interpret this provision to require that staff must

scrutinize all of their notes to extract every single oral statement that someone might theoretically believe is “relevant.” Comments considered relevant by interested parties are typically written down and submitted to staff. When staff receives relevant oral comments or information that is not embodied in written comments, this material is identified in the Staff Report, which contains all information relied on by staff to develop the regulatory proposal (see e.g., staff notes from telephone conversations that are identified as references on page 65, Chapter VI, of the Staff Report). Staff must use their best judgment to identify the comments that are relevant and include them in the record. A good faith effort to do this was made in this rulemaking action.

10. Comment: I’d like to state that this industry cares about the environment, about our workers, about our neighbors; and that past land-use decisions placing schools near plating shops or houses or whatever should not have been done, but has to be addressed now, and we feel that we are addressing that at this time. This industry wants to be part of the solution, not a part of the problem. (Cunningham-1)

Agency Response: Staff agrees that there is a need to address past land-use decisions that allowed schools, houses or other sensitive receptor locations to be located near plating and anodizing facilities. At the December 7, 2006 hearing, the Board agreed and approved amendments which would require expedited compliance for existing facilities that are located within 330 feet of a sensitive receptor. The Board also approved amendments that would prohibit the operation of any new hexavalent chromium plating or anodizing facility in areas zoned residential or mixed use, or within 1,000 feet of these areas, or within 1,000 feet of a school or school under construction.

11. Comment: We oppose the PAATCM for many technical and economic reasons, but could accept it in principle if three changes were made that we believe will not affect the health protections of the PAATCM. First, all facilities between 200,000 & 5,000,000 ampere-hours per year ("AH/Y") should not be mandated to install add-on control equipment, but should be permitted the flexibility to comply with a 0.0015 milligrams per ampere-hour ("mg/AH"). Second, the PAATCM should not de-list or otherwise disapprove foam blankets as certified fume suppressants without further testing and research. Third, most facilities under 200,000 ampere-hours per year ("AH/Y") should be allowed to meet 0.01 mg/AH, not 0.0015 mg/AH since the actual risk is the same as the proposed standard. (MFASC-3)

12. Comment: We respect the efforts of the Board in maintaining an environmental -- environment for our beautiful state, in which I'm a native southern Californian and proud of it. We have three requests that we would request changes by metal finishers that we would like to present to you. One is the flexibility to reach these emission standards; number 2, use of all approved

technologies to reach these emission standards; and, number 3, consider risk to setting emission standards. (Appleton-1)

13. Comment: I support the three proposals of the STA. (Hernandez)

14. Comment: The metal finisher associations can agree to most of today's proposal. The metal finishers associations want to protect human health and the environment, and three changes they offer can reach that goal at a fraction of the current proposal's costs.

Those three:

Change No. 1: Provide flexibility -- technology neutral, as you call it -- to achieve the 0.0015 milligram per amp-hour standard. Mandatory and expensive equipment installations make no economic, legal or practical sense if other options are available and have been demonstrated, such as we've shown today.

Change No. 2: The metal finishers associations want all technologies fairly and objectively considered, including foam blankets. We ask that actual testing be performed on this type of technologies and others before rejecting viable solutions that protect human health.

The third change is: We want site risk to drive the need for more control at facilities operating at less than 200 milligrams per amp -- or 200,000 amp-hours per year. This means facilities at 25 meters or greater from sensitive receptors that can demonstrate 1 in a million risk or less should meet .01 milligrams versus 0.0015 mg/AHr standard. The proposal uses 1 in a million risk for facilities less than 200,000 amp-hours a year. It's consistent with the 20,000 amp-hour a year standard. The option is safe and health protective. We'd like you to adopt these changes. Two of our changes are in the AQMD proposal, which is a framework we could discuss and agree to. (Pomeroy-1)

Agency Response to Comments 11-14: The Board considered but rejected these suggestions. However, the proposal adopted by the Board does provide some flexibility to comply. The adopted regulations provide that all existing facilities with a sensitive receptor located within 330 feet and with more than 20,000 annual ampere-hours are required to meet an emission rate of 0.0015 milligrams per ampere-hour using an add-on air pollution control device. Those facilities with less than or equal to 20,000 annual ampere-hours, with a sensitive receptor located within 330 feet, are allowed to comply using specified chemical fume suppressants. The approved amendments provide less stringent requirements for facilities with no nearby sensitive receptor. Facilities with no sensitive receptor within 330 feet and with more than 50,000 annual ampere-hours, but less than 500,000 annual ampere-hours are required to meet an emission rate of 0.0015 milligrams per ampere-hour, but flexibility is provided to demonstrate meeting this emission rate without using an add-on air pollution

control device. However, facilities with no sensitive receptor located within 330 feet and with more than 500,000 annual ampere-hours are required to meet an emission rate of 0.0015 milligrams per ampere-hours using an add-on air pollution control device. Those facilities with less than or equal to 50,000 annual ampere-hours, with no sensitive receptor located within 330 feet are allowed to comply using specified chemical fume suppressants. The annual ampere-hour thresholds consider health risk and cost.

The Board also approved flexibility provisions for all facilities as provided in Health and Safety Code section 39666(f). Any facility can apply to the local district for approval of an alternative method of compliance. The alternative method must demonstrate an equivalent or greater emission reduction and risk reduction than would be achieved through direct compliance. The alternative method must also be enforceable. The provisions are contained in section 93102.4(b)(3) of the ATCM. This section implements and interprets Health and Safety Code section 39666(f), and was included so that facilities are aware that they have this compliance option without having to search for it in the Health and Safety Code. Section 93102.4(b)(3) of the ATCM essentially restates and clarifies the requirements of Health and Safety Code section 39666(f) and adds a requirement (in section 93102.4(b)(3)(A)) that the facility must provide sufficient information to the permitting agency to allow the agency to make the determinations called for under Health and Safety Code section 39666(f).

Secondly, no provision in the ATCM prohibits the use of foam blanket-type chemical fume suppressants as the Commenters suggest. However, for those facilities complying through use of specified chemical fume suppressants, a foam blanket-type fume suppressant could only be used in conjunction with a specified chemical fume suppressant.

Regarding the Commenters' third point, it is unclear what is meant by 'actual risk.' However, at the maximum individual cancer risk (MICR) point, the estimated cancer risk from a facility with an emission rate of 0.01 milligrams per ampere-hour would be substantially higher than the risk from the same facility meeting an emission rate of 0.0015 milligrams per ampere-hour. We also disagree that 25 meters is a health protective distance to require more rapid control. Staff's modeling analyses found that 100 meters was the critical distance to provide the necessary health protection. Related to the critical distance, the Agency Response to Comment 42 is incorporated herein. We also note that the proposal was based on requiring BACT for all facilities rather than a specific risk level.

15. Comment: Please examine what we're being asked to do. We're being asked to do the impossible. We're being asked to go from what's relatively okay to absolute zero. And there is no absolute zero in anything. The 3100 pounds of chrome that they're talking about in the atmosphere from other sources, jet fuels, diesel fuels and mobile sources has to be considered more than 4 to 5 pounds of

chromic acid from metal platers disbursed across the state. We're all using the latest technology with fume suppressants and teaching the employees on how to handle chromic acid safely and designing parts so they have the least amount of gassing possible, which would give you the gas bubbles that they claim burst and go into the atmosphere. (Olick-1)

Agency Response: We disagree that facilities are being asked to do the impossible. Depending on annual ampere-hours, facilities would comply using specific chemical fume suppressants (equivalent to an emission rate of 0.01 milligrams per ampere-hour) or meet an emission rate of 0.0015 milligrams per ampere-hour. Ample data support that both of these emission rates are technologically feasible (see Chapter V of the Staff Report pages 44-45, and Chapter VI, p. 58). We also note that these emission rates are consistent with those contained in Rule 1469 which is now fully implemented. Related to the pounds of emissions from plating and anodizing, as compared to other emission sources, staff incorporates the Agency Responses to Comments 125 and 126.

16. Comment: My company uses over 1 million ampere-hours a year. We use best available technology fume suppressants. We have a full time laboratory person who's examining the tanks six or seven times a day. We've had no significant violations in the past 12 years; some of the violations are only minor paperwork errors. We will do better. (Olick-1)

Agency Response: Based on amendments the Board approved at their December 7, 2006 hearing, a facility with over a million ampere-hours would be required to meet an emission rate of 0.0015 milligrams per ampere-hour as measured after an add-on air pollution control device. Staff determined, and the Board agreed, that use of chemical fume suppressants alone does not afford the required level of health protection at this level of production. However, the Board also approved amendments, in accordance with Health and Safety Code section 39666(f), allowing a facility to demonstrate compliance through an alternative method as long as the alternative results in equivalent, or greater reduction in emissions and risk.

17. Comment: This Board is involved in global warming. HEPA filters are very power intensive, requiring a lot of fans and exhaust motors. As we've heard already, this will lead to additional needs for generation, possibly from fossil fuels, which may additionally contribute to pollution and also to hexavalent chromium. (Jones)

Agency Response: The Commenter is correct that HEPA filter systems require fans and exhaust motors that will use electrical power. However, the increased power use is so tiny that no significant increase in either global warming or air pollution will occur.

18. Comment: Despite the cost, metal finishers associations agreed to most of today's proposal. We are so close to mutual agreement. We want the final chance for the fortune. And like the fortune said, "To nurture and work creatively with CARB to reach common ground." The metal finishers have done it before, can do so again. We ask for that chance. (Pomeroy-1)

Agency Response: After considering the comments and testimony, the Board continued the hearing until December 7, 2006. This continuation was provided to allow staff to work further with stakeholders on a revised proposal as requested by the Commenter.

19. Comment: This is a very difficult policy decision. It's very clear that these facilities need more regulations. There may be a compliance problem with the existing controls that's causing really dramatic public health impacts next to the facilities. It could be that even with the current controls we're never going to get the kind of reductions in risk that we actually need next to these facilities. (Williams-1)

Agency Response: The Board agreed that further control was warranted and approved amendments at their December 7, 2006 hearing to strengthen the ATCM by requiring BACT for all facilities.

20. Comment: I would like the Board to think about the Department of Defense spending a lot of money, with a goal of phasing out the use of hexavalent chromium for all Department of Defense applications. And as you're going to hear from the folks at Remco, they actually used to plate the tops of carriers. If the Department of Defense can get a goal of phasing out the use of chrome plating, I would urge the Board to be thinking about this and basically piggybacking on that effort, since it's very clear that the risks from these facilities are very high and we're not sure what the risks are from the fume suppressants. (Williams-1)

Agency Response: Chapter VI, beginning on page 59, of the Staff Report describes several alternatives that can be used to replace hexavalent chromium in a variety of applications. We also acknowledge that the trivalent chromium process is being used successfully in some decorative chromium plating applications. However, Chapter VI also describes that the trivalent chromium process is not yet suitable for all decorative plating applications, and therefore, staff did not recommend it. Other processes are available to replace some hard chromium plating applications, but no “drop in” replacement has been identified as a substitute for all applications. Chapter VI also describes that, while trivalent chromium process is being studied to replace hexavalent chromium for hard chromium plating, it is not yet commercially available. Regarding the Commenter’s concerns about the risks from chemical fume suppressants, this issue is addressed in the Agency Response to Comments 168 and 169.

21. Comment: The Department of Defense has a goal of not using any chromium at all. The key consideration is the hardness as well as the actual protection of the metal. When you look in the Staff Report, you'll see the trivalent chromium. Some people say it doesn't have the hardness that's required for certain uses.

If trivalent chromium is good enough for a bomber, it's good enough for a bumper. If the DOD can figure this out for their uses that they require for the defense industry, then we should be taking a look at that. And we shouldn't just let this rule go by and then sort of not look at it again for another ten years when the Department of Defense is really putting a major technological investment into this problem and this question. And they're doing it primarily because of worker health and safety issues. (Williams-1)

Agency Response: Contrary to what the Commenter suggests, at this time the trivalent chromium process is not suitable for hard chromium applications such as those of the Department of Defense. As described in Chapter VI, page 62 of the Staff Report, the trivalent chromium process does not build deposits of the proper thickness to be an alternative at present time for hard chromium plating applications. Other processes to replace hard chromium plating are available for some applications. These are also described in Chapter VI, page 62 of the Staff Report. The Agency Response to Comment 20 is incorporated herein. We do not believe it is necessary to specify a timeframe, as suggested by the Commenter, at which time the ATCM should be reviewed. As explained in the Agency Response to Comment 2, staff intends to follow technologies to determine if additional amendments are appropriate to further reduce exposure to hexavalent chromium.

22. Comment: What we need of this Board is simple: Strong regulatory standards to keep the toxics contained effectively and even stronger consequences for noncompliance, to truly prevent emissions on every working level. I hope our towns -- and there are many of them – understand that the lethal experience we are undergoing is a warning and an example of why the new regulations are so necessary. The cost of compliance pales in comparison to the cost the state will bear assuming medical care for those people, like myself, my family members and my entire town, which has been designated at risk by ATSDR and the California Department of Health Services. We are now labeled as having a preexisting condition for simply breathing. Of course, this means more people will be without health coverage and fall upon the state for their medical care.

I urge you as a citizen to perform your duties with good conscience. I urge you as a taxpayer to place the burden of prevention upon the industry that benefits. And I urge you as a mother and grandmother to help protect the good people in all of these impact and impact-possible areas from the ongoing pain of ill health,

fear and dread that our children are under a death sentence waiting to be randomly called to their execution. (Brock)

Agency Response: The Board approved amendments requiring more stringent controls at their December 7, 2006 hearing.

23. Comment: I've come here to put a human face on hexavalent chrome and the whole industry, because I have heard so many of the statistics and the percentages and the amount of variabilities as to how many people will be affected and what the economic cost to an industry would be, which are all very valid points. But there's not much of the human element involved in this entire hearing, in my viewpoint. I have one son who has severe neurological problems. I have property that's within the plume of this site that is now no longer functioning. My son is 22 years old. I don't know whether or not his symptoms are due to this exposure, because I don't see any reports from anyone talking about how does this affects infants, children, women of child-bearing age, or the elderly. The human cost is much more dramatic than any cost to any industry to put extra ventilation on extra facilities. (Sison)

Agency Response: The health effects of exposure to hexavalent chromium were well documented in 1986 when the Board identified it as a toxic air contaminant (TAC). Chapter II, page 18, and Chapter VII, pages 66-67, of the Staff Report provide a summary of the health effects. Hexavalent chromium is a known human carcinogen. Exposure over a lifetime to very low concentrations can cause lung and nasal cancers, respiratory irritation, severe nasal and skin ulcerations and lesions, perforation in the nasal septum, liver and kidney failure and birth defects.

Because of the health effects related to hexavalent chromium exposure, the Board approved amendments that would require BACT for all facilities. BACT for all but very small sources is use of add-on control devices.

ii. Specific Comments on the Proposed Amendments

a. Section 93102

24. Comment: The existing regulation at Title 17, section 93102 is: "Hexavalent Chromium Airborne Toxic Control Measure for Chromium Plating and Chromic Acid Anodizing Operations." Why did the ARB staff change the name of the ATCM to: "Airborne Toxic Control Measure (ATCM) for Chromium Plating and Chromic Acid Anodizing Facilities?"

This naming convention seems to be a departure from other ATCMs where the toxic air contaminant that is regulated is listed in the title. If there were other air toxic emissions generated by chrome plating, then it would be prudent to make

the title more broad in nature in such cases. It appears that the title is shifting from an air toxic contaminant emphasis to an industrial process type emphasis. The title change may cause short-term and perhaps long-term confusion when referencing the regulation, since people are so accustomed to the existing title. There is a potential that individuals may inadvertently pull up the "wrong" version, since the existing version is so integrated among many references including the Internet.

Would the name change affect the regulation's status with respect to federal enforceability or equivalency to the NESHAP Subpart N version? That is, once the ATCM acquires such status it is presumed that the regulation if amended (as long as it is as stringent, or more stringent than the current version) would not have to go through the EPA approval process as the ARB did back in 1998. (Weintraub-1)

Agency Response: The title of the regulation was changed to reflect that all chromium plating and anodizing operations, whether they are using the hexavalent chromium process or the trivalent chromium process, are subject to the ATCM. For example, section 93102.6(a) contains requirements for trivalent chromium plating facilities. The new title is similar enough to the old title such that there is no realistic chance that the regulated community will be confused. The U.S. EPA equivalency with the NESHAP determination would occur even if the title of the regulation was not changed.

b. Section 93102.3: Definitions

25. Comment: Page 3. Include a definition of BACT as meeting the 0.01 mg/AH for facilities under 20,000 AH/Y and 0.0015 mg/AH for facilities larger than 20,000 AH/Y. (MFASC-2)

Agency Response: Staff disagrees that a definition of BACT is needed. The term is not used in the ATCM.

26. Comment: Page 7. Add "or foam blanket" to "included but not limited to polyballs or foam blanket ..." (MFASC-2)

Agency Response: It is not appropriate to add the language suggested by the Commenter to the definition of “Mechanical fume suppressant.” Fume suppressants which form a foam blanket are a type of chemical fume suppressant.

27. Comment: Section 93102.3(a) Definitions: For the three facility size definitions at (31) “Large, hard chromium electroplating facility”; (36) “Medium, hard chromium electroplating facility”; and (48) “Small, hard chromium electroplating facility,” it is recommended that the ARB add “from all affected tanks” at the end of the sentence. This would clarify that the emission ranges

specified are from all tanks not just the one tank, since the definition of facility does not indicate this.

Although the end result of the emission limits will do away with the existing limits presented in section 93102.4(a), we find no value in keeping Table A or B with classifications such as large, medium and small in terms of controlled emissions. If the Staff Report has found that approximately 4 pounds of hexavalent chromium emissions are emitted per year from 228 sources, how is it that a source can still be classified as >10 lbs/yr controlled for large facilities and the like?

Upon implementation of the amended regulation, and after the effective date has passed, the definitions identified above would no longer be applicable. Does the ARB plan to amend the regulation again at that time? If so, would such an amendment be a public process like this one? Even if future amendments were just administrative in nature (no public participation), should not the ARB's intention or plan be disclosed during this amendment process?

Based on Table 93102.4(a)(1)(A), for a large facility, >60 million amp-hrs /yr and an emission rate of 0.006 mg/amp-hr, using these data points, United arrives at the following hexavalent chromium emission rate:
E = 0.006 mg/amp-hr x 1 g/1000 mg x 1 lb/ 453.592 g x 120,000,000 amp-hrs/yr = 1.58 lbs/yr

Even at 120 million amp-hrs per year, the maximum expected emission is a little over 1 lb. So how can a controlled facility be "large" by exceeding 10 lbs/yr? On the flip side, a "small" facility identified as <2 lb/yr having an allowable emission rate of 0.15 mg/amp-hr, with an annual rectifier usage of 60 million amp-hrs/yr produces 19.82 lbs/yr. Of course a "small" facility would not come anywhere near 60 million amp-hrs, yet the table has that category/option. In this case, it would appear that a "small" facility would have a maximum rectifier capacity of 2 million amp-hrs/yr to stay just under 2 lbs/yr. (Weintraub-1, Weintraub-2)

Agency Response: This Comment is not related to the proposed amendments to the ATCM. However, staff responds as follows. The Commenter is referring to definitions that are used to determine requirements in the existing ATCM. Once the amended limits in Table 93102.4 of section 93102.4(b) become effective, the definitions will no longer be used, as the Commenter acknowledges. However, it is necessary to keep the definitions and existing tables of limits because they remain in effect until the various amended emission limits become effective. We agree that no facility now emits more than 10 pounds per year of chromium, however, these original limits were put in place prior to adoption of controls to effectively reduce emissions.

ARB staff has no plans at this time to amend the regulation once the definitions are not needed. However, if we were to propose further amendments it would be a public process and not done administratively.

28. Comment: Definition of Modified Facility and Modification: The definition of "modification" includes the addition of a new chromium plating or anodizing tank at an existing facility that increases hexavalent chromium emissions. The definition of "modified facility" means any facility that has undergone a modification. Thus, when a new tank is added to an existing facility, or a single tank modified at that facility, it makes the entire facility a "modified facility." In this case, a straight reading of the proposed rule standards is that all existing tanks at a facility must meet the requirements that apply to a modified facility and comply with an emission standard of 0.0015 milligrams per amp-hour with add-on control, regardless of the facility's total size or emissions. To avoid confusion, since similar provisions in the thermal spraying ATCM have been interpreted differently, the District requests clarification that this is indeed the intent of the standards (i.e., addition of a single new tank or modification of a single tank at a facility requires that all existing tanks at the facility meet the requirements for a modified facility). (SDAPCD-1)

Agency Response: In response to this Comment, staff agreed that revisions should be made to the definition of "modification." The revised definition clarifies that a facility is not considered modified unless the modification causes a facility to be subject to a different requirement in Table 93102.4 of section 93102.4. The Board approved this modification at the December 7, 2006 hearing.

c. Section 93102.4: Requirements

Comments 29 through 60 are directed at the emission limit proposal described in the Staff Report and proposed to the Board at the September 28, 2006 hearing. At the hearing, after considering the written comments and oral testimony, the Board voted to continue the hearing, and directed staff to return with a revised proposal. The proposal approved by the Board at the December 7, 2006 hearing was revised to reflect the Board's direction. The Agency Response to Comments 11-14 describes the proposal ultimately approved by the Board on December 7, 2006.

29. Comment: Pages ES-10, 2, 78, & 88. The Staff Report defines BACT for larger facilities (over 200,000 AH/Y) as being HEPA filters. The current ATCM requires add-on controls for hard chrome plating facilities larger than 500,000 AH/Y. We recommend that CARB keep this size separation rather than the proposed 200,000 AH/Y. Only about 15 facilities would be affected by the continued use of 500,000 AH/Y. USEPA's 2004 NESHAP modification allowed hard chrome plating tanks to comply with use of fume suppressants alone. And,

the Negotiated Rule-Making for SCAQMD Rule 1469 allows compliance without mandatory HEPA filter systems. (MFASC-1)

Agency Response: We are aware of the modifications to the National Emission Standards for Hazardous Air Pollutants (NESHAP) relating to chromium plating and anodizing operations, but found that approach does not represent BACT. For clarity, however, the Staff Report describes BACT for these facilities as HEPA filtration systems, or other add-on control devices meeting an emission rate of 0.0015 milligrams per /ampere-hour.

30. Comment: Page 15. Delete footnote 5. Leave the requirement for HRA up to the local agency under their Hot Spots Authority. (MFASC-2)

Agency Response: Staff disagrees that the requirement to conduct a health risk assessment should be left to the district. Not all districts have the same threshold for determining when a health risk assessment should be conducted. The ATCM is designed to bring statewide consistency for chromium plating and anodizing facilities, and to ensure the public is protected from high exposures in the few cases where even application of the most stringent controls may not be enough to reduce health risk to acceptable levels.

31. Comment: Page 16. Delete "use an add-on air pollution control device(s) to control hexavalent chromium emissions and." (MFASC-2)

Agency Response: Staff disagrees that this language should be deleted from the requirements for modified facilities. Add-on control devices for facilities undergoing modification represents BACT. Regarding BACT, staff incorporates the Agency Response to Comments 39 and 40 herein. At the December 7, 2006 hearing, the Board maintained the requirement. However, the Board did provide flexibility to demonstrate compliance through an alternative method. Related to this provision, staff incorporates the Agency Response to Comments 11-14 herein.

32. Comment: Page 16. (c)(1)(A) Delete Item A; (c)(2) Delete Item (2). Leave the requirement for HRA up to the local agency under their Hot Spots Authority. (MFASC-2)

Agency Response: Staff disagrees that it is appropriate to delete the requirement for add-on controls. A facility making operational changes that meets the definition of “Modification” should be required to install add-on controls and meet the emission rate of 0.0015 milligrams per ampere-hour. As to deleting the health risk assessment requirement, staff incorporates the Agency Response to Comment 35 herein.

33. Comment: Utilizing data reported in the Staff Report, 51% of all the chrome platers in California account for 98.9% of the total Cr6 Amp-hr usage in

California. The other 49% of the platers utilize only 1.1% of the total Amp-hrs used in the State. All of the 49% fall under the Intermediate or Small category Tier. Some of the 49% already have add-on Controls. How does CARB justify imposing a significant compliance cost on small businesses that contribute very little to the overall emissions? The new ATCM should define the BACT for all facilities under 200,000 Amp-hrs as the use of approved fume suppressants. Even though the proposed ATCM has a provision whereby companies that fall into the Intermediate Tier can use other means of control if they can prove that the alternate means can meet the 0.0015 mg/A-hr requirement, there is not presently an adequate sampling protocol that will yield a true measure of the emissions from an open surface tank. In light of the fact that Intermediate and Small Facilities utilize only 1.1% of the Amp-hrs used in the State, these facilities should not be required to install an expensive ventilation system. Approved fume suppressants alone should be the BACT for this Tier. (Nole)

Agency Response: This Comment relates to the requirements for facilities with under 200,000 ampere hours per year, but more than 20,000 ampere-hours. The Commenter contends that these facilities should be able to use chemical fume suppressants to comply. Under the Staff Report proposal, these facilities would be able to comply using specific chemical fume suppressants as long as it is demonstrated that the emission rate of 0.0015 milligrams per ampere-hour is met. The Commenter suggests there is not a reliable method to measure emissions. We disagree. The protocol developed by ARB staff to conduct the emissions testing program could be employed by these facilities to demonstrate compliance. We note that the Commenter reviewed the testing protocol and found it to be acceptable.

Regarding emissions being small, the Agency Response to Comments 125 and 126 are incorporated herein. Even very small emission sources can pose significant cancer risks for near-by residents. Because of this, and in accordance with State law, the staff proposed BACT for these facilities.

The proposal ultimately approved by the Board is explained in the Agency Response to Comments 11-14 which is incorporated herein. The Board rejected the Commenter's suggestion to allow use of chemical fume suppressants as the sole compliance method for these medium production facilities because this approach would not adequately protect public health. The approved amendments require all facilities within 330 feet of a sensitive receptor, such as a resident, to meet an emission rate of 0.0015 milligrams per ampere-hour as measured after add-on controls, if their annual ampere-hours exceed 20,000. However, in accordance with State law, the amended regulation also allows a facility to demonstrate compliance through an alternative method. This is also explained in the Agency Response to Comments 11-14.

34. Comment: At 93102.4(b) and Table 93102.4, we note that there is a sliding scale on the effective date for existing facilities as the permitted ampere-

hours increase. Specifically, for Tier 4 facilities, the effective date reverts back to two years, while the Tier 3 facilities get five years after the effective date to comply with reduced emission limitation.

Please explain why the Tier 4 facility reverts back to two years after the effective date when the Tier 3 facilities get five years after the effective date to comply with the reduced emission limitation? United would like the ARB to consider splitting the Tier 4 group as was done for Tier 3. If there are no Tier 4 facilities less than 100 meters, then Tier 4 group should be assigned the five year period. It is our assumption that most, if not all, Tier 4 group facilities already use air pollution control equipment to reduce emissions. (Weintraub-1)

Agency Response: This Comment is directed at the proposed emission limit requirements contained in Table 93102.4 of the Staff Report proposal. In this proposal, the timelines were designed to implement further control on the facilities posing the greatest health risk first. In the amendments ultimately approved by the Board, there are no longer references to “Tiers;” however the effective dates of the requirements do vary based on annual ampere-hours, which is related to potential health risk. The general approach is to implement the requirements first for those facilities that pose the greatest risk and that are located within 330 feet (~100 meters) of a sensitive receptor.

35. Comment: Please explain the rational behind ARB's use of the annual emission rate of 15 grams as the threshold for having to conduct a site-specific analysis, especially for those facilities that are greater than 100 meters from any sensitive receptor. If a facility is already complying with the ATCM’s most stringent emission limit, please explain why a facility must then have to conduct a site specific analysis?

Please note that in most cases a site-specific analysis is another way of saying that the facility must conduct a site-specific health risk analysis/assessment (HRA) either screening or refined. Health risk assessments are essentially evaluations for calculating potential population cancer risk and non-cancer risk burdens. The exercise for conducting a site specific analysis (HRA) in accordance to the Air Toxics Hot Spots program (AB 2588) and the Office of Environmental Health Hazard Assessment's Risk Assessment (OEHHA) Guidelines is much too burdensome (and expensive) a project for facilities to conduct - considering that the facility will have just completed meeting the most stringent requirements with respect to emissions and abatement controls.

Since site-specific analyses are usually required by the local permitting agency and under existing State law (i.e., AB 2588), it is unnecessary to incorporate such a requirement within a specific ATCM such as this one. With the advent of AB 2588 (The Air Toxics "Hot Spots" Information and Assessment Act), most districts have conducted the assessments for risks at many, if not all, facilities that have sources of toxic air contaminants (including chrome plating). If a risk

assessment has already been conducted for the facility, then such facilities should be exempt from having to conduct a site specific analysis pursuant to 93102.4.

The ATCM is not clear as to when the site-specific analysis for existing sources would have to be conducted upon determination that the annual emissions exceed 15 grams. Of course, this would not be known until a years' worth of amp-hr data has been collected. And given that it would take time to collect and analyze the data, as well as conduct a site specific analysis, a fair time frame would be within 18 months after determination.

If a facility installs HEPA add-on air pollution control technology to comply with the emission limits set forth in the regulation, then it is unnecessary to conduct a site specific analysis due to the extremely low emission rate. United recommends that the regulation not include the requirement to conduct a site-specific analysis, if a facility implements HEPA technology and meets the 0.0015 mg/amp-hr requirement.

The proposed regulation does not provide any further direction as what to do with the results of the site-specific analysis. Should the results be submitted to CARB or to the local air pollution control district? Should the results remain at the facility and to be submitted only upon request by an authorized agency?

The proposed regulation does not provide guidance as to what is an acceptable or not acceptable result. In this case, if we are considering potential cancer risk, what is the acceptable risk to allow for the facility to continue operating, or receive a permit? Is it 25 in a million, 10 in a million or 1 in a million? Since each district has its own criteria, the results for final implementation of the amended ATCM may not be as predicted in the Staff Report.

For the reasons discussed above, we believe it is unnecessary to incorporate any requirement to conduct site specific analysis as part of complying with the emission limits specified in 93102.4 and should be removed.

If the requirement is to remain in the final adopted version, the requirement to conduct a site-specific analysis is listed as a footnote under Table 93102.4, yet it is called out as a separate item under 93102.4(c) and (d). This tends to understate the ARB's intention to have such an analysis done. It may be best to incorporate this requirement as a separate item to be consistent with the others. (Weintraub-1)

Agency Response: The amendments approved by the Board at the December 7, 2006 hearing, included the provision to require a site specific analysis when annual emissions exceed 15 grams per year. This level was chosen because modeling analyses indicate that even with the most stringent controls, such as HEPA filters, when annual emissions exceed 15 grams a facility

could still pose a significant risk to the surrounding community. Staff's analysis of the data indicates this requirement would only apply to about six very large facilities. The analysis is intended to provide the district with information that may be used to determine if further measures are necessary to reduce the risk. In conducting the analysis, it is anticipated that the facility will work closely with the permitting agency to determine what procedures are appropriate. Some districts may choose to conduct the analysis for the facility.

Staff concurs with the Commenter that a site specific analysis is a risk assessment, and based on this Comment further clarified that in the amendments approved by the Board. Also, in response to this Commenter, the approved amendments indicate that the analysis is to be submitted to the permitting agency. However, the Board disagrees that the requirement is not necessary given the extreme potency of hexavalent chromium. To address the Commenter's concern, the approved amendments provide that if a site specific analysis had already been conducted and approved by the permitting agency, then it is not necessary to conduct another assessment. This provision ensures that the ATCM does not have duplicative requirements for those facilities that have already completed a risk assessment under the "Hot Spots" program. As to the timing of conducting the assessment, if needed, that would be at the district's discretion. However, because the ATCM already requires operators to keep records relating to annual ampere-hours, this information could be used to determine if a site specific risk analysis is necessary and would not require a year's worth of data to be collected as the Commenter suggests.

The Commenter is correct that the ATCM does not provide guidance as to what is an acceptable or unacceptable risk. Under the "Hot Spots" program, districts have established the threshold as to what is considered a significant health risk. Because of this, it is not appropriate to establish a threshold value.

In the approved amendments, the Board rejected the Commenter's suggestion and kept the requirement for existing facilities to conduct the site specific risk analysis as a footnote to Table 93102.4. Using a footnote is a formatting decision and in no way understates the ARB's intention to have the analysis done. The provisions in 93102.4(c) and (d) relate to modified and new facilities, respectively. In these instances, the requirement is explicitly set forth because the requirements for these facilities are different than those for existing facilities in Table 93102.4.

36. <u>Comment</u>: Each of the three statements requiring a site-specific analysis read differently. Table 93102.4 just states that an analysis must be done, but does not direct the owner or operator to perform the analysis. The statement under 93102.4(c)(2) states the owner or operator shall conduct the analysis. The statement under 93102.4(d)(3) states that each new facility shall conduct the analysis. This is inconsistent; if this requirement must remain in the final adopted version, please rephrase to make them consistent.

Furthermore, if the ARB decides to keep the site-specific analysis requirement in the regulation, United further recommends that the regulation require the district to perform the analysis not the facilities themselves. This is based on the fact that most districts have established technical and planning divisions that conduct air dispersion modeling and risk evaluations. Since the districts already have the appropriate dispersion models, receptor grids, local representative meteorology and source information, such an effort would not only be more cost effective, but would allow a more uniform approach that can be better compared across districts. (Weintraub-1, Weintraub-2)

Agency Response: ARB staff agrees in part with the Commenter and modified the language at each requirement to be consistent. The language was further modified to indicate that the analysis is to be submitted to the permitting agency.

ARB staff disagrees that the district should be required by regulation to conduct the site-specific analysis. It is the responsibility of the individual facility to meet regulatory requirements. The typical practice for such analysis is for a facility to work with the permitting agency to determine how the analysis should be done. The analysis may be conducted by the permitting agency, if appropriate under the circumstances. The regulation allows the flexibility for the district and the facility to work this out.

37. Comment: The emission limits in Table 93102.4, Hexavalent Chromium Emission Limits for Existing Facilities, are currently written to be facility-wide limits. This could be interpreted to allow the averaging of emissions from each tank to determine a facility's compliance with the specified emission limit of 0.0015 milligrams per ampere-hour. The language should be changed to clarify that this emission limit applies to each tank and not facility-wide. This same comment applies to the emission limit in Subsection 93102.4(c)(1)(B) for modified facilities. (SDAPCD-1)

Agency Response: In response to this Comment, staff agreed and proposed further amendment of Table 93102.4 to indicate that emission limit applies to each tank and is not facility-wide. The Board approved this modification at the December 7, 2006 hearing.

38. Comment: The distance to the nearest sensitive receptor, for purposes of the initial compliance dates specified in Table 93102.4, should only be evaluated at the time the rule becomes effective and should not change; otherwise, the receptor distance could become a moving target that will be difficult to enforce. Table 93102.4 does not specify a time when the distance to a sensitive receptor is to be evaluated. Since facilities are required to annually report the nearest sensitive receptor distance to the district under Subsection 93102.13(c), the regulation could be interpreted to require annual reevaluation of the compliance

times in Table 93102.4. Reevaluating when a sensitive receptor locates closer to a facility does not add significant air quality benefits to the rule but does impose a significant burden on the districts to enforce its implementation. The district recommends that Table 93102.4 be clarified to indicate that the distance to a sensitive receptor be evaluated only once based on the distance to the nearest sensitive receptor at the time the ATCM becomes effective.

If the intent of the rule is to require annual reevaluation of the nearest sensitive receptor distance, the rule does not specify how long a facility has to install controls if the nearest sensitive receptor distance changes after the initial district evaluation. Depending on the time of the change, as currently written a facility might need to immediately comply with the emission limit. This is unrealistic and the District recommends that in such a case a facility should be allowed two years to come into compliance, consistent with the initial compliance time periods. (SDAPCD-1)

Agency Response: In response to this Comment, staff agreed and proposed further amendment to address the Comment. Section 93102.4(b)(2) was modified to specify that the measurement to determine the applicable requirements is to be made once and is to be submitted to the permitting agency within 30 days of the effective date of the ATCM. The Board approved this modification at the December 7, 2006 hearing.

39. Comment: The Staff Report proposes that all facilities exceeding 200,000 AH/Y (only about 833 AH per work day) would be required to install add-on control equipment (i.e., HEPA filter systems) to achieve an emission rate of 0.0015 mg/AH. We have been told that HEPA filter systems are best available control technology ("BACT") for toxics. We described to staff at earlier workshops and provided to them in writing during the comment period a source test report demonstrating compliance with the 0.0015 mg/AH using only in-tank control measures – fume suppressants, foam blanket, and polyballs. The test was conducted at California Electroplating in Los Angeles and showed an average of three tests at 0.00013 mg/AH, far below the requirement (and the Staff Report requirement of 0.0015 mg/AH). The facility has two chrome tanks with a production between 1-5 million AH/Y. (MFASC-3)

Agency Response: The Staff Report describes BACT for facilities with more than 200,000 annual ampere-hours as HEPA filtration systems or a combination of add-on control devices that meet an emission rate of 0.0015 milligrams per ampere-hour. Staff determined BACT based on data provided by facilities. The data show that facilities equipped with HEPA filtration devices generally have the lowest emission rates. We do acknowledge the results of the source test described by the Commenter; however the results of one emissions test is not sufficient to determine BACT. Modeling analyses also show that, especially in near-source scenarios, how emissions are dispersed from the source. A facility using in-tank controls will have higher health risk than

a facility with add-on controls with the same emission rate. Therefore, health risk is better reduced by using add-on control devices.

However, the amendments approved by the Board at the December 7, 2006, hearing, in accordance with Health and Safety Code section 39666(f), allow any facility to demonstrate compliance by an alternative method as long as the alternative method results in an equivalent reduction in emissions and risk. Under this provision, a facility could potentially demonstrate compliance using the method described by the Commenter.

40. Comment: The requirement for add-on controls for any facility exceeding 200,000 AH/Y in proposed section 93102.4(b)(2)(B) is arbitrary and fails to comply with Health and Safety Code section 39650(d) since it fails to consider the best available scientific evidence in the regulation of Cr6 in the PAATCM. A different control technology that is not an "add-on control, but meets its level of controls, would conform with current laws. Current regulations requiring add-on controls apply only to hard chrome facilities exceeding 500,000 AH/Y. An "anti-backsliding" provision already exists in the PAATCM at section 93102.5 and prevents existing sources already using add-on controls from applying any other method prospectively. No rationale explains why a facility using 200,000 AH/Y that meets a standard of control of 99.97% (0.0015 mg/AH) through means other than add-on controls is deemed to be applying best available control technology while a facility using 200,001 AH/Y and required to meet the same standard of control of 99.97% (0.0015 mg/AH) cannot apply the equivalent technology. (MFASC-3)

Agency Response: Contrary to what the Commenter suggests, in accordance with Health and Safety Code section 39650(d), staff gathered evidence from all stakeholders, are chromium plating and anodizing businesses. Staff used data provided by this industry to determine the best method(s) to control emissions. These data show that add-on control devices, such as HEPA systems, result in the lowest level of emissions. This is the basis for staff's BACT determination. The Agency Response to Comment 39 is also incorporated herein.

Chapter VIII of the Staff Report describes the staff's rationale for determining appropriate levels of control based on ampere-hours. Staff also notes that the proposal is designed to balance health risks and the costs associated with reducing those risks.

41. Comment: The requirement for facilities with < 200,000 AH/Y to meet 0.0015 mg/AH is a major and serious problem for the industry. Presently, only 15 facilities meet the PAATCM. Based on the Staff Report, 45 of the remaining 60 facilities in this category would need to meet 0.0015 mg/AH, which as we understand, currently means a HEPA filter add-on control device. Using the Staff Report estimates, the capital cost alone for this group of 45 facilities is

$4,000,000 or $88,888 ($4,000,000/45) per facility. Of the 89 facilities requiring control, 28 are small businesses with less than $1,000,000/year gross revenue. Furthermore, we suspect that most of these 28 facilities are the ones with less than 200,000 AH/Y production. The Staff Report (at page 106) states: "This [proposal] could result in a potential significant adverse cost impact. These businesses' profit could decline by 33% in order to comply with the PAATCM." (MFASC-3)

Agency Response: We agree that some facilities will suffer an adverse economic impact. However, the proposal ultimately approved by the Board in December would require 82 facilities, rather than 89 facilities, to install add-on controls. This results in reduced cost for some facilities. As also explained in the Agency Response to comments 11-14, any facility will be allowed to demonstrate compliance by a less costly method as long as the alternative method results in equivalent emission and risk reduction.

42. Comment: The requirement for facilities with < 200,000 AH/Y to meet 0.0015 mg/AH demonstrates a "one size fits all" mentality. Only 19%, or nine facilities, are within 25 meters of a residence or sensitive receptor. Therefore, 36 facilities are more than 25 meters from a residence or sensitive receptor and 17 of the 36 facilities are more than 100 meters away. Even by the Staff Report's conclusions, the distance to the receptor is important since the amount of Cr6 reduces to near zero only a short distance away from the source. (MFASC-3)

Agency Response: We agree that distance to the receptor is important and that emissions have the greatest impact near-source. However, we disagree that 25 meters is a health protective distance. As explained in Chapter VII, modeling analyses conducted by ARB staff indicated that 100 meters (330 feet) was the critical distance with regard to providing necessary health protection for a resident or other sensitive receptor. Thus, requirements were developed to require more stringent control within a shorter timeframe for facilities with residents or sensitive receptors located within 100 meters (330 feet).
The revised proposal approved by the Board at the December 7, 2006 hearing, maintained the 330 foot zone as a health protective measure.

43. Comment: As the Staff Report provides, the risk for facilities at less than 20,000 AH/Y has been determined as one in one million or less. This same level of risk is more than likely demonstrable for larger facilities, particularly as the distance to a sensitive receptor increases. Our calculations suggest that the one in one million threshold is reached at 25 meters, a distance exceeded by 36 of 45 facilities in this category.

If our suggestion is adopted, all of the 36 facilities of this category could comply with 0.01 within 6 months, which is consistent with the <20,000 AH/Y category. The 9 closer facilities would comply with the more stringent standard in two

years. This change to the PAATCM would still provide adequate health protection to the public, but would be a much less costly alternative.

We request that only those nine facilities less than 25 meters from a residence or sensitive receptor be required to meet a standard of 0.0015 mg/AH. The remaining 36 facilities should be able to meet 0.01 mg/AH if their MICR is equal or less than one per one million, the same threshold as the < 20,000 AH/Y category and the same as that size facility in SCAQMD. (MFASC-3)

Agency Response: The Commenter is suggesting that the ATCM be based on a specified risk level. However, State law (Health and Safety Code 3966(c)) requires ATCMs to reduce emissions to the lowest level achievable by requiring BACT in instances where no known level of exposure is considered safe. The Board considered, but ultimately rejected the proposal suggested by the Commenter because BACT was not required, it did not offer equivalent or improved benefits, and it did not adequately protect public health.

44. Comment: Earlier speakers addressed two of the requests that we have before this Board, to give us some relaxation or freedom or flexibility. And I will address the third one, which is to focus on the small facilities in the 20,000 to 200,000 category. What we're proposing is a compromise between what the PAATCM would do and what the Rule 1469 statewide would do.

We propose that those facilities in this category be allowed to meet an emission rate of .01 milligram per amp-hour if they can meet an MICR of 1 in a million. This emission rate is the same as the tiny categories, the under 20,000 category, and it also meets the 1 in a million requirement, which is consistent with the new source review rules in SCAQMD and elsewhere across the State. (High)

Agency Response: The approved proposal addresses, in part, the concerns of the Commenter. As approved, all facilities with a sensitive receptor located within 330 feet and with less than 20,000 annual ampere-hours are allowed to comply using specified chemical fume suppressants (equivalent to an emission rate of 0.01 milligrams per ampere-hour). Those facilities with less than, or equal to 50,000 annual ampere-hours, with no sensitive receptor located within 330 feet are also allowed to comply using specified chemical fume suppressants. Any facility can also choose to demonstrate compliance through an alternative method. Staff also incorporates the Agency Responses to Comments 11-14, and 39 herein.

45. Comment: If you look at the cancer burden in each of the categories, you see it's only in three categories where there's any difference between Rule 1469 statewide and the PAATCM. And the total for all facilities, between the two rules, is about a half of a cancer case. The cancer burden difference up there [referring to a slide] in the 20,000 to 200,000 category is only .02. Addressing the 20,000 to 200,000 category again, we only have about nine facilities on the far right

column -- there's nine facilities that are less than 25 meters from a resident or a sensitive receptor. And those facilities have to meet the .0015 limit. There are 36 others in that category that are not now compliant with the .0015 limit. We're suggesting that those 36, because of their emission rate or their distance from the receptors, should be allowed to meet .01 if they can in fact demonstrate that they're complying with a 1 in a million health risk.

Each facility will have to supply a compliance plan showing how they are going to comply. In the compliance plan, they would then have a calculation showing that the MICR for both the MEIR or the MEIW would be below 1 in a million, to be allowed to operate at .01 milligrams per amp-hour. Otherwise they would have to meet the .0015 limit. If the Board approves this modification, the increased emissions statewide will be .074 pounds per year, the increased cancer burden will be only .0035 over a 70-year period, the public health will still be protected, and the savings in capital and O&M costs will be in the millions. (High)

Agency Response: The proposal requires BACT for all facilities and was not designed to reduce health risk to a specified level as suggested by the Commenter. In response to the Comment, staff incorporates the Agency Responses to Comments 11-14, 39, 126, and 139-140 herein. The flexibility option provided by the Board in section 93102.4(b)(3), allows a facility to demonstrate compliance with the specified emission rate by alternative methods. However, it does not allow a facility to demonstrate equivalent risk at an alternative emission rate.

46. Comment: I serve the automobile industry, the aerospace industry, medical, the energy industry, communications, computer industry, among other industries. If I give up my black chrome operation, which I can easily do, I will lose a lot of this synergetic processes that I process for these other facilities. Black chrome is a minor portion of my operation. I'm just over the 200,000 limit. But if I elect to give that up, then I would lose a lot of the synergy of other processes that we perform. (Bell-1)

Agency Response: Neither the proposal contained in the Staff Report nor the proposal approved by the Board, prohibit the black chrome process. However, the Commenter may choose to make a business decision to discontinue the black chrome process to reduce facility ampere-hours, with the goal of meeting a less stringent emission rate. Under the amendments approved at the December 7, 2006 hearing, a facility with 200,000 annual ampere-hours would be required to meet an emission rate of 0.0015 milligrams per ampere-hour as measured after add-on control if the facility had a sensitive receptor within 330 feet. If no sensitive receptor were located within 330 feet, the facility could demonstrate compliance with the 0.0015 milligrams per ampere-hour limit without add-on controls. Another option would be to demonstrate compliance through an alternative method as provided in section 93102.4(b)(3).

47. Comment: We believe many of our decorative chrome plating facilities may be able to comply with the stringent emission standards in the proposed amendments with the use of fume suppressants and other bath controls without the need for add-on controls. This control option is important in that it may significantly reduce the costs needed to comply with the ATCM. For example, it would obviate the need for the installation of an exhaust hood and ventilation system, which are currently not in place at most Bay Area decorative chrome plating facilities. The proposed amendments allow facilities with throughput levels less than or equal to 200,000 amp-hr/yr to demonstrate compliance without the use of add-on controls.

For facilities with throughput levels greater than 200,000 amp-hr/yr, the proposed amendments would require decorative chrome platers to use add-on controls. The option to use an alternative requirement to demonstrate compliance using fume suppressants and other bath controls without add-on controls is not provided, even though section 39666(f) of the California Health and Safety Code requires an air district to approve an alternative method that provides equivalent emission reductions to those required in an ATCM. We believe that ARB should use a “technology neutral” approach in the ATCM that allows facilities to demonstrate compliance with specified emission standards using alternative methods or new technologies that may emerge. (BAAQMD-1)

48. Comment: We feel that it's important to give these facilities the flexibility to comply with the new emission standards using a variety of control options. A lot of progress has been made in improving the effectiveness of plating bath pollution prevention measures over the years. And the proposed emission standards are likely to push the development of these technologies even further. We're still a few years off from the effective date of these new amendments and we think that we should give the technology a chance to develop. Because of this, we favor a technology-neutral approach that does not explicitly require the use of add-on controls. This increased flexibility could be achieved by removing the explicit requirement for add-on controls for greater than 200,000 amp-hour per year facilities while retaining the proposed emission standard. (Bateman-1)

49. Comment: It is critical to note that since 1986 our industry has reduced hexavalent chrome emissions by over 99.9 plus percent and are willing to comply with even more stringent regulations. All we ask is for the flexibility to meet whatever that target number is. If it's .0015 milligrams per amp-hour, give us the flexibility to do that. (Cunningham-1)

50. Comment: The standard, as has been stated, is that the ATCM is looking to be 0.0015 milligrams of Chrome 6 per amp-hour for facilities that are over 20,000 amp-hours in the year. There are about 60 facilities within the 20,000 to 200,000 amp-hours per year category. The current standard for that is .01 milligrams or better for the South Coast, or .04 milligrams or better for the rest of the state. My greatest concern is that we get flexibility in meeting the

proposed regulations and that they be included in the regulations to ease the financial burden placed on businesses. (Marrs-1)

Agency Response to Comments 47 through 50: We do not agree that a "technology neutral" approach is appropriate. Modeling analyses indicate that, assuming the same emission rate, the health risk from facilities controlled with chemical fume suppressants and other in tank controls is higher than is the risk from the same facility, controlled with an add-on control device. This is especially important for those facilities that have people living within 330 feet (100 meters). Related to providing flexibility however, the Board agreed that facilities should be able to demonstrate compliance through alternative methods. In accordance with State law (Health and Safety Code section 39666(f)), the Board approved a provision that allows any facility to demonstrate compliance through an alternative. This provision is discussed in more detail in the Agency Response to Comments 11-14.

51. Comment: The staff claims that add-on control, HEPA filtration, is the best available control and is the only technology that may be used for operations in companies greater than 20,000 amp-hours per year. Documentary evidence has been submitted showing alternatives, including in-tank controls, can achieve equal or better emission results. Whereas the cost difference of installation and ongoing maintenance is large. We are asking the Board to find a balance that will be a workable solution for all. (Appleton-1)

52. Comment: I'm here today to talk about the alternatives available. We chose to meet the Rule 1469 by running a source test, which I'd like to submit. And in our source test we far exceeded -- or far surpassed the limits that were put on us. We used a Fumetrol 140, a Dis-Mist NP, and we also added polyballs to increase the amount of control. During our test, which was overseen by the Metal Finishing Association of Southern California, our results were quite low. We had a result of .00013, almost -- or more than ten times below the control measure. At this point, I would just like to say that we would welcome the Board to retest us, to come and see our facility, to see that it is possible to get there without the thousands of dollars spent on equipment. (Grana-1)

Agency Response to Comments 51 & 52: The Board agreed that facilities should be able to demonstrate compliance through alternative methods, as discussed in the Agency Response to Comments 11-14 and 50.

53. Comment: Most of my members would not support compliance flexibility because they feel they've been victimized by a lack of compliance with these types of facilities. (Williams-1)

Agency Response: Compliance flexibility is allowed by Health and Safety Code section 39666(f) and it is not appropriate to eliminate this option.

54. Comment: We note the U.S. EPA Chrome NESHAP (Title 40, Code of Federal Regulations ("C.F.R.") sections 63.342 et. seq.) was modified in 2004 to allow hard chrome plating tanks to comply using in-tank control measures and that Rule 1469 specifies emission limits without mandating add-on controls for small hard chrome facilities and for all decorative chrome plating and chromic acid anodizing tanks. The PAATCM proposes that facilities under 200,000 AH/Y can meet this standard without add-on control equipment. We believe this demand for add-on pollution controls for certain facilities that can meet the standard with other technological controls equivalent to add-on controls is unreasonable. (MFASC-3)

Agency Response: The Commenter correctly describes the provisions of the federal NESHAP related to chrome plating. However, this rule is not relevant to California because California has achieved equivalence with the federal rule (Approval of section 112(l) Authority of Hazardous Air Pollutants; Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks; State of California; Approved December 16, 1998, Volume 63, number 241, Page 69251-69256). This means that California facilities are required to comply with the California ATCM only. Related to the add-on control requirement being unreasonable, staff incorporates the Agency Responses to Comments 39 and 47-50 herein.

55. Comment: This ATCM is a critical issue of environmental justice in the State of California, and the staff proposal to amend the ATCM should be adopted, with the two following amendments:

1. HEPA Filtration systems, or equivalent add-on pollution control devices, are the Best Available Control Technology and should be required for all chrome platers in the State of California that are located within 1000 feet of a sensitive receptor.

The ARB's Air Quality and Land Use Handbook urges planners to avoid citing new sensitive receptors within 1000 feet of an existing chrome plater. This recommended distance separation was developed based upon numerous studies conducted by ARB, and was designed to be health protective. The Handbook notes that the distance recommendation was suggested due to the intense potency of hexavalent chromium, as well as the possibility of fugitive dust emissions from chrome platers. We recognize that fugitive dust control measures have been incorporated into this rule. However, the efficacy of these measures has not been tested, nor is there a mechanism to test their effectiveness after the rule has been implemented. Thus, neither of these factors has changed since the completion of the Handbook. A precautionary approach should be taken in this ATCM, as it was in the Handbook, to ensure the health of those living near chrome platers. Accordingly, 1000 feet should be used as the required distance separation for purposes of the ATCM as well. We have been informed by ARB staff that they will propose to amend the draft staff

recommendation to prohibit the location of a new chrome plater within 1000 feet of a residence or area zoned residential. We applaud this proposed amendment. However, there is still a major inconsistency between the requirements for controls on new facilities and existing facilities. New facilities of any size, as mentioned above, will be prohibited from locating within 1000 feet of a sensitive receptor, and will be required to install a HEPA filter or equivalent add-on control system. By contrast, existing facilities, which can remain within 1000 feet of a sensitive receptor, are not treated differently based upon their proximity to sensitive receptors, and will not necessarily be required to install HEPA filtration. Instead, the proposed rule will allow many existing facilities to operate using only fume suppressants. As noted in the Staff Report, many of the existing facilities are located within low-income communities and communities of color. Residents in these communities, who live next to existing plating companies, deserve the same protections afforded by the restrictions placed upon new facilities. Furthermore, failure to adopt this requirement will undermine the credibility of the Air Quality and Land Use Handbook, as it will call into question the necessity of a 1000 foot separation distance, if even ARB's own rule will not require the most stringent controls for existing facilities within that distance.

Additionally, fume suppressants simply do not provide the same level of protection to community residents as would the installation of add-on controls. As noted in the Staff Report, the SCAQMD and ARB testing of these fume suppressants was under carefully controlled conditions, the purpose of which was "to determine parameters that yielded optimum emission reductions." Staff Report at ES-6. However, on a day-to-day operational basis, maintenance of this emission limit is much more difficult than maintenance of an add-on control device.

For the above reasons, we would suggest that the proposal be amended to require that all existing facilities within 1000 feet of a sensitive or residential receptor be required to install HEPA filtration or equivalent add-on controls. At a minimum, those facilities that are in the intermediate category (20,000-200,000 annual ampere-hours), and that are within 1000 feet of a sensitive receptor, must not be allowed to use fume suppressants instead of an add-on control device.

2. If sensitive receptors move to within 1000 feet of a chrome plater that does not have an add-on control device, that facility must be required to install controls within two years.

In addition to amendment suggested above, residents that are located in the future next to an existing chrome plater must be protected to the same degree as existing residents. Good land use decisions should prevent this from happening. However, experience has shown the land use planners can be quite ignorant of the risks posed by locating housing next to incompatible land uses such as chrome plating. In any event, the newly located residents must be protected to the same degree as if the plating shop moved next to them. Accordingly, we

would suggest that the rule also be amended to provide that if a sensitive receptor moves to within 1000 feet of a chrome plating or chromic acid anodizing operation, that facility must install HEPA or equivalent add-on controls within two years.

Essentially, we are arguing for internal consistency in the rule, as well as consistency with the Air Quality and Land Use Handbook, so as to protect any residents within 1000 feet of a chrome plating operation with the most health protective technology available. (Environmental Groups-1)

56. Comment: Plating shops are still located next to homes and schools in low income communities of color around the state. It is in this context that I want to thank your staff for their hard work on this issue and say that while we find this proposal to be a big improvement over the current ATCM, we would request that you adopt the proposed ATCM with one major amendment. And that is simply that at a minimum all existing sources within 1,000 feet or 300 meters of a sensitive receptor be equipped with HEPA filtration or equivalent add-on controls. Add-on controls are the most effective means of controlling hexavalent chromium. With efficiency ratings of 99.97 percent, they are 85 percent more effective than fume suppressants alone. And fume suppressants are simply not as effective, even when used in combination with mechanical suppressants such as polyballs. ARB's own testing program showed that add-on pollution control devices provide a consistent level of control regardless of operating parameters. (Forbis-1)

57. Comment: The proposed ATCM does not require add-on controls for small and intermediate facilities due to the supposedly small health risks that they pose to their neighbors. Yet there are two reasons that the actual cancer risks from these facilities are likely to be higher than is indicated in the Staff Report. First, the cancer risk assessment completed for volume sources, those sources using fume suppressants as their mechanism of control, arrived at a cancer risk of 1 per million at a distance of 20 meters, or 60 feet, from the facility. Again, facilities like Master Plating and others around the state have residents that are located well within that distance. The ARB Staff Report notes that they cannot accurately calculate what the risk is to those extreme near-source receptors.

Also, the Staff Report notes that fugitive dust from these facilities may add to the risk. And that is not included in the risk assessment due to a lack of information about the issue. Nor is there a plan for follow-up testing for the dust control measures as to determine their effectiveness after the fact.

Requiring add-on controls for existing sources also brings a measure of internal consistency to your rule and treats new sources the same as existing sources, and is also consistent with your air quality and land-use handbook. Existing chrome platers within a thousand feet of a sensitive receptor are not being

required to relocate. What we are asking is that they be required to put on the most reliable and most effective technology that's available, which is HEPA filtration or an equivalent add-on control. The residents that live next door to these facilities have suffered for too long and they deserve at least that much from you. (Forbis-1)

58. Comment: We're here basically to back up the recommendations of the Environmental Health Coalition, the California Community Against Toxics, and the community groups. We are pleased that you are considering updating the chrome regulation today. We support the technology-based approach in the regulation. We think that's important. We appreciate the tremendous amount of work that's gone into this regulation. We are urging you to build on the strong base that the staff has presented to you with by adopting the regulation but strengthening it; take it one step further and provide that additional public health protection by requiring that HEPA filters, or equivalent control devices be required for all chrome platers within 1,000 feet of sensitive receptors. I think you have a good definition of sensitive receptors in the regulation.

This specific change will make sure that you're adopting a regulation that provides the greatest level of public health protection, that will be using technologies that are reliable and effective, and will make sure that the regulation is consistent with the land-use handbook, which we also fully supported. (Holmes-Gen)

59. Comment: Like the Lung Association, we support the proposal, but with the strengthening amendment that was proposed by the Environmental Health Coalition. And I think there are several good reasons for adopting that.

And I think the industry presentation was very well organized. And I appreciate the fact that the industry really came to this with a constructive attitude.

But I think what the communities are asking for here is really very reasonable and very compelling, because what we're saying is that for those sites where the emissions are coming very close to the people in the homes, the schools, the hospitals, that we should require the add-on controls, the HEPA filters or anything equivalent, if that exists. The Staff Report points to that. It identifies those controls as the best available control technology. It says that they will give us an 85 percent reduction in the cancer risk. And right there you can see that this is what we need to do. (Magavern)

60. Comment: So for all those reasons I think that at least in those areas where you do have people breathing nearby, we need to make sure that all the facilities have the add-on control of the HEPA filtration. (Magavern)

Agency Response to Comments 55-60: In response to comments and testimony at the September 28, 2006 hearing, the Board continued the hearing

until December 7, 2006 and directed staff to evaluate the distance necessary to protect sensitive receptors located near existing businesses. While a 1,000 foot distance would be more health protective, staff's further evaluation also found that 330 feet (~100 meters), as in the original proposal, was the distance necessary to protect sensitive receptors. The added cost of increasing the distance to 1,000 feet did not justify the improved health protection. This is because modeling analyses show that the emissions of hexavalent chromium from plating and anodizing facilities have a very near source impact. As described in the Staff Report, Chapter VII, Page 72, at 100 meters the concentration has dropped off by about 90 percent for volume sources. At the December 7, 2006 hearing, the Board agreed and established the distance for requiring more stringent and rapid control at 330 feet. The Board rejected the suggestions of these Commenters to require add-on controls for all facilities, in consideration of the very low health risk posed by very small facilities.

However, the Board agreed it was appropriate to be maximally health protective in the case of new facilities and, as suggested by the Commenter, established a 1,000 foot separation for new facilities. New facilities would not be able to operate in areas zoned residential or mixed use, or within 1,000 feet of these areas, or within 1,000 feet of a school or school under construction. New facilities would also be required to meet a more stringent emission limit of 0.0011 milligrams per ampere-hour. The Agency Response to Comments 11-14 summarizes the proposal approved by the Board at the December 7, 2006 hearing.

Related to Point 2 of Comment 55, the Board further considered the so called "move-in" provision but rejected it because of equity concerns. We do not believe it is fair for facilities to trigger new control requirements simply because someone chooses to move near a facility in the future. However, the Board recognized at the December 7, 2006 hearing, that allowing "move-in" situations to occur was an issue that could endanger public health. In light of that, the Board directed staff, in Resolution 06-25, to conduct additional outreach with local planning agencies to educate them of the hazards associated with allowing people to "move-in" close to chromium plating and/or anodizing operations.

d. Section 93102.5: Additional Requirements

61. Comment: 93102.5 Requirements that Apply to Existing, Modified, and new Hexavalent Chromium Plating or Chromic Acid Anodizing Facilities Beginning [Effected Date]. Note that this numbered section is also used for ARB's newly adopted Thermal Spray ATCM. It is suggested that the ARB consider reassignment of a section number to the Thermal Spray ATCM or skip this number within this proposed regulation. (Weintraub-1, Weintraub-2)

Agency Response: Staff was aware of the section numbering and made the change administratively through the Office of Administrative Law.

The change became effective on October 17, 2006. The Thermal Spraying ATCM was renumbered to section 93101.5.

62. Comment: We feel that the requirement under section 93102.5(b) to send "responsible personnel" to an Air Resources Board Training Course would be an overburden. In an operation such as our Plating Shop, there is no one person who is solely responsible or accountable for environmental compliance. We do acknowledge that our Management Team holds ultimate accountability for the operations at our facility, but this could also be construed that they, too, would have to attend a training course.

We ask that the regulation allow for a single representative to attend an initial CARB Compliance Course, to assure that our training programs meet or exceed the requirements established by the ARB. We would also submit that our training program and records be reviewed during regular enforcement inspections to ensure that we continue to meet the ATCM requirements for training in lieu of the subsequent two-year retraining. Periodic retraining in our case is not necessary, since personnel at our plating facility work full time and all are long standing employees and are not reassigned to other duties. As such, implementation of the ATCM's requirements would be met daily, weekly and monthly, so re-training would not be necessary. (Sulgit-1, Sulgit-2)

Agency Response: The change suggested by the Commenter is not appropriate. Personnel responsible for compliance should be trained and be onsite in order to insure that the ATCM's requirements are followed. However, ARB's compliance training staff will work with the Commenter to schedule training at the Commenter's facility.

63. Comment: 93102.5(b) Environmental Compliance Training. No later than [Two years after Effective Date] and within every two years thereafter, the owner or operator of a facility, or personnel designated by the owner or operator that are responsible for maintaining environmental compliance, shall complete an Air Resources Board (ARB) Compliance Assistance Training Course. This section does not indicate which Compliance Assistance Training Course to take. From our review of the Compliance Assistance Training Course website, it appears that the one-day Course #290.3 Chrome Plating and Anodizing would be the appropriate course.

Please verify that this is the intended course that would be required. If so, then United recommends that the course title or number be referenced within the appropriate section(s). (Weintraub-1, Weintraub-2)

Agency Response: The Commenter correctly references the training class now being offered by ARB staff. However, as the new training class is developed to reflect the modified ATCM, it is possible that the course number and title will change.

64. Comment: The ARB Compliance Assistance Training website describes Course #290.3, Chrome Plating & Anodizing and indicates the manual used for the training as Handbook #02-033. This handbook published by CARB is entitled "Chrome Plating and Anodizing Operations Self-Inspection Handbook, For Personnel in Chrome Plating and Chromic Acid Anodizing Operations." United reviewed the CARB published booklet and it appears to be simplistic providing general information on air pollution, process information, general health effects and chemical safety and hazards, information on the regulation, requirements and pollution control along with inspection and recordkeeping summary.

The emission limits, control equipment requirements and quarterly inspection portion is basically a synopsis of the requirements already identified in the current ATCM (which can be read by anyone for free and not have to pay to attend a course in which the same or similar information will be restated by an instructor).

In addition, the current Handbook references the existing ATCM and not the proposed amendments to the ATCM. Does the ARB intend to update the handbook upon promulgation of the final version of the ATCM? If so, when would the revision be completed? (Weintraub-1, Weintraub-2)

Agency Response: The material presented at the training class required by the ATCM will be updated to explain the requirements contained in the amended ATCM. The revision will be completed prior to any scheduled training after the amendments become legally effective.

65. Comment: 93102.5(b)(4) states "Nothing in this subsection 93102.5(b) shall absolve an owner or operator from complying with sections 93102 – 93102.16". While this statement is meant as a catch all, it is too broad of a statement to be placed where it is proposed. It states the obvious - that it is the general duty of the facility to comply with the regulation.

Such a phrase implies that if for some reason the training doesn't work out, or persons trained are not available at the facility (e.g. training is cancelled, or persons trained are not available due to illness, vacation) that the facility must still comply with the ATCM.

This means that the facility must then have someone not trained to conduct the required recordkeeping or other compliance related task. Essentially the statement says its okay to have someone not trained to do the required tasks as long as compliance is achieved.

United recommends that 93102.5(b)(4) be deleted from the proposed regulation. (Weintraub-1, Weintraub-2)

Agency Response: It is not appropriate to delete this section. Section 93102.5(b)(4) clarifies that failure to take the training class, or have an employee who has been trained on site during plating operations, does not absolve the facility from complying with regulatory requirements, such as the emission limits in section 93102.4.

66. Comment: 93102.5(c) Housekeeping Requirements. Effective [Six months after Effective Date], housekeeping practices shall be implemented to reduce potential fugitive emissions of hexavalent chromium. At a minimum, the following practices shall be implemented:

93102.5(c)(3)(B). Facilities without automated lines.

1. Each electroplated or anodized part must be handled so that excess chromic acid is not dripped outside the electroplating tank.

Due to the intricate shapes of some parts electroplated at United, upon parts pull and rinse, (and after allowing for excess liquid to drain back in the plating tank) usually by hoist and during transport to the next process, there is potential for residual chromic acid within a crevice or pocket to drip outside of the tank depending on the angle at which the part is placed. Hence, compliance would be very difficult to maintain on a routine basis. According to the way the subsection is written, one drop outside the tank would be a violation of the regulation. Since "excess chromic acid" is not defined in the regulation, it is unclear as to whether excess is relative to "normal" amounts of chromic acid dripping or if it means any chromic acid, or 10 drops of chromic acid. It is believed that this is not the intent of the regulation to control every drop of chromic acid but to emphasize the effort to reduce potential emission of hexavalent chromium. Therefore, United recommends modifying the section to read:

"Each electroplated or anodized part must be handled so as to minimize excess chromic acid spillage outside the electroplating tank"

2. Each facility spraying down parts over the electroplating or anodizing tank(s) to remove excess chromic acid shall have a splash guard installed around the tank to minimize over-spray and to ensure that any hexavalent chromium laden liquid is returned to the electro-plating or anodizing tank.

This subsection does not provide or reference splash guard specifications or how many sides of the tank must have splash guards. Will this be at the discretion of the facility? What percentages of facilities have splash guards and what are their configurations?

Based on the type of parts and workflow and tank configurations at United, implementation of splash guards can be quite an impediment to tank access and

to hoist clearance on some of the larger landing gears. For those facilities where splash guards may be impractical, we suggest that the subsection have an added statement, stating that if a splash guard is not feasible, then the owner or operator should rinse each part so as to minimize excess chromic acid spillage outside the electroplating tank. Since the liquid bath levels within the tank are several inches below the lip of the tank, can the remaining tank freeboard be considered equivalent to splash guard? (Weintraub-1, Weintraub-2)

Agency Response: With regard to the first point, staff agrees that use of the term 'excess' is ambiguous. But rather than the suggestion made by the Commenter, staff modified the language to clarify that chromic acid, in any amount, is not to be dripped outside the plating tank. This provision is necessary to protect public health. The Commenter must change its existing procedures if chromic acid is currently being dripped outside the tanks.

In response to the second point, we modified the provision to address the Commenter's concern. The modified language specifies that there must be a splash guard at the tank, but the provision allows the operator to determine how best to configure the splash guard for the operation. We believe that this flexibility will allow some type of splash guard configuration to be feasibly installed in all operations. Data are not available on the number of facilities that have splash guards or the configuration of the splash guard. Tank freeboard would not be considered a splash guard.

67. Comment: 93102.5(c)(5) states "Surfaces within the enclosed storage area, open floor area, walkways around the electroplating or anodizing tank(s), or any surface potentially contaminated with hexavalent chromium, that accumulates or potentially accumulates dust shall be washed down, HEPA vacuumed, hand wiped with damp cloth, or wet mopped, or shall be maintained with the use of non-toxic chemical dust suppressants at least once per week;"

Please verify United's interpretation of this subsection. Does a facility have to do all of the following:

1. wash down,
2. HEPA vacuum,
3. hand wipe with damp cloth.

Or instead of item 1: wet mop the area.
Or instead of item 2: use non-toxic chemical dust suppressants.

If a facility complies with 93102.5(c)(1), (2) and (3), then how is it possible to have at the end of each week any liquid or solid accumulation to be cleaned.
If the areas are already free of any potential liquid or solid materials, why should a facility go through the burden to clean an area that does not need cleaning?

United recommends that 93102.5(c)(5) be deleted from the proposed regulation. If the ARB decides to keep this subsection in the final version, then, we recommend modifying the (d)(5)(E) to read:

93102.5(c)(5) Surfaces within the enclosed storage area, open floor area, walkways around the electroplating or anodizing tank(s), or any surface potentially contaminated with hexavalent chromium, in which there is observed accumulation of liquid or solid material shall be cleaned weekly in one or more of the following manner:

1. washed down (where liquid is then directed to waste treatment)
2. HEPA vacuumed,
3. hand wiped with damp cloth, or wet mopped,
4. Use of non-toxic chemical dust suppressants (Weintraub-1, Weintraub-2)

Agency Response: The Commenter has correctly interpreted this regulatory provision. However, in response to this Comment, staff modified the language to clarify that only one method of cleaning was necessary, but the exact language suggested by the Commenter was not used. Moreover, if there is no potential that a surface is potentially contaminated with hexavalent chromium, due to diligent housekeeping, then no cleaning would be required.

68. Comment: Although this regulation does include some housekeeping requirements, the District is concerned that these provisions may not be sufficient to adequately address fugitive emissions from chrome plating and anodizing facilities. The District is concerned that after the implementation of this ATCM, there may still be a potentially significant health risk from fugitive hexavalent chromium emissions. While the District supports the housekeeping provisions that have been added to the ATCM to address fugitive emissions, there has not been enough evaluation or testing to demonstrate that these provisions will significantly reduce the health risk associated with fugitive emissions of hexavalent chromium. The District requests that ARB continue to investigate methods to reduce fugitive emissions and conduct source testing to determine the potential magnitude and sources of fugitive emissions from chrome plating and anodizing facilities. (SDAPCD-1)

Agency Response: The Board recognized that fugitive emissions could be a contributor to a facility's overall health risk and approved housekeeping provisions at the December 7, 2006 hearing. We believe that the ATCM specifies all reasonably feasible housekeeping requirements and that further testing is not necessary.

69. Comment: Chromic acid is a granular substance. It comes in a bucket. You open it and add it to the tank. When you open it and add it to the tank, the dusting occurs. In my plant, we actually punch holes in the bucket and slowly submerge the entire bucket into the chromic tank to dissolve the chrome, not

having any dusting. So there's a lot of things that are very easy to do that common sense and good training can avoid, rather than having to buy a piece of equipment that costs hundreds of thousands of dollars to maintain. And people think that that piece of equipment will be the panacea, when really it's good training and good people that is what it would take. (Olick-1)

Agency Response: Staff agrees that good housekeeping and operating practices are important components in controlling fugitive hexavalent chromium dust emissions. The Board agreed and approved the housekeeping provisions contained in section 93102.5. However, good housekeeping practices alone are not sufficient to protect public health and do not eliminate the need for other controls, such as chemical fume suppressants or HEPA filters.

e. Section 93102.6: Trivalent Chromium and Enclosed Tank Facilities

70. Comment: At section 93102.6 Special Provisions ……Enclosed Hexavalent Chromium Electroplating Facilities. Why is the emission limit for hexavalent chromium from covered electroplating tanks expressed in mg/dscm instead of mg/amp-hrs? (Weintraub-1, Weintraub-2)

Agency Response: The emission limit for enclosed hexavalent chromium electroplating tanks is expressed this way to be consistent with the federal NESHAP requirements for these facilities.

71. Comment: Standards for New Trivalent Chromium Electroplating Facilities: New trivalent tanks should not be prohibited from locating in an area zoned residential or mixed use or within 150 meters from the boundary of such an area as required in subsection 93102.4(d)(1). Complying with this zoning requirement is a disincentive to using trivalent chromium, but the State should be encouraging the use of trivalent chromium over hexavalent chromium for plating operations. Unlike hexavalent chromium, trivalent chromium has not been identified as a known human carcinogen. Furthermore, suggested health protective levels for trivalent chromium in drinking water indicate that it is several orders of magnitude less toxic than hexavalent chromium. By discouraging the use of trivalent chromium electroplating, this provision may result in a reduction of the potential air quality benefits from the regulation. Even though all chromium compounds are identified as toxic air contaminants, there is no Office of Environmental Health Hazard Assessment (OEHHA) approved health risk value associated with trivalent chromium. Therefore, there is no technical basis for restricting where a new electroplating facility using only trivalent chromium can be located and such a provision is not justified as a means of protecting public health. The District recommends that this provision be removed unless its inclusion can be justified based on an analysis of potential risk to public health from trivalent chromium electroplating operations. (SDAPCD-1)

Agency Response: We agree that it is not appropriate to include this provision for new trivalent chromium facilities. Therefore, section 93102.6(a)(2) was changed to delete the provisions related to where new trivalent chromium facilities could operate. Instead, new trivalent chromium plating facilities are required to conduct a site specific risk analysis. The analysis is to be submitted to the permitting agency. This requirement should insure that public health is protected.

f. Section 93102.7: Performance Tests

72. Comment: Page 23. (b)(1) Delete "add-on" and "device" and reword to say, "The tested air pollution control technique demonstrated..." (MFASC-2)

73. Comment: Page 23. (b)(3) Delete "add-on" and "device" and reword to say, "The test is representative of the air pollution control technique..." (MFASC-2)

Agency Response to Comments 72 & 73: It is not appropriate to change the language of section 93102.7(b)(1) and (b)(3) as suggested by the Commenter. The language is meant to modify an existing provision which is specific to testing add-on control devices.

74. Comment: 93102.7(a)(3) states that the performance test shall be conducted using one of the approved test methods specified in subsection 93102.7(c). The hexavalent chromium emission rate shall be multiplied by the facility annual permitted ampere-hour usage to determine the annual emissions of hexavalent chromium for the facility. It appears that the purpose of this section is to conduct source testing to demonstrate compliance with the emission limit specified in Table 93102.4. Therefore, the portion that refers to computing facility emissions is not relevant to the demonstration. In fact, the way the regulation states the computation is incorrect for determining actual emissions. Multiplying the emission rate by the facility's annual permitted ampere-hour usage (or maximum allowed) would produce a potential to emit (PTE) calculation. United recommends that the last sentence of 93102.7(a)(3) be deleted from the proposed regulation. (Weintraub-1)

Agency Response: The computation method is correct. This provision is used to determine when a facility's annual emissions exceed 15 grams per year. Because of this, it is appropriate to use the annual permitted ampere-hours (i.e. potential to emit) to ensure the public is adequately protected. Therefore, the Commenter's suggested revision was not made.

75. Comment: 93102.7(e) Test all emission points. Each emission point subject to the requirements of this regulation must be tested unless a waiver is granted by U.S. EPA, and approved by the permitting agency.

Under what circumstances can a waiver be granted? Does the ARB have any examples of such waivers?

If a facility has multiple stacks of the exact configuration (both process and abatement), can a facility conduct a source test at one exhaust stack to be representative of the remaining exhaust stacks providing certain criteria be met? (Weintraub-1, Weintraub-2)

Agency Response: Section 93102.14 specifies the process for applying for an alternative and receiving a waiver from a particular requirement. In the case of an alternative to 'testing all emission points' because a facility has multiple stacks, the person seeking approval of an alternative would first submit the proposed alternative requirement to the permitting agency for approval. Table 93102.14 lays out the agencies which must approve and concur before any waiver is granted. In this case, the district is the approving agency and no concurrence is required. ARB staff is not aware of any waivers that have been granted related to section 93102.7(e).

g. Section 93102.8: Chemical Fume Suppressants

76. Comment: Page 46. The Staff Report concludes that the Cr6 emission rate is not impacted by surface tension. This conclusion is wrong! We urge CARB to discuss this relationship with fume suppressant manufacturers and with SCAQMD technical staff. There are many empirical and theoretical data sets which show emission rates declining with lowered surface tension. Use of 2 tests on 1 tank cannot be considered statistically sound for drawing such a conclusion. (MFASC-1)

Agency Response: The Commenter is suggesting changes to the Staff Report, not the regulation. For completeness, staff responds as follows. We agree that reducing surface tension using chemical fume suppressants reduces emissions. We also agree that our data are limited. However, the data and discussion are provided only as a basis for not requiring facilities to reduce surface tension lower than 40 dynes per centimeter with little emission reduction benefit. Requiring lower surface tensions would result in higher costs to the industry. We also note that the surface tension requirements are consistent with those in Rule 1469 which the Commenter endorses.

77. Comment: Page 25. 93102.8 Table. Use all of the "approved fume suppressants" certified by SCAQMD or initiate a separate but equivalent CARB approval procedure for fume suppressants. (MFASC-2)

Agency Response: Staff does not agree that all of the SCAQMD certified fume suppressants should be added and incorporates the Agency Responses to Comments 78-81, 208-210 and 211 herein. However, section 93102.8(b) does

provide a separate but equivalent CARB approval procedure for chemical fume suppressants.

78. Comment: Pages 45 & 55. The foaming mechanism, in our judgment, and verified by source tests, is very effective in reducing Cr6 emissions. SCAQMD conducted and supervised source tests to ensure each fume suppressant could meet 0.01 mg/AH, before certifying them. Unless CARB conducts source tests on foaming agents with or without surface tension reducers and/or polyballs, it is totally arbitrary for CARB to de-list any of the approved fume suppressants or not to allow foams to be used under any circumstances to meet the PAATCM. (MFASC-1)

79. Comment: The Staff Report (Page 45) proposes to disallow foam blankets as a possible in-tank control measure and does not consider them for certification for use in emission control. The reasoning is based on the time needed to form the foam blanket, the fear of explosion and need for increased cooling.

The SCAQMD, as part of Rule 1469, set up a certification procedure to approve fume suppressants. SCAQMD approved among others, Dis-Mist NP, which is a foaming agent that demonstrated compliance with 0.01 mg/AH (See Attachment 7, listing approved fume suppressants). Several businesses in the MFASC/STA use Dis-Mist NP or other foaming agents with fume suppressants that lower the surface tension. The foam blanket works well with polyballs, which help hold the foam in place on the plating solution surface.

The suggested reasoning in the Staff Report is without merit. First, the ongoing compliance and recordkeeping requirements in the PAATCM as well as permit conditions that may be imposed upon a facility, create a mechanism to penalize and deter any facility that could create such a condition. As SCAQMD provides with its certification, a minimum thickness and coverage are necessary for the product to be deemed protective. Second, the fear of explosion is overstated and was an issue primarily when foam blankets first became available more than 15 years ago and has been adequately addressed by manufacturers. Finally, the need for increased cooling has little impact on the emission control qualities of the foam blanket and temperature regulation may be adequately controlled by the user since most tanks have both heating and cooling systems. (MFASC-3)

80. Comment: The PAATCM should not arbitrarily de-list Dis-Mist NP or any other foaming agent without conducting source tests or implementing a separate certification program. We ask that such testing be performed before a decision on this issue is made. (MFASC-3)

81. Comment: In-tank controls are a good and effective technology. They include mist suppressants, foam blankets and polyballs. Fume suppressants

work by lowering the surface tension and forming a foam. They are very effective. They are chemically stable. So if you make an addition, it's not gone in a matter of minutes or hours. It can stay in that tank at that surface tension for days, depending upon how many amp-hours pass through the process. Foam blankets add an additional layer of protection. They are very effective. I think the Board raised issues about explosions. Those are not a problem with proper technology and current chemistry and proper procedures when used. Polyballs add a mechanical barrier to the system. And as we've seen in the prior speaker, his data shows that these -- a combination of these three systems are very effective. Staff assumed that foam blankets were unacceptable and failed to certify them, with no testing or analysis by the staff. And Fumetrol 140 is one of our premier products. And with this Fumetrol 140 and a certain surface tension, you get very low emission limits. In combination, Fumetrol 140 working with Dis-Mist NP can even reduce those emissions down further by orders of magnitude. As you can see, the usage regulations according to South Coast for a combination process means that these two combinations -- the surface tension has to be below a certain limit, there has to be a certain amount of foam on the plating tank during plating, and it has to cover 95 percent of the area. Fume suppressants and mist suppressants and foam blankets are very effective control processes. They also control in the tank preventing chromium from getting outside of the tank and causing fugitive emissions that we've seen may be a problem in some cases. Please give us a chance to demonstrate this technology, that these technologies are very effective. (Jones)

Agency Response to Comments 78-81: The proposal in the Staff Report and the amendments ultimately approved by the Board do not prohibit the use of foam blanket chemical fume suppressants as the Commenters suggest. Any facility can choose to use a foam blanket chemical fume suppressant. However, those facilities required to use a chemical fume suppressant to comply with section 93102.4(b), must, in addition to the foam blanket chemical fume suppressant, use a chemical fume suppressant specified in section 93102.8. This latter provision is analogous to the provision contained in Rule 1469.

The rationale for requiring that foam blankets be used in combination with a specified chemical fume suppressant, for those facilities that must use them, is based on the amount of time required to form the foam blanket. In many instances, especially small operations whose plating times are very short, the foam blanket does not have time to fully form. In these instances the added emission reduction from the foam blanket does not occur.

We agree that in tank controls are effective methods to reduce emissions and the approved amendments allow small facilities to comply using chemical fume suppressants as sole control. We disagree that additional testing is needed because the regulation does not prohibit the use of foaming chemical fume suppressants.

h. Section 93102.10: Inspection and Maintenance Requirements

82. Comment: Page 28. Item 2 at Top of Page. Delete the wording and insert: "wash down quarterly until wash water is clear." [Note: There is no way to see the back of a mesh pad or chevron mist eliminator.] (MFASC-2)

Agency Response: The change suggested by the Commenter is not appropriate. The language relates to inspection and maintenance of add-on air pollution control devices. This Comment is not related to the proposed amendments. No changes were proposed to the language because it was added for equivalency with the federal rule (granted December 16, 1998) and cannot be removed without jeopardizing federal equivalency. However, section 93102.14 provides a process for applying for an alternative inspection and maintenance requirement than that listed in Table 93102.10.

83. Comment: Table 93012.10 – In the Summary of Inspection and Maintenance Requirements Under Inspection and Maintenance Requirements column, Item 1, I suggest that the ARB modify the wording to include "intended performance" as one of the indicators that can be affected as shown below.

"1. Visually inspect device to ensure .... no evidence of chemical attack that affects the structural integrity or intended performance of the device." (Weintraub-1, Weintraub-2)

Agency Response: This Comment is not related to the proposed amendments; however, staff responds as follows. We are not aware of any issues related to this inspection requirement. We believe that the language is sufficient to identify, and fix as necessary, potential problems with the device. Additionally, the districts, which have been enforcing the regulation, did not raise this as an issue as we worked with them to develop the amendments.

84. Comment: Since composite mesh pads require periodic wash downs, such activity should remain as part of the maintenance requirements. Therefore, I suggest the reference to composite mesh pads in section 93102.10(a) should be modified as shown below:

"4. Perform washdown of the composite mesh-pads in accordance with manufacturer's recommendations and/or add fresh makeup water to the packed bed when it is needed." (Weintraub-1, Weintraub-2)

Agency Response: We agree with the Commenter. Staff has not modified the language to exclude washdown of composite mesh pads, but rather has deleted some redundant language and clarified that any part of the device(s) that should be washdowned, including composite mesh pads, are washdowned as recommended.

85. Comment: Under Inspection and Maintenance Requirements column for High Efficiency Particulate Air (HEPA) filters, the inspection requirement (item 1) to look for changes in the pressure drop appears to be vague. Since pressure drop is covered in section 93102.9(b), looking for changes in the pressure is not an inspection/maintenance related activity, rather an ongoing monitoring activity – just like the CMP, PBS or fiberbed mist eliminators.

Since there is no requirement to conduct pressure drop evaluations for CMP, PBS or fiberbed mist eliminators, there should not be one for HEPA.
It is recommended that the ARB delete item 1 under the HEPA Inspection and Maintenance Requirements. (Weintraub-1, Weintraub-2)

Agency Response: This Comment is not related to the amendments; however, staff responds as follows. Staff believes the requirement to look for changes in pressure drop continues to be important for HEPA filters. No changes were proposed to the language because it was added for equivalency with the federal rule (granted December 16, 1998) and cannot be removed without jeopardizing federal equivalency.

i. Section 93102.15: Chromium Plating Kits

86. Comment: I am concerned that the legislation you intend to pass making the possession or use of small hexavalent chrome plating kits [illegal] is being made based primarily on misinformation. Considering how small the market is, I was initially puzzled how this has become blown up to this extent, and that the administration considers these kits to be a threat to the health and safety of the citizens of California. However, after looking at the CARB web page, I see that the Board has enlisted the names of companies such as Sigma Plating, Excell Plating, Van Nuys Plating, Alta Plating, Sherm's Custom Chrome, Clovis Specialty Plating, and Walker's Custom Chrome and used them as testing facilities. By passing a law making hexavalent chrome kits illegal in California, you will immediately undo all the good work and customer training we have done to make them handle this material correctly. It is THEY who have been the 'offenders' in polluting the air and environment, not my customers. They have repeatedly said that the operation is specialized and cannot be done by amateurs; we have proven them wrong, and it irks them. (Caswell)

Agency Response: Staff independently determined that use of these kits by untrained personnel could result in unacceptable exposures to hexavalent chromium for people living near where they are used. For this reason, staff proposed the prohibition. The Board approved this amendment at the December 7, 2006 hearing.

87. Comment: I note that the Board recognized tobacco smoke to contain hexavalent chromium. I would suggest that there is a far greater health hazard for Californian citizens coming in contact with chrome through this sources than

through our kits, yet no mention is made of making cigarette smoking illegal in the report. (Caswell)

Agency Response: The subject of this rulemaking is solely to reduce hexavalent chromium emissions from chromium plating and anodizing operations.

88. Comment: There are many misconceptions about this section [93102.15], the main one being that our customers are not aware of the hazards of chromium plating. This is simply not true, and if anyone had taken the time to read the relevant section of our manual, they would discover that WE spell out the precautions needed very specifically. `Uncontrolled emissions' are once again discussed and I say again. 'We have ZERO emissions from our systems'. Therefore, the risk is less than an employee in a large plating shop, or someone inhaling second hand cigarette smoke. (Caswell)

89. Comment: Our greatest achievement in our Hex Chrome kits is our ZERO WASTE & EMISSIONS policy. Our kits contain an EPA approved mist suppressant, which completely eliminates the emission of any chromic acid mist. This it seems, is the major part of your concern. We are not even satisfied with the EPA rulings, so we have DOUBLED the rate at which the Mist Suppressant is administered. Further more, we add FUME BALLS, small plastic balls that float in the chrome, covering over 80% of the surface area, to reduce mists. I have yet to hear of ANY customer who has ever complained of fumes getting out of the tank. Believe me, you would know, because they are obnoxious. Our manual also explains how to check for fume emissions periodically. Please also bear in mind, that most of our customers are using these kits in confined spaces, small workshops. ANY fume emissions would be more unpleasant than in the larger environment of a commercial shop. We HAVE TO BE more vigilant than commercial platers! Our emissions and waste problems are zero. Can that be said in a commercial setup? No. (Caswell)

Agency Response to Comments 88 & 89: We believe that section 93102.15 (requirements relating to prohibiting the sale, supply, offering for sale, or manufacturing for sale in California, chromium electroplating or chromic acid anodizing kits) is necessary to ensure protection of public health. Customers can continue to purchase these 'kits' as long as they have permits to operate from their district and are in full compliance with the ATCM. The Agency Response to Comment 90 is incorporated herein.

The statement that the kit offered for sale by the Commenter produces zero emissions is false. No hexavalent chromium plating operation has zero emissions, regardless of how small. Chapter IV, beginning with p. 28, of the Staff Report describes how hexavalent chromium emissions are produced from chromium plating.

90. Comment: By saying that the kits could be used by a 'permitted plating facility' seems ridiculous, as they would already have equipment there. Why would they need a small kit? Have you spelled out how a person would become a 'permitted facility'? No. (Caswell)

Agency Response: Generally, in California districts require facilities conducting chromium plating or chromic acid anodizing to be permitted. This is because the districts are charged with enforcing the ATCM. The requirement that the kits be used only at permitted facilities is to ensure the district is aware of the operation and can monitor compliance with the rule. Any plating operation, regardless of size, is subject to the ATCM and all the requirements contained in sections 93102 through 93102.16. Customers could continue their plating operation as long as they are permitted by the district and comply with the ATCM. Any individual choosing to apply for a permit to operate a facility must consult with their local air district as to the process. While it is unlikely that a permitted facility would choose to purchase a kit, we included this provision because there is no reason to prohibit a permitted facility from purchasing a kit if they choose to do so.

91. Comment: You also propose to ban the ancillary equipment associated with chrome plating kits, including internal and external equipment. That means it's now illegal to purchase 3 gallon plastic buckets, aquarium heaters, aquarium pumps, sulfuric acid, nickel sulfate, metal degreasers, copper solutions, brush plating equipment, etc. etc? Unless you are very specific, I can see this being turned into a witch hunt by over zealous officials, using almost anything to pillory someone. (Caswell)

Agency Response: The ATCM would prohibit sales of this equipment if it is sold as part of a kit. It is not illegal to purchase the equipment mentioned by the Commenter for other purposes. It is not realistic to contend that government officials will try to claim that it is now illegal to sell products like plastic buckets and aquarium heaters.

92. Comment: No mention is made of an industrial 'on-site process' of hard chroming shafts etc. by brush plating. (A process we do not sell). (Caswell)

Agency Response: The ATCM is specific to electroplating operations and does not apply to operations using chromium for non-electrolytic processes.

93. Comment: I have a better plan which, I believe, will make everyone happy. Pass a law that all small hex chrome plating operations (say under 20 gallons) operate under the following restrictions:

1. All tanks must operate an EPA compliant Mist Suppressant. Periodic checks must be made and the results recorded for inspection. A fee is charged if inspection is warranted.

2. All tanks must have Fume Balls added to the solution. They must be 1" diameter and completely cover the surface area of the tank.
3. Operators must employ a 'zero waste' policy. All parts must be spray rinsed over the tank, and then finally rinsed in de-ionized/distilled water. This water is to be used exclusively for 'topping up' the plating solution.
4. Disposal of solution must be done through an approved waste management company, and a receipt kept for inspection.
5. Operation must be done in an enclosed room, not in a residence.

I believe these measures will enable the State to have some control over small operations, without infringing on their civil liberties, enabling them to conduct their businesses and hobbies in a safe and efficient manner. (Caswell)

Agency Response: The small operations described by the Commenter are subject to the existing ATCM as well as the amended ATCM. For ease of the reader, we include the relevant ATCM language.

Section 93102.1, Applicability

(a) This regulation shall apply to:

(1) The owner or operator of any facility performing hard chromium electroplating, decorative chromium electroplating, or chromic acid anodizing.

Because all hard chromium electroplating, decorative chromium electroplating, and chromic acid anodizing facilities, regardless of size have always been subject to the ATCM, there is no need to adopt regulations related to small operations only.

94. Comment: By passing a law making hexavalent chrome kits illegal in California, you will immediately undo all the good work and customer training we have done to make them handle this material correctly. Many people will simply ignore the new law and carry on regardless, plating the occasional nut and bolt; others, fearing persecution, will dump their chemicals down the drain and flush them, creating more pollution than if they were allowed to continue. Most will send them off to a waste management company. Persons who are determined to carry out 'small operation' plating will purchase chromic acid outside the State, and make up their own setup, circumventing your 'kit' philosophy. There are numerous places outside California where small quantities of chromic acid can be purchased quite legally. I see this law being totally unenforceable. (Caswell)

Agency Response: Current operators using these kits are subject to the existing ATCM and all of the requirements, and will continue to be subject to the amended ATCM. The ARB staff is not proposing to prohibit all sales of these

kits, but is rather ensuring that the kits are only used at permitted facilities so that districts can conduct regular inspections of the facility to insure compliance.

It is not realistic to assume that a person, who would ordinarily dispose of hazardous waste in a lawful manner, will panic upon hearing about the ATCM and decide to dump everything down the drain. While it is possible that a person determined to perform chrome plating would separately purchase all necessary materials, this is considerably more trouble than buying a kit. Therefore, a ban on kit sales to non-permitted facilities will discourage illegal chrome plating operations by making it much more difficult to purchase the necessary materials.

95. Comment: Customers usually need our kits to do small runs of chrome plating. Many schools use them to train people in electroplating. The manufacturers are competing in the marketplace, often with overseas companies, and need to offer fast turn-around and lower costs.

Typically, the larger chrome plating shops charge outrageous prices and have terribly slow turn-around times. Often, they simply aren't interested in plating a few objects, and slap the customer with high minimum charges. (Caswell)

Agency Response: The Agency Responses to Comments 93 and 94 are incorporated herein. The customers described can continue to conduct chromium electroplating using 'kits' as long as they are permitted by their district for such activity and are in full compliance with the ATCM.

iii. Comments on Alternatives to the September 28, 2006 Proposed Amendments

96. Comment: Industry has already provided written and verbal comments, letters and supporting information to CARB staff at the various workshops and telephone conferences well before and during this comment period, and this letter and our presentations at the September 28, 2006 hearing, will provide additional support. Our twenty year involvement to improve the environment by working with regulatory agencies is a model for all businesses. We believe the alternatives we offer, like R1469 and our PAATCM modifications, are more effective control methods especially when cost is taken into account. (MFASC-3)

97. Comment: We also believe that R1469, if adopted statewide, would provide a more effective control method than the PAATCM. That conclusion is based not only on the amount of Cr6 reduced, but also on the risk prevention provisions of R1469 that are lacking in the PAATCM and the overall lesser economic impact to the industry and other businesses statewide. Application of R1469 statewide is a more effective control method; however, we also believe that if the PAATCM were modified for the three suggested issues we identified, the PAATCM would provide similar control of Cr6 emissions as the PAATCM, but

at a greatly reduced cost, about $600,000 versus $14,200,000 (as estimated in the Staff Report). (MFASC-3)

Agency Response to Comments 96 & 97: We agree that adoption of Rule 1469 statewide would result in significantly reduced cost. However, we disagree that adoption of Rule 1469 statewide would provide equivalent or more effective control. Staff compared the benefits of adopting the SCAQMD Rule 1469 with the Staff Report proposal and found it did not offer similar benefits because BACT was not required for all facilities. The proposal ultimately approved by the Board provides additional health protection compared to the Staff Report proposal—especially in instances where facilities are located near sensitive receptors.

As described in the Staff Report, Chapter IX, pages 99-100, adoption of Rule 1469 statewide would offer very little benefit over the existing situation. While the staff's proposal would reduce cancer risk from about 75 percent of facilities to no more than one per million people exposed, adoption of Rule 1469 would result in only 45 percent of facilities having cancer risk of no more than one per million people exposed. With regard to the alternative offered by the Commenter, staff's proposal requires facilities within 100 meters (compared to 25 meters in the alternative) of a sensitive receptor to meet more stringent requirements. Staff's proposal would also require BACT for these facilities. We also note that the risk analysis conducted by SCAQMD staff underestimated the health risk from facilities by one-third because recommended risk assessment procedures were not followed. The alternative proposal offered by the Commenter contains provisions similar to Rule 1469 and does not require BACT for all facilities. Thus neither Rule 1469 nor the alternative put forth by the Commenter provides the same health protection as does the staff's proposal. The Board agreed with this assessment and rejected adoption of Rule 1469 and the Commenter's alternative. As described in Chapter IX of the Staff Report, Rule 1469 would be cheaper to implement because very few facilities would be required to install BACT.

However, staff acknowledges that the alternative proposal did contain a more stringent emission limit and greater separation distance for new facilities than what staff originally proposed. The Board ultimately approved the lower emission limit for new facilities suggested by the Commenter and agreed that new facilities should not be allowed to operate within 1,000 feet of a school or school under construction. Other suggestions made by the Commenter (requiring use of specific chemical fume suppressants within six months and increasing the separation zone for new facilities to 1,000 feet) were suggestions already proposed by staff as modifications to the original proposal. These modifications were adopted by the ARB and are reflected in the Final Regulation Order.

98. Comment: [The MFASC provided an alternative control approach to that proposed by CARB staff.] The first part of our proposal is to eliminate the

requirement for add-on equipment for facilities of >200,000 AH/Y allowing facilities to meet 0.0015 mg/AH by any combination of control measures, in-tank measures or add-on equipment. The second part of our proposal is to not de-list foaming agents as certified or approved fume suppressants. The final part of our proposal would allow 36 of the 45 facilities within the 20,000-200,000 AH/Y category to meet 0.01 mg/AH rather than 0.0015 mg/AH. None of the 45 are estimated to be within 25 meters of a residence or sensitive receptor and would have to meet 0.0015 mg/AH. This 20,000-200,000 AH/Y category has 15 facilities, which already substantially comply with the PAATCM. [The Commenter provides data comparing the impacts of the proposal to those of the CARB staff's proposal.]

We formatted our changes by comparing them to the proposal offered by SCAQMD as an alternative to the PAATCM. Note that we differ in only one respect and we believe our alternative is as health protective as that offered by SCAQMD. (MFASC-3)

Agency Response: The Commenter provided an alternative control approach to the proposal contained in the Staff Report, which is different from what the Board ultimately approved. Related to point 1, we disagree that the requirement for add-on equipment should be deleted. Doing so would be contrary to State law which requires application of BACT for facilities. Secondly, the approved amendments do not prohibit the use of foam blanket-forming chemical fume suppressants. Related to the third point, the Commenter is suggesting that 25 meters is a health protective distance. We disagree with this as modeling analyses show that 100 meters (330 feet) is a more health protective distance. Moreover, implementing the third point would also result in a lower level of control than would be provided by requiring BACT for these facilities. The Agency Responses to Comments 11-14, 39 and 42 are incorporated herein.

99. Comment: [The Commenter provides a table comparing the requirements of the ATCM with those of R1469.] The table demonstrates there are no differences in the requirements of the two approaches for 161 facilities in the state.

The difference in the two measures falls on 45 facilities in the 20,000-200,000 AH/Y category, 11 facilities in the 200,000-1,000,000 AH/Y category; and 3 facilities in the 1,000,000-5,400,000 AH/Y category for a total of 59 facilities. Each of the 59 facilities would be required to meet 0.0015 mg/AH under the PAATCM but 0.01 mg/AH under the R1469 statewide alternative. The difference in the remaining emissions between the two approaches is 0.38 lb/Y which compares favorably with the MFASC/STA estimate above of 0.33 lb/y. The 0.38 lb/Y is made up of the incremental emissions between 0.01 and 0.0015 or 0.0085 mg/AH. (MFASC-3)

Agency Response: This Comment is suggesting that the small difference in the pounds of hexavalent chromium emitted by comparing the staff's proposal and that of the Commenter, is insignificant. We do not agree. Because of the carcinogenicity of hexavalent chromium, even very small emissions can be significant and pose an unacceptable health risk. Moreover, as opposed to the alternative offered by the Commenter, the staff's proposal requires BACT for all facilities, in accordance with State law. The Agency Responses to Comments 39 and 126 are incorporated herein.

100. Comment: [Data are provided to compare MICRs and cancer cases at 25 meters from the source for each category.] These are theoretical values only since: (1) emission rates in many cases will be much lower than the legal requirement; (2) the nearest receptor in many cases will be greater than 25 meters from the source and exposed to lower concentrations of Cr6 due to dilution and dispersion, and (3) the receptor in many cases will be an offsite work location thereby having a much shorter lifetime exposure than calculations for a residence. Other district rules that apply the requirements of the Toxic "Hot Spots" Act (Health and Safety Code sections 44300 et. seq.) will require that all facilities reduce the health risk to less than the action level, which, for example, in SCAQMD is 25 in one million.

The total difference in cancer cases between the two control approaches [ATCM and R1469] is only about 0.5 person over a 70-year period (or 0.007 cancer cases per year) when calculated utilizing the theoretical MICR as the exposure of all persons within the zone of impact around the chrome plating or chromic acid anodizing facilities. The real difference in the cancer burden would be expected to be even less for the reasons cited earlier regarding the theoretical MICRs. (MFASC-3)

Agency Response: The Commenter's cancer burden analysis is inappropriate. While the methodology is generally correct, a cancer burden analysis is not scientifically valid as applied to this source category given that emissions have their maximum impact very near-source. As required by State law, staff's proposal requires BACT for all facilities. It is not designed to reduce health risk to a specified level. However, staff's analysis found that by requiring BACT for all facilities, estimated cancer risk for over 90 percent of facilities would be no more than 10 per million people exposed. The Agency Response to Comments 139 & 140 is incorporated herein.

101. Comment: If the Board chooses to go forward with an amendment to the ATCM, we urge the Board to adopt our suggested changes since they are more effective than the current proposal. This less costly alternative "would be equally as effective in achieving increments of environmental protection in a manner that ensures full compliance with statutory mandates..." Health and Safety Code section 57005(a). That statutory mandate includes adoption "of best available control technology or a more effective control method...". Health and Safety

Code section 39666(d). R1469, in conjunction with effective enforcement of existing statutes including Toxic "Hot Spots" (Health and Safety Code sections 44300 et. seq.) and permitting (Health and Safety Code sections 42300 et, seq.) creates a regime that meets all other legal requirements, including those addressing economic impact.

The Staff Report partially estimates the cost of the R1469 alternative as about $600,000 (for equipment at seven facilities) which is primarily for facilities not in SCAQMD, compared to the PAATCM cost of $14,200,000 or more. Our R1469 alternative would reduce cancer risk from our industry from about four persons for the entire State of California to a value that is effectively equivalent to the estimate for the PAATCM, but at a greatly reduced cost.

As found in our proposal revising the PAATCM, an even more conservative option also results in an alternative that is a more effective control method. As we demonstrate by coupling the cancer burden calculation with the Staff Report's own economic calculations and endorsing a greater compliance and training regime, our proposal revising the PAATCM in three ways would provide more effective and realistic control for all air districts in California. This alternative is a more effective control measure than the PAATCM as currently written. We demonstrated in this letter that the changes we propose do not impact risk in any manner and make economic sense.

As we outlined, the cost of this PAATCM is well beyond the threshold causing significant impact to business in this state. As we also show, the impact spreads to other industry. The loss of jobs and the inability to compete against out-of-state metal finishers will have a major impact. Likewise, the adoption of this PAATCM will be at a cost far exceeding any other ATCM adopted by CARB for a measure whose costs far exceed its alleged benefits.

This letter demonstrates that our alternatives comply with the requirement of being a "more effective control measure" as well as "a less costly alternative... which would be equally as effective in achieving increments of environmental protection". See Health and Safety Code sections 39666(c) and 57005(a). We are opposed to this PAATCM in its present forum, unless requested changes are made and our comments, presented in this letter, are addressed in a comprehensive manner. (MFASC-3)

102. Comment: As far as communications with agencies, I've invited and have given tours of our facility to regulators and politicians to demonstrate to them the necessity and ability of our industry. We consider ourselves to be global environmentalists. What we treat here keeps it from being treated worst somewhere else throughout the world. The SCAQMD's alternative, we feel, is acceptable in almost everything that they propose, and that the alternative will help industry and lessen the economic impact. The alternative compares favorably with the SCAQMD's suggestion other than the three modifications that

our industry was asking for through Mr. Dean High. And if you look at the different items, on the right-hand column almost everything is in concert with the SCAQMD's requirement except the one that you see up there in blue that has been proposed in our comments to the Board. (Bell-1)

Agency Response to Comments 101 & 102: The alternative suggested by these Commenters is not a more effective control measure. Staff's analysis, which compared the staff's proposal with adopting Rule 1469 (which is essentially the same as the Commenter's proposal), would not be equally effective in reducing cancer risk. As described in the Staff Report, Chapter IX, page 99, adoption of Rule 1469 statewide would provide very little improved health protection. This is because BACT was not required for all facilities and cancer risk estimates were not based on Office of Environmental Health Hazard Assessment (OEHHA) approved methodologies. Under the staff's proposal about 75 percent of facilities would have cancer risk of no more than one per million people exposed. Adoption of Rule 1469 would result in 45 percent of facilities with remaining cancer risk of no more than one per million people exposed. Clearly the approaches are not equivalent. We also disagree with the cancer burden analysis used to suggest the Commenter's proposal is more cost effective. A cancer burden analysis is not relevant for this source category given that emissions have their maximum impact very near-source. The proposal is less costly, but does not afford the same health protection benefits.

The Staff Report acknowledges that the cost of the proposal would result in significant impacts to some businesses, and could result in business closures, businesses competitiveness issues, and job losses. However, the staff's proposal assumes that all facilities exceeding the ampere-hour thresholds will install add-on control devices. The provision approved by the Board provides flexibility to demonstrate compliance through alternative methods and could significantly reduce compliance costs for some facilities. In further response to these comments, staff incorporates the Agency Responses to Comments 11-14, 96 & 97, 103-106, 139 & 140 and 145.

103. Comment: SCAQMD staff appreciates the work that CARB staff has done over the last 3 years in developing the new proposed changes to the ATCM. These changes represent more stringent controls than Rule 1469. We think that the proposal can be further strengthened by adopting the changes included in the attachment to this letter. [The Commenter provides a table of suggested changes to the proposal in the Staff Report.] Taken as a whole, the changes provide some flexibility for meeting the more stringent emission limits, while better serving the breathing public.

The attached suggested amendments to the proposed amendments to the ATCM are offered as a mechanism to improve the already enhanced ATCM proposal. Highlighted areas show where the suggestions are more stringent than the

current ATCM proposal. This list of changes is meant to be implemented in total. It offers flexibility for industry to meet the very stringent emission limits in a technology-neutral fashion. The suggested amendments include an expedited compliance schedule, use of fume suppressants before controls are added, additional recordkeeping, periodic source testing, more frequent inspections, and stringent backstop requirements. The proposal will reduce the economic impacts and provide the most health protective ATCM. The SCAQMD staff respectfully requests addition of the attached enhancements in a 15-day change process. If this is not possible, then a 30-day delay should be sufficient to produce the necessary rule language changes. (Wallerstein-1)

104. Comment: We've had a negotiated rule making on the books since May of 2003. At that time it was the most stringent rule anywhere in the country. But because of our experience with that rule, we believe that both the ATCM that's proposed by the staff today and our current rule can and should be improved. And what we're offering is a package that when taken together will not only provide better public health, but it will also enhance the current proposal before you today.

We've put together an attachment to a letter that we provided to the Board members and the staff. And basically we're suggesting that this be taken as a package. The basic difference with the staff proposal is it gets to the same place or better, but it's technology neutral. And it would allow flexibility for industry, but require them to demonstrate through source tests. And with all the other things that we're adding, we think you can get to the same health protective level or better with less economic impacts.

We also think that for the larger facilities that are meeting the most stringent emission level with the maximum technology, that instead of requiring them to go through the very expensive process of an AB 2588, or "Hot Spots" Report, that you let that be the option. But we also think that they should meet the toughest technology.

The third point here, it sounds like the staff has also provided and that is as an addition today. Our proposal in general shortens the timelines. And as your staff has also recommended, that in addition to adding the controls in the interim, if it's not impossible, for technical reasons they should start using fume suppressants.

Our proposal also has a backstop. So if you're not using the best controls and you have three emission-related violations in a five-year period, then you're required then to step up and do those more stringent controls.

And also we're suggesting that there needs to be a lot more enforcement presence. We're testing, you know, minimum numbers of inspections at facilities—more frequent source tests, recordkeeping and training.

So basically we're requesting that the list of changes that we have provided be considered as part of a 15-day change package. And if it's not possible to do that, then a 30-day delay would be all that we would request. (SCAQMD-1)

105. Comment: Challenges that we see in the field: HEPA filters can be turned off. They could even be bypassed or even replaced with lower efficiency filters. Fume suppressants similarly are not without their challenges. Those fume suppressants, which you've already testified to, which are only about a half a percent lower of reduction in efficiency as HEPA filters, are a pollution-prevention approach because emissions are minimized before they leave the tank. The list of changes that are before you today is meant to be implemented in total. [Mr. Pupka refers to the alternative proposal offered by SCAQMD as part of Ms. Whynot's testimony.] We believe that it offers flexibility for industry to meet the very stringent emission limits in a technology-neutral fashion while providing the very most protective of health in terms of the ATCM. (SCAQMD-2)

106. Comment: We feel that the South Coast proposal even addresses better the near-source concerns that staff was proposing. And it also addresses the increased inspections, certifying training, record keeping, certified fume suppressants, compliance assistance, proximity to sensitive receptors, and a three-strikes provision. (Cunningham-1)

Agency Response to Comments 103-106: ARB staff disagrees that the alternative would provide greater overall health protection. While the Board ultimately rejected many of the Commenters' suggestions, to allow staff additional time to review the suggestions, the Board continued the hearing until December 7, 2006. The Board determined that some provisions, but not all, would improve the original proposal. The proposals relating to requiring new facilities to meet an emission rate of 0.0011 milligrams per ampere-hour, requiring use of specified chemical fume suppressants in six months, and adding 'schools and schools under construction' to areas where a new facility could not operate were more stringent than staff's original proposal. These provisions were incorporated into the approved amendments and were circulated for public comment in the April 13, 2007 15-Day Notice.

Other suggestions provided by the Commenters did not provide equivalent benefits to the amendments approved by the Board. The Agency Responses to Comments 39 and 96 & 97 describe why staff determined that the proposal offered by SCAQMD staff did not provide the same overall level of health protection as the amendments adopted by the Board. For example, the alternative proposal did not require BACT for all facilities. Moreover, staff estimates that the alternative proposal would result in about 45 percent of facilities having excess cancer risks of less than one per million exposed people. The staff's proposal will result in about 75 percent of facilities having excess cancer risk of less than one per million exposed people. Clearly the alternative proposal is not equally protective of public health. Other suggestions by the

Commenters related to number of inspections per year and compliance demonstrations are provisions which the district could choose to adopt as polices within their district.

iv. Comments in Support of the September 28, 2006 Proposed Amendments

107. Comment: We appreciate the considerable work that ARB staff has put into these proposed revisions, and feel that the ATCM, as proposed, is much more health protective than either the existing ATCM, or South Coast Air Quality Management District Rule 1469. However, we are concerned that the proposed rule revision does not go far enough to protect public health.

As was noted in the Staff Report, Master Plating, a small decorative plating facility with average annual ampere-hours of less than 50,000, was found in 2001 to pose an unacceptable health risk to its neighbors in Barrio Logan, a low-income, predominantly Latino community of San Diego. Despite reported yearly emissions of only .081 pounds per year of hexavalent chromium, and compliance with fume suppressant requirements that was documented by state and local authorities, Master Plating was found to pose a health risk of 114 cancers per million to the families living only a few feet away. Prior estimates by the local Air Pollution Control District had estimated Master Plating's potential health risk to be less than one per million. (Environmental Groups-1)

108. Comment: We are pleased that the California Air Resources Board has proposed a much more health protective Air Toxic Control Measure (ATCM) for Chrome Plating and Chromic Acid Anodizing Facilities as such action is long overdue. EWG is concerned, however, that the proposed revisions do not go far enough. (EWG)

Agency Response to Comments 107 & 108: We agree that the proposal described in the Staff Report, as well as the proposal approved by the Board, are more stringent than the existing ATCM and Rule 1469. Related to what the Board approved at the December 7, 2006 hearing, staff incorporates the Agency Response to Comments 11-14 herein.

Regarding the Commenter's concern that the proposal does not go far enough, we believe the ATCM approved by the ARB appropriately balances the cost of requiring add-on controls for all facilities with the potential health risk posed. Staff found BACT for very small facilities to be use of specific chemical fume suppressants. Health risks for these very small facilities with proper use of chemical fume suppressants, coupled with diligent housekeeping to prevent fugitive dust, are estimated to be very low.

109. Comment: The proposed amendments would strengthen the ATCM and provide a further measure of public health protection. (BAAQMD-1)

110. Comment: We support these standards and the additional public health benefits they'll provide. Most of our facilities will need to implement additional control measures to comply with these standards. (Bateman-1)

111. Comment: The proposal that you have before you is a protective proposal that relies upon redundant air pollution control systems to help control the risk from these facilities, which I know that some members of industry think that there is no risk remaining from these facilities. But actually even with current controls, I can tell you that we have four cancer cluster investigations over the last three years next to chrome plating facilities. We have 18 children with leukemia next to the Marquin facility. We had a cancer cluster investigation in Upland that folks are concerned could be related to a chrome plating facility. And back in the eighties we had basically a reproductive health cluster investigation next to a facility here in Sacramento near Calvine Florin. And as well, there's some folks here that are going to talk about the Remco facility. And then of course many of you are familiar with the Suva School problem that we had in Los Angeles, which was one of the impetuses for South Coast's regulation. (Williams-1)

Agency Response to Comments 109-111: The Commenters' support is acknowledged. However, the comments are directed at the proposal contained in the Staff Report, which is different from what the Board ultimately approved. In response to comments and testimony at the September 28, 2006 hearing, the Board continued the hearing until December 7, 2006. The Agency Response to Comments 11-14 summarizes the proposal approved by the Board at the December 7, 2006 hearing.

v. Comments Requesting the Board to Postpone Consideration of the Proposed Amendments

112. Comment: We ask that in the absence of adopting our proposal, a 60-90 day delay in this rulemaking be granted to provide additional time for Staff and stakeholder to clarify a number of technical issues that are not resolved at this time. (MFASC-3)

113. Comment: If the Board were to extend the hearing date 60 - 90 days to allow Staff and stakeholders a chance to further investigate technical areas that have not been substantiated by CARB, as well as to modify the PAATCM, we would pledge our industry cooperation. (MFASC-3)

114. Comment: And we hope you'll consider the proposals and maybe a short postponement so we can work together to get all this done together. (Cunningham-1)

115. Comment: I urge you to postpone your decision and consider a rule similar to 1469. (Lucas-1)

116. Comment: The economic issues are but one powerful reason to postpone a decision today so that CARB and the stakeholders can reconsider more options. (Pomeroy-1)

117. Comment: We hope you'll consider postponing your decision so that the various proposals can be considered. (Pomeroy-1)

Agency Response to Comments 112-117: At the September 28, 2006 hearing, after considering the testimony and comments, the Board continued the hearing until December 7, 2006 and directed staff to work with stakeholders and the districts, to return with a revised proposal.

vi. Comments on Other Aspects of the September 28, 2006 Proposed Amendments

Comments 118 to 169 are related to the basis, analyses, methodologies, and costs of the proposed amendments described in the Staff Report. This proposal is different from what the Board ultimately approved at their December 7, 2006 hearing. However, the amendments approved by the Board are substantially similar to the original proposal, therefore, the analyses and methodologies employed remain applicable.

a. Comments on ARB Staff's Emissions Testing Program

118. Comment: Page 41. Tests No. 1 & 2 at Sigma should clarify that liquid carry out off the plating tank probably led to the very high results. Test No. 4 at Van Nuys should clarify that the capture efficiency was only 50-75% so results again cannot be used. These 3 tests would not meet the requirements for approved source tests by local air districts or by the Iocal districts or USEPA. (MFASC-1)

Agency Response: The Commenter is suggesting changes to the Staff Report, which is not further modified following publication. For completeness, staff responds as follows. The results from the tests are valid. However, as described in Chapter V, page 41, we agree with the Commenter that operating conditions at the facilities may have led to higher emission rates. The data are provided only for completeness. Page 41 of Chapter V states that these results were not used to develop an emission factor.

119. Comment: Page 68. The conclusion that "...on-site worker exposure to hexavalent chromium at the affected facilities would be reduced as well" is not supported by CARB's in plant data shown on Page 50. There is no significant difference between ventilated and non-ventilated facilities for in-plant concentrations. The swamp cooler at Van Nuys blew all the emissions out of the

building. The 4 mg/m^3 was not the result of a good ventilation system. In fact it was only 50-75% efficient. (MFASC-1)

Agency Response: The Commenter is suggesting changes to the Staff Report, which is not further modified following publication. For completeness, staff responds as follows. The data the Commenter is describing relate to existing conditions. Staff believes it is a logical conclusion that if emissions at a facility are lowered to reduce ambient outdoor concentrations, it follows that indoor levels of hexavalent chromium would be lower as well. Lowering emissions from plating and anodizing tanks, in combination with improved housekeeping practices to reduce fugitive dust emissions, should also reduce hexavalent chromium exposure for on-site workers. However, page 68 of the Staff Report clearly indicates that OSHA is responsible for protecting on-site workers.

120. Comment: The Dispersion Model calculations used to determine how that cancer goal can be achieved is based on many broad assumptions one of which is the assumption that the Emission Factors developed in the Source Testing program are true measures of the chrome emissions from an open surface chrome plating tank. Even though we had tried to set the testing protocol as close as possible to actual plating conditions, all of the shops tested in the North had too low an amp-hr usage, consequently in order to obtain enough of an air sample to adequately quantify the Hex-chrome concentration, the amp-hr usage was increased 3 to 6 fold over and above what these shops normally use in one day.

In addition, from the Southern California source tests run on tanks that had fume hoods, there was an indication that the high air flow over the surface of the tank swept additional chrome into the ductwork causing the emission factors to be biased on the high side. In an effort to minimize that effect, the time hood flow rate (90 m^3/min) was reduced by a factor of 3 to about 28 m^3/min. At that rate the smoke test indicated that the capture efficiency was adequate. As far as I know no testing was done to determine whether or not the Emission Rate was still biased at the lower rate. The sampling protocol used for the Source Testing Program and at SCAQMD is an excellent way to evaluate the effectiveness of commercial fume suppressants. However, without any additional supporting data, it is a quantum leap to assume this technique is an accurate measure of the Emission Rate from an open surface tank.

Based on the test data presented thus far, it has not been established whether or not the Emission Rate Factor as determined from the Source Testing Program is a true measure of the hex-chrome emissions from an open surface chrome plating tank. (Nole)

Agency Response: This Comment is referring to the decorative chromium plating emissions testing program conducted by ARB staff. The results are

described in Chapter V of the Staff Report. While the early tests conducted showed variable emission rates, these tests were completed under normal, existing operating conditions. These tests were used only to estimate baseline emissions. However, the test program also tested a plating operation using conditions identical to those used to conduct the SCAQMD fume suppressant certification program. In this test, the emission rate was 0.009 milligrams per ampere-hour, or 0.01 milligrams per ampere-hour. This is the identical emission rate as used in Rule 1469. It is our understanding that the MFASC and STA, of which the Commenter is a member, agree that 0.01 milligrams per ampere-hour is the appropriate emission factor to use for chemical fume suppressant controlled tanks. Staff used this emission factor to determine remaining cancer risk for facilities using chemical fume suppressants to comply. Therefore, it is unclear why the Commenter questions the validity of the emission factor.

121. Comment: Ambient Test Data - I have closely reviewed the data for all testing done on facilities with open surface tanks. I realize CARB had no specific purpose in mind when it decided to take ambient samples. If one examines the ambient data, it can be seen that Alta's plating room with no hood in place has an average of 59 ng/m^3. Shem's plating room was 149 ng/m^3. These ambient test results are far below the OSHA PEL of 5000 ng/m^3. For Alta's and Sherm's ambient data, it can be seen that the ambient concentrations increased when the Hood was removed. The questions that need to be answered are:

a) If according to the smoke test the capture efficiency of the hood is acceptable, why do we find significant quantities of chrome in the plating room during the testing?
b) If the Emissions Factor is a true measure of the chrome emissions, wouldn't the ambient concentration in the room with no hood be much higher than the concentrations found in the ambient air during testing?
c) The Clovis ambient data is curious. The average data with no hood was 248 ng/m^3; whereas the average data with the hood operating was higher at 465 ng/m^3. This anomaly cannot be explained by the presence of fugitive dust. With the hood pulling chrome off of the surface of the tank, one would expect the concentration in the plating room to be lower with the hood in operation. Is it possible that the hood when operating spewed chrome back into the plating room?

All in all it appears as though the ambient air sampling technique is fairly reliable. Unless there is data that shows the ambient sampling method used is not an accurate measure of the Cr6 in the plating room, one can only conclude that the ambient sampling data is a measure of the Cr6 concentration in the room air. And if so, the Emissions Factor as measured by the Source Test Protocol may be over stating the true Emission Rate. The ambient data without the hood indicates that the Emission Rate Factor may be biased on the high side. (Nole)

Agency Response: The Commenter is referring to the emissions testing program conducted by ARB staff and explained in Chapter V of the Staff Report. The questions asked regarding the ambient data do not have relevance to the proposed amendments to the ATCM. However, staff responds as follows. Staff maintained throughout the testing program that the ambient data are qualitative only and should not be used to evaluate impacts or emissions. While the data generated are valid, we disagree that the ambient sampling technique was reliable. Not enough samplers were deployed to be considered an accurate study, and the samplers are designed for outdoor use, rather than indoor use. The purpose was to evaluate whether there were indeed fugitive emissions potentially impacting the near-by receptors. We believe the data indicate that fugitive emissions are part of a facility's overall impact.
In developing the proposal, the data were only used to support the need for housekeeping measures, which are designed to limit fugitive dust emissions.

b. Hexavalent Chromium Emissions

122. Comment: Page 15. Please identify and quantify the major industrial categories that make up 1000 lb/y of hexavalent chromium. Use consistent units of lb/Y and not tons/Y for mobile sources. Statewide, chrome plating and chromic acid anodizing represents 4 lb/y out of the total of 2,920 lb/y or 0.1 of 1%! When and what agency made the 2006 estimate of 30 lb/y of hexavalent chromium from chrome plating and chromic acid anodizing operations? (MFASC-1)

Agency Response: The Commenter is suggesting changes to the Staff Report, which is not further modified following publication. For completeness, staff responds as follows. The 2006 emissions inventory for hexavalent chromium from stationary sources is shown below. The ARB staff compiles the emission inventory based on data received from the districts. It should be noted that after publication of the 2006 Almanac, as described in the Staff Report, Chapter II, page 15, the emissions of hexavalent chromium from 'metal processes including platers' were revised to 4.5 pounds, down from the approximately 30 pounds displayed in the Almanac.

Hexavalent Chromium Emissions in the 2006 Almanac for Stationary Sources- lbs/yr

EICSUM	EICSUMN	EMS (lbs/yr)	Percent of Total
230	Coatings And Related Process Solvents	187.38	21.84
52	Food And Agricultural Processing - Fuel Combustion	156.73	18.27
50	Manufacturing And Industrial - Fuel Combustions	134.91	15.72
430	Mineral Processes - Including Fuel Combustion	76.79	8.95
60	Service And Commercial - Fuel Combustion	54.86	6.39
10	Electric Utilities - Including Fuel Combustion	49.15	5.73
30	Oil And Gas Production (Fuel Combustion)	46.66	5.44
440	Metal Processes Including Platers	29.97	3.49
99	Other (Fuel Combustion)	23.22	2.71
420	Food And Agriculture	22.28	2.60
410	Chemical	20.81	2.43
499	Other (Industrial Processes)	9.64	1.12
40	Petroleum Refining (Fuel Combustion)	8.84	1.03
460	Glass And Related Products	8.55	1.00
199	Other (Waste Disposal)	6.60	0.77
140	Soil Remediation	5.18	0.60
20	Cogeneration	4.62	0.54
130	Incinerators	3.70	0.43
320	Petroleum Refining	3.44	0.40
310	Oil And Gas Production	3.15	0.37
110	Sewage Treatment	1.34	0.16
330	Petroleum Marketing	0.17	0.02
240	Printing	0.03	0.00
299	Other (Cleaning And Surface Coatings)	0.03	0.00
470	Electronics	0.01	0.00
399	Other (Petroleum Production And Marketing)	0.00	0.00
120	Landfills	0.00	0.00
Total		858.07	100.00

Note: An amount of approximately 182 pounds of hexavalent chromium is manually adjusted outside of the database and is not readily available.

123. Comment: Page 1, “This ATCM reduced hexavalent chromium emissions from chromium plating and chromic acid anodizing facilities by well over 90%." On Pages 39 & 40 of the CARB Staff Report "Emission Factor Background," it is clear that uncontrolled emissions from chrome plating and chromic acid anodizing operations were in the range of 4.4 mg/AH all along. Current emission rates for tanks with fume suppressants, by CARB test results, is .04 mg/AH compared to 4.4 mg/AH uncontrolled, which is a 99% reduction. In the SCAQMD, with 3/4 of the chrome operations, the use of certified fume

suppressants has reduced Cr6 emissions from non-ventilated tanks to 0.01 mg/AH or 99.8% (4.39/4.40). Also within SCAQMD, tanks with add-on controls have reduced Cr6 emissions to 0.0015 mg/AH or lower; this represents 99.97% reduction (4.3985/4.4000). The Staff Report should say: "well over 99%"; otherwise it is misleading. (MFASC-1)

124. Comment: Since 1988, Cr6 emissions from our industry have been reduced between 99% and 99.999%. Within SCAQMD, the minimum reductions for open tanks has been 99.8%, while tanks with ventilation systems has been 99.97% or even greater for shops using in-tank control measures plus add-on controls. Outside SCAQMD, the reductions have been between 99.1% for open tanks and 99.86% or better for ventilated tanks. The Staff Report understates and/or misrepresents the level of control and the amount of reductions that have already occurred in our industry. (MFASC-3)

Agency Response to Comments 123 & 124: Staff does not agree that the Staff Report is misleading. The Staff Report acknowledges that very large emission reductions have been achieved. Page three of the Executive Summary of the Staff Report describes that hard chrome plating operations have reduced emissions by 99 percent or more, while decorative chromium plating operations have reduced emissions by at least 95 percent. Because there was uncertainty with the emission factor for decorative chromium plating operations, staff initiated a test program. Existing data do not support the assertion that all facilities have reduced emissions by over 99 percent.

125. Comment: We do not agree The Staff Report estimates for 2005 four pounds per year ("lb/Y") of Cr6 emissions from our industry statewide, with other industry sources contributing 996 lb/Y, 260 lb/Y from gasoline vehicles, and 1,660 lb/Y from other mobile sources, for a total statewide of 2,920 lb/Y. Our industry now contributes only 0.14 of 1% of the state's Cr6 emissions due primarily to the existing stringent regulations on chrome plating and chromic acid anodizing operations. We question the priority of further regulation on our industry for very diminishing returns before addressing Cr6 reduction measures for other sources. (MFASC-3)

Agency Response: The hexavalent chromium emission estimates provided by the Commenter are correct. As described in the Staff Report, chrome plating facilities are toxic "Hot Spots," and their emissions have the greatest impact near-source. While hexavalent chromium emissions from plating and anodizing are not large on a statewide basis, staff found that near-source emissions and exposures were significant and that technologies were readily available to mitigate exposure to these emissions. Therefore, in accordance with State law, staff proposed amendments to reduce emissions to as low as technology allows.

126. Comment: The Staff Report proposes to reduce Cr6 emissions from our industry by 2.19 lb/Y, which we calculate to be 0.5 lb/Y within SCAQMD and 1.69 lb/Y outside SCAQMD. The CARB Staff estimates that the alternative proposal, R1469 statewide, would reduce Cr6 emissions outside SCAQMD by 1.39 lb/Y or 63.5%. However, we question these 1.39 lb/Y or 63.5% values. If R1469 is equally effective outside SCAQMD as inside SCAQMD and there is a fairly uniform distribution of shops by size category around the state, then we would expect the reductions to be 85.1% as was found between 2003 and 2005 by R1469 within SCAQMD, (12.15 lb/Y - 1.81 lb/Y)/12.15 lb/Y = 85.1%. If so, the reduction outside SCAQMD by the alternative approach would be 1.86 lb/Y compared to 1.39 lb/Y by the PAATCM.

We estimate that remaining Cr6 emissions would be 0.33 lb/Y outside SCAQMD and 1.81 lb/Y within SCAQMD for a total of 2.14 lb/Y statewide if Rule 1469 were adopted statewide versus 1.81 lb/Y under the staff proposal. Therefore, the two alternatives are very much equal in their effectiveness (0.33 lb/Y difference) and the R1469 approach is a far less costly alternative. (MFASC-3)

Agency Response: The emission estimates and reductions described by the Commenter are reasonable. Staff estimates hexavalent chromium emissions from plating and anodizing to be about four pounds per year prior to implementation of the amendments. After full implementation of the amendments, staff estimates emissions will be reduced to about 1.8 pounds per year. However, use of pounds as the metric is not particularly relevant, given that exposure to 1 microgram/m^3 of hexavalent chromium over a lifetime results in an increased cancer risk of 150,000 per million exposed persons. To put this in perspective, one pound is equivalent to 454,000,000 micrograms. Therefore, the Commenter's value of 0.33 pounds converts to about 150,000,000 micrograms. Staff finds this to be a significant difference given the carcinogenicity of hexavalent chromium.

The Agency Response to Comments 96 & 97 and 103-106 are incorporated herein. The analysis in Chapter IX clearly shows that adoption of Rule 1469 statewide is not equally effective and does not provide the level of health protection afforded by the amended ATCM.

127. Comment: Metal finishers represent about 4 pounds out of the total 3,000 pounds of chromium emissions in the state. The proposed ATCM seeks to reduce 2.2 pounds of Chromium 6 from the metal finishing industry, which is .0724 percent of the statewide total. Staff suggests that the cost of this reduction is 14.2 million. But I believe that that figure is even higher. (Marrs-1)

Agency Response: This Comment is directed at the proposal contained in the Staff Report, which is different from what the Board ultimately approved. However, staff agrees with the Commenter that hexavalent chromium emissions from plating and anodizing are about four pounds per year, prior to

implementation of the amendments. After full implementation of the amendments, staff estimates emissions will be reduced to about 1.8 pounds per year. The staff's analysis of the cost is detailed in Chapter X of the Staff Report. The Commenter offers no evidence as to why the staff's estimate is flawed. The estimated cost of the amendments approved by the Board is about $13.5 million.

c. Comments Related to Modeling, Air Quality Monitoring and the Health Risk Assessment

128. Comment: Page 13, 2nd Paragraph, Line 2: Reword as follows. "Nine out of the ten facility test locations downwind of the plating shops showed Cr6 concentrations essentially the same as background Cr6 levels measured by SCAQMD in the MATES II Study and as measured by CARB at their air toxic monitoring stations. Based on this monitoring, estimated cancer risks downwind of five facilities ranged from 20-55 per million people exposed including the Cr6 from all other sources. Four facilities had cancer risks of less than 10 per million exposed people including the Cr6 from all other sources. One very small facility had an estimated cancer risk of 450 per million exposed people (SCAQMD 2003a) [SCAQMD worked with this facility to reduce the cancer risk from 450 down to 7 in a million.] The results illustrate the effectiveness of localized air monitoring to identify problem pollution sources". (MFASC-1)

Agency Response: The Commenter is suggesting changes to the Staff Report, which is not further modified following publication. For completeness, staff responds as follows. These data, related to monitoring, are provided only to demonstrate that despite stringent regulation and implementation of the Air Toxics "Hot Spots" Program statewide, further emission reductions are warranted to protect the public's health.

129. Comment: Page 70. Please add a footnote that meteorological data from San Francisco, San Diego, and Fresno were not used. (MFASC-1)

Agency Response: The Commenter is suggesting changes to the Staff Report, which is not further modified following publication. For completeness, staff responds as follows. The suggested footnote is inaccurate because meteorological data from these three areas were used to model emissions. However, on page 73, Table VII-5 we indicate that only the Pasadena data were used for the health risk assessment.

130. Comment: Page 72. Please add a footnote that the point source curve is only for a low stack. (MFASC-1)

Agency Response: The Commenter is suggesting changes to the Staff Report, which is not further modified following publication. For completeness, staff responds as follows. The footnote to Table VII-1 indicates that the curves

are representative of small facilities. Small facilities with stacks are assumed to have low stacks as described in Appendix H.

131. Comment: Page 73. For volume sources, Table VII-5 shows only a small (3,000 sq. ft.) facility modeled. Were medium and large volume sources modeled? (MFASC-1)

Agency Response: Yes, small and medium facilities were modeled. Appendix H of the Staff Report contains this information.

132. Comment: A close examination of the data from Barrio Logan Study indicates that out of 107 days of sampling the test results from two days in December of 2001 were inordinately high indicating something was different during those two days. Later testing indicated that the December high concentrations in the outside air may have come from fugitive dust contaminated with Cr6 rather than the daily emissions from the plating operation. This theory was substantiated on one day in April after Master Plating had stopped its chrome plating operations. If one excludes the two days in December and the one day in April, the average outdoor concentration for 416 samples drop from 0.42 to 0.25 ng/m^3. One must keep in mind even this data is biased high as CARB assumes all samples that had a result below the detection limit (0.2 ng/m^3) have at least 0.1 ng/m^3. In the Staff Report it was stated that the detection limit has been improved to 0.06 ng/m^3. And, as a result, mean concentrations calculated before 2003 may be biased high. In the Barrio Logan study out of 431 samples 65+% were below the detection limit. All of the 654 non-detects were assigned a 0.1 ng/m^3 concentration. USEPA for whatever reason has disregarded the Barrio Logan study and in its 2004 NESHAP approved the use of Fume Suppressants alone for some Hard Chrome Platers.

The one positive conclusion that can be made from the Barrio Logan Study is that hex-chrome deposited on dust particles in Master Plating's building and those dust particles if disturbed by activity in the building and/or wind caused the outside air to have elevated concentrations of hex-chrome. Because of the interference of the dust particles during the sampling events, it is difficult to determine how much the actual plating contributed to the measured concentrations. In facilities where grinding and polishing are done in close proximity to the plating, housekeeping as addressed in the proposed ATCM is beneficial to the environment and the work place. (Nole)

Agency Response: The Commenter is referring to the Barrio Logan study which was an air monitoring study conducted by ARB staff in a San Diego neighborhood. This study is summarized in Chapter II beginning on Page 19 of the Staff Report. The study contributed to ARB staff's decision to evaluate the existing ATCM to determine if further control was warranted, but the data were not used to develop the staff's proposal.

We agree with the Commenter that the housekeeping practices proposed in the original proposal, and approved by the Board at the December 7, 2006 hearing, will benefit the environment and workplace, as well as near-by receptors.

133. Comment: In the Staff Report it is stated that the modeling analysis was based on the assumption that the chrome mist droplets were small enough such that the droplet would behave as a gas in the ambient air. This assumption is based on a report that hex-chrome droplets are 8 micrometers or smaller. It was stated that "Particles of this size are thought to behave as a gas." In reality, the hex-chrome droplets do not have the same characteristics as a particle. The droplet is comprised of either hydrogen or oxygen gas encapsulated in a solution of about 20% hex-chrome and 80% water. Certainly the behavior of the droplet will be different depending on whether or not it has entrapped hydrogen or oxygen. In addition, depending on the relative humidity of the air the water will begin to evaporate. At this time we do not know how long the gasses will remain entrapped. Certainly the escape of the gases and the evaporation rate of the water play an important part on how the droplet behaves in air. The chrome droplet's specific gravity is dynamic and will change dramatically depending on the rate of change of the gas and water content. The behavior of the droplet in air is also influenced by the fact that the bath temperature can range anywhere from 100 to 140 degrees. The dynamics of the temperature effect will depend on the ambient air temperature in the plating room. All of the above scenarios are variables that may or may not affect how the chrome droplet behaves when it leaves an open surface tank.

The modeling analysis assumes that all of the chrome emissions from the plating tank enter the atmosphere outside the building. We in the industry know that some of the droplets fallout back into the tank and some of the droplets deposit on the wails and other surfaces inside the building. The data reported from the Barrio Logan study showed that significant quantities of chrome had deposited on dust particles inside the plating shop. The Barrio Logan results are a strong indication that all of the chrome droplets are not emitted to the outside air. Based on this data it is obvious that the Dispersion Modeling overstates the concentration of chrome in the surrounding community. In addition the dispersion analysis does not account for the stability of hex-chrome in the air. Hex-chrome is a very strong oxidizer especially at low pH. When hex-chrome comes in contact with organic matter or any reducing material, it will oxidize the material and itself will be reduced to trivalent chrome. The reaction rate will depend on many factors besides pH. If one takes a look at the Source Test data where Total Chrome is reported along side hex-chrome it can be seen that on average the hex-chrome is about 79.6% of the Total Chrome. Since the sample is taken from a duct only a few feet away from the plating tank and the sample is trapped in a preserving solution, it can only be concluded that 20% of the hex-chrome was reduced to tri-chrome between leaving the process tank and entering the preserved solution. If in that short period of time 20% of the hex-chrome had been reduced, what percent would be reduced before the droplets

reach the outside air? Would the chrome continue to be reduced as it travels outside the building? If these factors are not taken into account, the Dispersion Models will grossly overstate the concentration of hex-chrome in the outside ambient air. The use of the Emission Rate Factor in the Dispersion Modeling Equations more than likely is overstating the down wind hex-chrome concentrations.

Because of the broad assumptions used in the modeling analysis, the predicted concentrations in the ambient air are biased high. Although it is prudent to err on the side of caution, there is a point where the cost for a very small improvement cannot be justified. The question must be asked; why does the California Air Resources Board believe it is necessary to promulgate regulations that go beyond and above those required by The United States Environmental Protection Agency? (Nole)

Agency Response: Staff's modeling analysis does not suffer from the defects alleged by the Commenter. While the Commenter disagrees with ARB staff's assessment as to size, characteristics, and dispersion of hexavalent chromium mists, staff stands behind their assessment and the reference from U.S. EPA, which serves as a basis for this assumption (described in Chapter II of the Staff Report on Page 17).

As to the modeling analysis, staff did model emissions based on the emissions factor of 0.01 milligrams per ampere-hour that was developed from our emissions testing program. As the Commenter is aware, having reviewed the protocols for the testing, the method was designed to ensure that only those particles that would actually be emitted were collected. We accomplished this by having a very low flow rate to collect emissions. Thus, it is appropriate to model these emissions. While it is true that some of the mist may deposit before it reaches the outdoors, this would be facility specific and very difficult to measure appropriately. The modeling exercise conducted by ARB staff was conservative, but used standard, routinely used methods. Even if some of the mist from the tanks deposits before exiting the building, this provides evidence of the need to control fugitive emissions by establishing housekeeping practices.

The Commenter also believes the emissions are overestimated due to the rapid conversion to trivalent chromium. First of all, related to our source testing procedures and the ratio of hexavalent to total chromium, in the collection procedure some of the material deposits in the sample probe and is not pulled into the impinger solution where the hexavalent chromium would be stabilized. The portion of the sample in the probe, because hexavalent chromium is not stable, will partially reduce to trivalent chromium due to the length of the test. This portion of the sample is analyzed and added to the total collected during the source test. This is the likely source of the 20 percent reduction the Commenter refers to. As a further comment related to hexavalent chromium's stability, as described in the Staff Report, data collected from dust samples during the Barrio

Logan study, and additional analyses performed by the San Diego County Air Pollution Control District (Appendix G), indicate that the hexavalent chromium is stable longer than previously thought.

Finally, ARB's existing ATCM is more stringent than the federal rule related to chromium plating and anodizing, and was in existence for several years before there were any federal standards. States have the authority to adopt rules more stringent than those of the U.S. EPA. By State law, emissions are to be reduced to the lowest level through the application of BACT, or a more effective control measure, unless the ARB determines that an alternative level of emission reduction is adequate or necessary to prevent an endangerment of public health. The ARB did not make such a determination because it was not justified by the facts. Moreover, control requirements of the federal rule do not represent BACT and a more stringent rule is therefore appropriate.

134. Comment: Our industry previously requested to CARB that actual monitoring, not modeling, be performed to make correct determinations on the potential risk. We make that request again. (MFASC-3)

Agency Response: Conducting monitoring around all facilities in the State is neither feasible nor necessary. Air quality models are commonly used to estimate levels of pollutant emissions in the ambient air. The air quality model used in this case, ISCST3 (02035), was the U.S. EPA preferred air quality model for plume modeling at the time of the analysis. As such, this model has been subjected to a systematic performance evaluation and a scientific peer review. However, staff did evaluate various monitoring data as described in the Staff Report in Chapter II page 13, and pages 19-20. Available monitoring results indicated that near-source concentrations of hexavalent chromium remain a concern despite stringent regulation. These monitoring results are one of the reasons that staff began an evaluation of the existing ATCM to determine if further health protection could be achieved by applying BACT.

135. Comment: The CARB Staff conducted dispersion modeling to calculate the maximum ground level concentrations of Cr6 for input into health risk analyses for persons very close to the chrome plating and chromic acid anodizing operations. These calculations required many assumptions and selections for data input. The Staff Report characterized its analyses as conservative and very health protective, but it goes beyond good science. (MFASC-3)

Agency Response: Staff's modeling analysis is appropriate and represents good science. The modeling analyses were performed using standard, widely accepted, methodologies employed in numerous ARB rulemakings. Staff acknowledges that conservative assumptions were made, but the modeling was not done as a 'worst case' scenario. The modeling forms the basis for health risk analysis. As explained in the Staff Report, Chapter VII, page

73-74, the modeling was done in a health protective manner to cover a range of reasonably foreseeable exposure scenarios. Because of the very high cancer potency of hexavalent chromium, a health protective approach is necessary.

136. Comment: The Staff Report estimated risk using 1981 Pasadena meteorological data for facilities located throughout the state. The Office of Environmental Human Health Assessment ("OEHHA") adopted "Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxic Hot Spots Program Guidance Manual for Preparation of Health Risk Assessment" (August 2003) ("HRA Guidelines") recommending five years of meteorological data be used for an HRA, not one year. Dispersion conditions in Pasadena are very poor and do not represent all areas of the Los Angeles Basin and certainly not the rest of the state. There is no metal finishing business in Pasadena. Calculations using the Pasadena meteorology overestimate ground level concentrations, and thereby health risks, by two to three times for facilities in San Diego, Fresno, and Oakland. Five years of meteorological data were available for San Diego, Fresno, and Oakland and many other sites throughout the state where the facilities are located. While the data are shown to be calculated (Appendix H, Tables 6 through 9), only the information from the Pasadena data were used to determine risk. Use of meteorological data from areas outside of the SCAQMD is important since it would mirror conditions that could be fairly compared with a proposed application of R1469 statewide.

For calculations of ground level Cr6 concentrations from facilities with stacks, the Staff Report assumed that the stacks were one (1) foot higher than the building housing the chrome plating or chromic acid anodizing operation. Stacks are always set on top of the control device or the motor and blower housing. Typically the stack is 5 to 15 feet, or even higher, above the top of the building to allow maximum dispersion of emissions and to avoid downwash under medium to strong wind conditions. The assumed one foot stack height above the building height leads to a calculated downwash with much higher ground level concentrations very close to the building at distances of 25 to 100 meters. Our opinion is that the calculated maximum ground level concentrations in the Staff Report will be two times the correct value if the actual stack heights had been used.

The Staff Report states: “since not all of the data were used, downwind concentrations for group A and B will be biased toward overestimation of the mean." Staff Report, Appendix H, Page 4 [Note: group A is <5 million AH/Y and group B is 5-50 million AH/Y]. Group A facilities are automatically assumed to have a low plume rise potential. The stated bias therefore applies to more than 95% of all facilities in the state. Figure 1 in Appendix H of the Staff Report visually portrays the result of the bias.

The Staff Report states correctly that "downwind concentration is a function of the quantity of emissions, release parameters at the source and appropriate

meteorological conditions." We agree and urge that "best available scientific evidence be employed", not unfounded assumptions, to reach a fair and scientific result. See Health and Safety Code section 39650(d). The three examples stated above create a result whereby the risk is overstated. We must therefore conclude that the health risk estimates throughout the Staff Report are not conservative and health protective, but are exaggerated and misleading and do not render a reasonable understanding of downwind concentrations and associated health risks. (MFASC-3)

Agency Response: This Comment is related to assumptions made by ARB staff to model emissions from chromium plating and chromic acid anodizing businesses. Staff incorporates the Agency Response to Comment 135 herein. In developing a statewide control measure, a consistent set of assumptions must be employed to ensure health protection in all areas of the State. The Pasadena meteorological data set was chosen because it is representative for at least 75 percent of the facilities statewide. It does not represent 'worst case' meteorological conditions, as the Commenter implies. It is true, using this set of data, that health risks from some facilities may be slightly higher or lower than estimated, as acknowledged in the Staff Report, Chapter VII, pages 73-74. We also note that use of the Pasadena meteorological data is consistent with data used by SCAQMD in developing Rule 1469. The Commenter found the analyses conducted for Rule 1469 to be reasonable, so it is unclear why this data set would be questioned when used for development of the amendments to the ATCM.

With regard to applying "building downwash" into the modeling scenario, the methodologies and assumptions used are consistent with those used in numerous ARB rulemakings. In selecting mean emission release parameters for each facility group (A, B, C, and D), we selected parameters that represent a mean of each group. For example, we selected mean stack heights for Group A and Group B facilities at 9.1 m (30ft) and Group C facilities at 12.8 m (42ft). The data in Appendix H-1 show actual stack heights are taller and shorter than these mean values.

The model does not allow for the selection of mean building downwash parameters--it is either on or off. The data in Appendix H-1 show that some stacks are at the building height, some at several feet above building height, and still some with no indication on stack height in relation to the building. Therefore, because the model does not allow mean building downwash parameters and, to be protective of the public health, we uniformly raised the building height to one foot below stack top in order to turn building downwash "on" in all cases. By doing this, underestimation of downwind impacts is avoided. Without this assumption, the bias in our model predictions would be towards underestimation.

Related to the comments on stack parameters, in evaluating the available data staff looked for trends in the data that could represent numerous facilities.

This resulted in excluding data for some facilities that were not representative. Including all of the data would result in potentially underestimating exposures which is not a health protective approach. The Commenter also mischaracterizes how the data are applied. These assumptions are only used for facilities that already are equipped with add-on control devices vented through stacks. The data apply to about 30 percent of facilities, not 95 percent, as stated by the Commenter.

Finally, staff disagrees that unfounded assumptions were used. The methodologies employed do represent best available modeling science. While many of the assumptions used are conservative, they do not represent 'worst case,' and therefore, do not overly exaggerate or mislead the public. The goal of the modeling, and selecting the assumptions that are employed in the modeling, is to ensure health protection of residents located near any facility in the State. As explained in the Staff Report, Chapter VII, page 74, a recent study also found that the model used in staff's analysis may under-predict near-source concentrations. As explained further in the Staff Report, Chapter VIII, page 82, 20 meters is the minimum air dispersion modeling distance used by staff in the Air Toxics Program. Because of this, when residents or other receptors are located within 20 meters of the business, their exposure and risk could be higher than estimated by ARB staff.

137. Comment: The modeling evaluation also fails to comply with Health and Safety Code section 39665(b)(4) since the anticipated effect of airborne toxic control measures on levels of exposure has not been determined. The OEHHA HRA Guidelines set forth the method by which actual levels of exposure are to be determined. The estimated point of maximum impact ("PMI") (described in the Staff Report at Page 74 (and hereafter in this letter as the Maximum Individual Cancer Risk or "MICR"), identifies a location using the model's input parameters. The standard as set forth in the HRA Guideline is described in Chapter 4, Air Dispersion Modeling, as part of receptor siting (section 4.7.1, Page 4-19):

"The modeling analysis should contain a network of receptor points with sufficient detail (in number and density) to permit the estimation of the maximum concentrations. Locations that must be identified include [the PMI], the maximum exposed individual at an existing residential receptor (MEIR), and the maximum exposed individual at an existing occupational worker receptor (MEIW)." (emphasis added).

No analysis of the MEIR or the MEIW was performed. This is significant; analysis under the Air Toxics "Hot Spots" program establishes a mechanism to reduce excess risk that is based on risk to the MEIR and the MEIW, not only to a hypothetical location. See Health and Safety Code section 44391. The Staff Report ignores the legal obligation required of this statute and applies the PMI as the most conservative method to achieve a risk value. Unfortunately, when

coupled with the exaggerated and misleading model inputs described earlier in this letter, the unintended result is staggering.

Here is an example: A facility in the desert three miles from the nearest residence and five miles from the nearest "sensitive receptor" has a PMI value by CARB's modeling that exceeds 100 in one million. The MEIR and the MEIW for that source are significantly less than one in one million. Under the PAATCM, the facility must arbitrarily incur the costs of control technology installation, even though no one is being harmed. (MFASC-3)

Agency Response: Staff disagrees that the analyses are deficient with regard to Health and Safety Code section 39665(b)(4). Chapters VII and VIII of the Staff Report clearly lay out the health risk assessment process, predicted exposures to the public, and how cancer risk to the public will be reduced upon implementation of the amended ATCM.

The Commenter does correctly describe how a risk analysis is to be conducted for an individual facility under the Air Toxics “Hot Spots” program. However, this is a separate process from development of ATCMs, which are to be developed in accordance with Health and Safety Code sections 39665 and 39666, not section 44391 as the Commenter suggests.

While it is generally the responsibility of the OSHA to develop rules related to worker exposure, staff did evaluate the risk posed to off-site workers, and evaluated how adoption of the amendments would reduce cancer risk for these workers. Chapter VIII of the Staff Report, Table VIII-3, portrays the remaining risk for the maximum exposed worker after implementation of the ATCM. As described, we estimate that 92 percent of facilities would have estimated cancer risk of no more than one per million exposed workers.

Finally, the Commenter provides an example of a facility located in a remote area with no people living near-by. In accordance with Health and Safety Code section 39666(c), staff developed amendments that require BACT for all facilities. We agree that the health risk posed by a remotely located facility is low, however, given that data show that about 70 percent of facilities have a receptor within 1,000 feet, approximately 3 blocks, the example is not particularly relevant to California.

138. Comment: CARB Staff have estimated, based on a chain of worst-case modeling assumptions, the maximum individual lifetime cancer risk (MICR) for each chrome plating and chromic acid anodizing facility based on the facilities' baseline 2005 emissions. (See page 75 of the Staff Report.) The MICR is calculated at the predicted point of highest modeled hexavalent chromium concentration downwind of each facility, either 20 meters from a facility (for a volume source) or 30 meters from a facility (for a point source). The Staff Report provides a figure showing how the concentration of hexavalent chromium

declines from this maximum with increasing distance from the facility (page 72). The Staff Report does not provide any indication of the even greater reduction below the maximum that would be experienced at locations up-wind or side-gradient.

It is clear that the vast majority of individuals that are exposed to hexavalent chromium emissions from a facility will be exposed at concentrations substantially less than those prevailing at the single point of maximum concentration. There may be no individuals at all located at the single point of maximum concentration. If there is a roughly constant spatial density of population around a facility, then there will be: a) Many more people located far from a facility than are located near it; and b) Many more people located off-axis (not directly downwind) of a facility than are located on-axis.

There are thus several reasons why the average cancer risk experienced by those individuals who are exposed to hexavalent chromium emissions from an electroplating facility will be far less than the MICR calculated by CARB staff for each facility. Actual risks will be far lower than the maximum risks modeled by CARB Staff because of the Staff's conservative, worst case (not "best estimate") modeling assumptions. Also, most individuals surrounding a facility are off-axis and much farther from the facility than the point of maximum concentration, and hence are subject to much lower risks than would be incurred for an individual located at the point of maximum concentration. (MFASC-3)

Agency Response: Staff agrees with the Commenter in part. People will be exposed to varying concentrations of hexavalent chromium depending on how close they are to the source of emissions. We do not agree that the modeling analysis used ‘worst case’ assumptions. The Agency Responses to Comments 135, 136, 137 are incorporated herein. However, the goal of the ATCM was to ensure that the risk for all residents would be reduced to the maximum extent feasible by applying BACT. Using a metric other than the maximum individual cancer risk (MICR) would result in underestimating risks for some individuals presented in the Staff Report. Data collected by ARB staff also show that 43 percent of businesses have a sensitive receptor located within 100 meters of a plating or anodizing shop. Therefore, use of the MICR is reasonable.

139. Comment: We requested at workshops and in writing that Staff calculate the cancer burden both before and after implementation of the PAATCM and the alternative R1469 statewide. The reason for this request was to ascertain both the alleged health benefits received by the PAATCM as well as serving as a basis to calculate the economic costs incurred and received for those alleged health benefits. The performance of a cancer burden calculation is consistent with previous CARB control measures, yet was not performed in this instance. See e.g., CARB Staff Report for Air Toxic Control Measure of Emissions of Chlorinated Toxic Air Contaminants from Automotive Maintenance and Repair Activities. We note that a section like the one cited should be included in the

Staff Report as part of the economic analysis required under Government Code Section 11346.3.

Despite our requests, to date we have seen no such calculations, so we elected to prepare our best estimate. The calculations to determine our industry's share of total cancer cases in the state used SCAQMD's "Risk Assessment Procedure For Rules 1401 and 1402," version 6.0, dated August 18, 2004. Our calculations are derived by applying values found within the Staff Report, which we believe provide very conservative assumptions that are likely to overestimate the cancer risk. Our calculation results show that current Cr6 emissions within the SCAQMD from chromium plating and chromium anodizing facilities account for much less than one excess cancer death assuming a seventy year exposure. For the remainder of the state where R1469 has no impact, that existing cancer value is about 3.6 over a 70 year period. [Commenter provides a table with results of calculations: see Table 1]

[Our calculations] demonstrate that the major potential health benefit from further Cr6 emission reductions within our industry lies in further regulatory control of facilities outside of the SCAQMD. R1469 has already provided adequate health protection around chrome plating and chromic acid anodizing facilities within SCAQMD. Implementation of either R1469 statewide or the PAATCM with our requested modifications, especially when coupled with existing laws that address risk directly at the highest risk sources (like "Air Toxics Hot Spots"), provide an ample and conservative regulatory mechanism that is health protective. (MFASC-3)

140. Comment: Our association wanted to assess the risk by location and facility size. And we determined that 75 percent of the facilities where Rule 1469 was implemented lie within the South Coast District, and that represents 0.5 cancer risks over a seventy-year span. And 25 percent of the facilities lie outside of the state -- excuse me -- outside of the region. But I want to point out that it breaks down facilities by ampere-hour per year. Specifically the table [referring to a slide] illustrates that the cancer burden facilities outside of the South Coast District -- if you look at two of them, the medium size -- 1 million to 5 million ampere-hours per year, that risk is at 1.254. And facilities at 5 million to 15 million, cancer risk was determined to be at 1.633. And I want also for you to note at those facilities of the size 20,000 to 200,000 ampere-hours per year, that cancer burden was determined to be at 0.128. (Rodriguez)

Agency Response to Comments 139 & 140: These comments are directed at the Staff Report proposal which is different from what the Board ultimately approved. The cancer burden analysis calculations performed by the Commenter are generally correct. However, staff determined that a cancer burden analysis was not appropriate for this source category. A cancer burden analysis provides useful information when emissions are dispersed over a wide, regional area, and impact many people. In the case of chromium plating and

anodizing operations, staff's modeling analyses indicate that the emissions from plating operations have the maximum impact within 100 meters of the facility. Because the area of impact of the emissions is small, a cancer burden analysis would discount the health risks to those residents living in close proximity to the source. We also note that the Staff Report for proposed amendments to Rule 1469, which the Commenter indicates the MFASC participated in and endorsed, does not include a cancer burden analysis. It is, therefore, inconsistent to suggest that this is a necessary analysis to evaluate impacts of the proposed amendments to the ATCM.

We disagree that implementation of Rule 1469 in the SCAQMD provides adequate health protection. Under Rule 1469 BACT was not required for all facilities and health risks were incorrectly estimated. In accordance with State law, the ATCM requires BACT for all facilities.

141. Comment: The risk from the metal finishing industry is low. The total calculated cancer risk from all metal finishers has been calculated to be about 4.1 persons per 70 years exposure. The statewide risk has been computed to be greater than 1,000 for the total statewide risk. The proposed air toxic measure seeks to reduce our risks to less than 1 in a million. And that's something that we support. (Marrs-1)

142. Comment: We are in agreement that the proposed ATCM standards -- requirements -- excuse me -- seeks 1 to 1 million reduction in cancer risk or less for exposed people. (Rodriguez)

Agency Response to Comments 141 & 142: With regard to the Commenter's data on cancer risk, the Agency Response to Comment 139 & 140 is incorporated herein. A cancer burden analysis is not appropriate for a source category such as plating and anodizing because the risk is highly localized. Regarding the Commenters' support of reducing cancer risk to one per million people exposed, in accordance with State law BACT is required for all facilities. It is true that application of BACT reduces the excess cancer risk to no more than one per million people exposed for about 75 percent of facilities.

143. Comment: Very little actual testing was conducted for the proposed ATCM. The modeling requires many assumptions. Each step estimating risk always errs to be health protective. Certain evaluations like determining cancer risk must be done to inform the decision makers on how safe is safe.
The modeling scenario overestimated risk. All facilities released Chrome 6, using a one-year Pasadena meteorological data study.

All point sources had one-foot stacks. Very very low. Staff based modeling for 95 percent of facilities by using different assumptions for small facilities. Modeling less than 5,000 ampere-hours versus proposed ATCM set for less than

20,000 ampere hours. Hypothetical exposure considers worst point, not actual receptor. (Olick-1)

Agency Response: The Commenter is referring to the modeling analyses staff used to estimate cancer risk. The Agency Response to Comment 136 is incorporated herein. The comment related to 5,000 ampere-hours is directed at the proposal contained in the Staff Report. However, the Commenter is incorrect related to modeling less than 5,000 ampere-hours. Emissions and health risk from each facility was determined based on the actual data supplied by each facility. The threshold of 20,000 ampere-hours was not based on modeling less than 5,000 ampere-hours.

d. Comments on the Economic Impacts Assessment and Cost Effectiveness of the Proposed Amendments

144. Comment: I have a deep concern as to the proposed new ATCM requirements. Since the inception of the Clean Water Act and California's Tiered Permitting regulations, in the Sacramento Area alone 10 of 13 Platers have gone out of business. All of these Platers were small businesses with 2 to 10 employees. CARB's proposed changes in the ATCM will add to the regulatory burden already imposed on this Industry. (Nole)

Agency Response: Staff notes that the regulations described by the Commenter do not relate to the existing ATCM or the proposed amendments. However, the exit of 10 platers from the market should have reduced the competitive pressure in the market place, benefiting those remaining businesses. These businesses which have complied with past regulations are in better economic conditions to withstand the impact of this ATCM. However, the Staff Report acknowledges in Chapter X that there will significant economic impacts on some businesses that could result in business closures and lost jobs. The Agency Response to Comments 148-150 is incorporated herein.

145. Comment: The Staff Report is seriously deficient in several respects concerning its economic information and conclusions, making it impossible for the public or the affected industry to comment effectively on key elements of the proposed rulemaking. In particular, neither the Staff Report nor any other materials made available by CARB:

1) Estimate the number of cancer cases or other adverse health effects expected to be avoided due to the rulemaking. The Staff Report estimates the reduction in individual risks for "most exposed individuals" under a variety of very conservative worst-case modeling assumptions, but there is no estimate of population risks to Cr6 from this industry (either in the baseline or avoided by the regulation), and there is no "best estimate" or "most likely estimate" of either individual or population risks under more representative, realistic modeling assumptions. Absent such information,

CARB has not described for the public in a meaningful way what will be gained if the PAATCM is adopted.

2) Estimate the monetary value of the health benefits expected from the rule. The lack of any monetized benefits estimate makes it impossible for the public or the Board members to weigh the benefits of the PAATCM against its costs. The Staff Report should be developed to provide a benefit-cost analysis for the PAATCM. Following the methodology developed by the U.S. Occupational Safety and Health Administration (U.S. OSHA) for their recent rulemaking addressing Cr6 in the workplace, we have prepared a rough benefit-cost analysis for the proposed California standard. We find that the costs of the proposed rule greatly exceed its benefits.

3) Document the process by which the Staff Report concluded that the ATCM would not result in a significant adverse economic impact. The Staff Report concludes that the proposed amendments "are expected to result in an average ROE decline of nine percent" (Page ES-15), a figure that is just below the threshold figure of a ten percent decline in profitability that would indicate a significant adverse economic impact. Neither the Staff Report nor any other docket materials provide calculations or a description of how this nine percent figure was obtained. It is entirely unclear how the Staff Report reached this conclusion and what degree of error exists in that number. Absent explanatory documentation, it is not possible for the public to comment effectively on the Staff Report's conclusion that there will be no significant adverse economic impact. (MFASC-3)

Agency Response: Although this Comment is directed at the proposal contained in the Staff Report, the amendments approved by the Board are substantially similar to the proposal contained in the Staff Report. Therefore, the cost analysis remains applicable. Staff disagrees that the economic analysis is deficient. Moreover, the Staff Report contains a detailed analysis that is more than sufficient for the public to comment effectively on the proposed ATCM. In response to points 1 and 2, the cost analysis meets legal requirements, and was conducted in a manner consistent with other ARB rulemakings. In accordance with Health and Safety Code section 39665(b)(5), staff presented the approximate cost of the ATCM, the magnitude of risk and the reduction in risk attributed to implementation of the ATCM. The assumptions for the cost analysis are clearly laid out in Chapter X, as are the compliance costs for each facility, and the affect on business profitability. The Commenter is correct that the number of cancer cases avoided was not presented and an estimation of population risks (cancer burden analysis) was not done. With regard to this, the Agency Response to Comments 139 & 140 is incorporated herein.

Responding to point 3, Chapter X of the Staff Report clearly summarizes the process for estimating economic impacts, including Return on Owner's Equity (ROE). References provided for Chapter X provide further detail of the calculations. We note that staff indicates the average after-tax ROE is expected to decline by nine percent. This means that some after-tax ROE values will be higher and some after-tax ROE values will be lower. The Staff Report concludes on Page 103: "The proposed amendments to the ATCM are expected to result in an average ROE decline of nine percent which is not considered to be a significant impact on the profitability of most affected businesses. However, the ROE for some individual businesses exceeds ten percent. We estimate that businesses' profitability impacts range from less than one percent to 41 percent." Contrary to what the Commenter suggests, staff did conclude that some businesses would be adversely impacted. Staff also concluded that business closures and lost jobs could result from adoption of the proposal.

146. Comment: The Staff Report's economic impact analysis is inadequately documented. Although there is some indication of the data sources and assumptions that are used in the analysis, no explanation is provided that traces the calculations for the affected businesses from estimated initial, pre-regulation profitability to some lower estimated post-regulation profitability. We are simply told that the reduction in profitability is 9%, without explanation. Although the public is not provided the opportunity to follow the Staff Report's calculations, we can nevertheless infer that there are numerous errors or shortcomings in the analysis. The Staff Report has: 1) significantly underestimated the costs for affected businesses to comply with the proposed regulation; 2) overestimated the fraction of affected businesses that already comply with the proposed emission standards and underestimated the fraction that will need to install or upgrade HEPA filtration or other "add-on" systems; 3) selected inappropriate data with which to represent the baseline revenues and/or profitability of affected businesses; 4) used an incorrect procedure to reflect the "tax shield" associated with air pollution control expenditures; 5) made inappropriate choices in performing annualization or amortization calculations in converting capital costs into a stream of recurring annual costs because inappropriate choices were made with respect to both discount rate and useful life; and 6) badly underestimated the fraction of the affected industry that consists of small businesses and the impact of the regulation on small businesses. (MFASC-3)

Agency Response: Staff disagrees that the economic analysis contains errors or shortcomings. The analysis was conducted using standard procedures routinely employed by ARB staff in other rulemakings. Chapter X of the Staff Report summarizes the assumptions and the references to the chapter (which are publicly available) provide further detail. Related to point 1, because much of the industry (75 percent) was affected by implementation of Rule 1469, staff, to the extent practicable, followed the same methodology used by SCAQMD to determine costs for each business. Indeed, actual dollar figures used by SCAQMD were used, except costs were grown from 2003 dollars to 2006 dollars

at a rate of five percent per year. If anything, individual facility costs may be over estimated because the rate of inflation during this time period was less than five percent per year. Staff also notes that the MFASC had no significant issues with how costs were calculated for Rule 1469.

Secondly, staff has not overestimated the number of businesses that already comply with the proposed standards because our numbers are based on actual data supplied by the industry.

Responding to point 3, while the Commenter may choose a different set of assumptions, that does not diminish the completeness or validity of our analysis. The assumptions made are clearly laid out, and are reasonable because they are based on actual statistics for the industry. Indeed, in the analysis for economic impacts associated with Rule 1469, the SCAQMD also used the Dun & Bradstreet data. No objections from the MFASC were raised in regard to use of these data.

With regard to using an incorrect procedure to reflect the “tax shield,” the assumptions used by ARB staff assume 35 percent for federal corporate taxes and 9.3 percent for California corporate tax. These are standard rates used in many ARB rulemakings. The Commenter provides some data to show that not all facilities would be subject to these tax rates. While it is true that some facilities may have a lesser tax burden than assumed by ARB staff, the assumptions are clearly laid out, and the Commenter offers no proof that the data he/she chose are valid for all facilities.

Responding to point 5, ARB staff assumed a 10-year useful life for the equipment purchase and a real interest rate of five percent. While the Commenter may choose different assumptions, those chosen by ARB staff are reasonable. In fact, assuming a 10-year useful life is very conservative because the add-on pollution control equipment will likely last longer than 10 years. Thus, by expecting all costs to finance equipment to be recovered within a 10-year timeframe is conservative.

Finally, staff has not underestimated the number of small businesses and the impact to them. Our analysis is based on actual annual gross receipts data supplied by the industry. About 85 percent of the industry responded to the financial survey so our data are realistic. In instances where businesses failed to respond, we determined the decline in ROE as if all were small businesses. A small business was defined as a business having annual gross receipts of $1,000,000 or less. Furthermore, industry had the opportunity to submit its own cost and financial data. Unfortunately, the industry failed to provide such data. In the absence of any cost and financial data from the industry, ARB staff used the most reliable publicly available cost and financial data to perform its economic impact analysis.

We also note that staff's analysis assumes that businesses absorb the entire regulatory cost. This is a very conservative assumption and is unlikely to be true in the real world. It is more likely that businesses would be able to pass on at least part of the regulatory cost to their customers, thereby reducing the impact on their profitability. As a result, the ATCM will have a lesser impact on business closures and employment than estimated by the Commenter.

147. Comment: We provided a thorough analysis estimating the severe economic impacts of the proposed regulation on affected businesses in California. Our analysis relies on respected, publicly available data sources (U.S. Census, published data from the U.S. Internal Revenue Service, Annual Statement Studies by the Risk Management Association) and methodologies applied in regulatory impact analyses of this industry by the U.S. OSHA and U.S. EPA, and avoids the errors listed above.

We note that the failure to properly identify this measure as having a significant adverse economic impact violates Government Code sections 11346.3 and 11346.5. Within the former section, the proposing agency is to assess whether and to what extents its proposal will affect:

(A) The creation or elimination of jobs with the State of California.
(B) The creation of new businesses or the elimination of existing businesses within the State of California.
(C) The expansion of businesses currently doing business within the State of California. [Government Code section 11346.3(b)(1)].

The latter section requires notice to the public when a proposal "may have a significant statewide adverse economic impact directly affecting business, including the ability of California businesses to compete with businesses in other states." [Government code section 11346.5(a)(7)]. If an initial determination is made by the agency that the action will not have a significant adverse impact, the agency must "provide in the record facts, evidence, documents, testimony, or other evidence upon which the agency relies to supports its initial determination." [Government Code section 11346(a)(8)].

To date, we fail to see the necessary information within the Staff Report or the record to meet these provisions. Without it, the CARB Board, the public and the metal finishing industry cannot make meaningful determinations on this PAATCM. (MFASC-3)

Agency Response: The Commenter provides an alternative economic impact analysis. However, staff's analysis also relies on respected publicly available data sources and employs standard methodologies used in numerous ARB rulemakings. We disagree that our analysis has errors. With regard to this assertion, we incorporate the Agency Response to Comment 146. We also disagree that there was a failure to indicate that the measure may have a

significant adverse economic impact. With regard to this assertion, staff incorporates the Agency Response to Comment 145. The Staff Report, in Chapter X, acknowledges that some businesses will suffer a significant economic impact resulting in businesses closures and loss of jobs. However, we also found that many businesses, that are already in substantial compliance, will experience a negligible change in ROE. It should be noted that Government Code sections 11346.3 and 11346.5 require an agency to assess whether the proposed rulemaking action will have a significant statewide adverse impact on businesses. While any business closures and job losses are serious matters, the impacts of this ATCM on some individual businesses are simply not great enough to have a significant statewide adverse impact on business.

On pages 112-113 in Chapter X of the Staff Report, staff explains that we expect the amendments to the ATCM to adversely impact some employees. We also acknowledge that there will be a loss of jobs on page 103. The Economic Impact Statement required for the rulemaking estimates as many as 350 jobs may be lost.

Staff also found that, while some individual businesses could be significantly impacted, when considering the entire industry in California, the proposed amendments would have no significant impact on employment, business creation, elimination or expansion; or business competitiveness in California. Nevertheless, staff determined that adoption of the proposed amendments would result in some business closures.

While the Commenter may disagree with the conclusions reached by ARB staff, the analysis conducted meets all legal requirements.

148. Comment: CARB Staff's conclusion that profitability of affected businesses will decline by only nine percent (less than the ten percent threshold for "significant adverse impact") is incorrect. The proposed rule will result in far more than a ten percent decline in profitability for affected metal finishing businesses in California. Even using CARB Staff's unrealistically low compliance cost estimate for affected facilities, these facilities' average loss in profitability will be 44% - 60%, not 9% as the Staff has estimated. We estimate the following economic impacts from the proposed regulation: 1) 44% to 60% reduction in profitability for affected businesses; 2) closure of 68 California electroplating facilities, about 30% of all affected facilities; 3) loss of 3,860 California jobs.

[The Commenter provides an alternative analysis based on data from U.S. OSHA which show that an average electroplating facility in the U.S. earns pre-tax profits of $36,194/year.] Using this data, CARB Staff's estimated compliance cost of $21,800/year would reduce the average affected electroplating facility's profitability by 60.2%, vastly higher than the 9% figure that CARB Staff estimates.

[The Commenter provides an alternative analysis based on data from the U.S. Census Bureau and from the Risk Management Association (RMA).] Using a combination of Census and RMA data, we estimate that CARB Staff's projected compliance cost of $21,800/year would reduce pre-tax profits from $49,434 to $27,634, a reduction of 44.1%.

In sum, using two different data sets to generate the estimates, we estimate that CARB Staff's projected compliance cost of $21,800 per year per facility will reduce the average affected California electroplating facility's profitability by 44% - 60%, far more than CARB Staff's estimate of 9%.

For an average affected electroplating facility, the proposed regulation will cause a 44% - 60% reduction in profitability, from a long-term average of 3.3% on sales (pre-tax) to roughly 1.3% - 1.8%. This represents a reduction in profit margin of 1.5 to 2.0 percentage points. If all affected facilities were to suffer this reduction in profit margin of 1.5 to 2.0 percentage points, then any facilities whose baseline long-term profitability was in the range of 1.5% to 2.0% or less would be changed by the regulation from profitable in the long term to unprofitable in the long term. Such a facility would be unable to pay the projected regulatory compliance costs and remain profitable. It would be forced to close by the regulation. We believe this provides a reasonable way to estimate how many facilities would be forced to close by the regulation – all those whose long-tern pre-tax profitability has been in the range of 1.5% to 2.0% or less of sales.

We have examined 11 years worth (1992 - 2002) of profitability data collected by Dun and Bradstreet for electroplating firms in order to estimate the fraction of these firms that have profitability in the range of 1.5% to 2.0% or less of sales. [Using the Dun and Bradstreet data for our analysis] we thus estimate that roughly 30% of electroplating firms have profitability sufficiently low so that CARB Staff's projected compliance costs for the proposed regulation ($21,800 per facility per year) will cause them to close. In California, among the estimated 228 affected electroplating facilities, roughly 68 of them will close.

The average California electroplating facility employs 20.3 people. If 68 facilities close due to the proposed regulation, roughly 1,380 California jobs will be lost directly due to the proposed regulation. Assuming a direct impact in-State jobs multiplier of 1.8, an additional 2,480 California jobs will be lost among California businesses that supply the electroplating facilities that will close and among other California businesses that sell to the electroplating employees that will lose their jobs. We project that a total of 3,860 California jobs would be lost due to the proposed regulation. (MFASC-3)

149. <u>Comment</u>: The Staff Report's conclusion that profitability of affected businesses will decline by only nine percent (less than the ten percent threshold for "significant adverse impact") is incorrect. The PAATCM will result in far more than a ten percent decline in profitability for affected metal finishing businesses in

California. Even using the Staff Report's unrealistically low compliance cost estimate for affected facilities, these facilities' average loss in profitability will range from 44% to 60%, not 9% as the Staff Report estimated. Drawing from the U.S. Environmental Protection Agency's (U.S. EPA's) most recent economic analysis of a regulation affecting the metal finishing industry, we estimate that the high costs to comply with the proposed regulation will force the closure of 30% of the affected metal finishing facilities in California. (MFASC-3)

150. Comment: The Staff Report stated that the cost of the measure is 14.2 million, which is to be borne by about 90 facilities. The Staff Report also identified that a decline on the return of owner's equity will average about 9 percent. Ten percent is significant. If you assume a margin of error of plus or minus 1 percent, we're already at the significant, being 10 percent. Using CARB data and economics from Environmetrics, determined that the return on owner's equity declined to actually be 44 to 60 percent. This demonstrates a significant adverse effect on business. If adopted as drafted, the ATCM causes the closure of 68 California facilities, which is 30 percent, a loss of over 3800 jobs, and a ripple effect through the manufacturing business in California. (Lucas-1)

Agency Response to Comments 148-150: These Commenters have misinterpreted the analysis conducted by ARB staff. We agree that the profitability of some businesses will decline by more than 10 percent. As described in Chapter X of the Staff Report, we found that for the industry as a whole, the average after-tax decline in ROE would be nine percent. However, staff goes on to describe that the range of decline on after-tax ROE ranges from less than one percent to 41 percent. As a result of this severe decline in after-tax ROE for some businesses, staff determined that the proposed amendments would result in business closures and job losses. The Agency Response to Comment 145 is incorporated herein.

With regard to after-tax ROE, the Commenter used different data than ARB staff to determine pre-tax profits. As provided in the references for Chapter X, ARB staff used three-year (2004-2002) average profit data from Dun & Bradstreet. For large businesses, the average profit was $106,208; for small facilities the average profit was $82,009. The three-year data included a year of loss, which is an indication that the staff’s analysis does not overestimate the profitability of these businesses. These after-tax profit levels are 2 to 3 times more than the pre-tax profit level described by the Commenter. It is unreasonable, as the Commenter has done, to assume that even large businesses would have pre-tax profits of only $36,194 per year. Assuming this low amount of profit will lead to significantly overestimating the decline in profitability. Dun & Bradstreet data have been used consistently by ARB in numerous rulemakings when actual financial data were not available from the affected businesses. This data source is widely used by businesses, government agencies, and consultants. We also note that SCAQMD used Dun & Bradstreet as the data source for their economic impact analysis for adoption of Rule 1469.

Responding to business closures and the supporting calculations provided, the Commenter has vastly overestimated the number of businesses that could close by making invalid assumptions. For example, the Commenter assumed that each business will have compliance costs of $21,800, and that each facility will suffer 1.5 to 2.0 percentage points in profit margin. Using these data, the Commenter projects that 30 percent, or 68 businesses will close. The Staff Report, in Chapter X carefully lays out the costs for each facility depending on what the facility must do to comply. In the first year, costs for individual facilities range from $450 to $217,000. After the first year, over 60 percent of businesses will have negligible costs associated with compliance. In projecting how many businesses will close, the Commenter ignores the fact that over 60 percent of facilities are already in substantial compliance and would have low costs to comply.

As to potential job losses and other information the Commenter provides to support his/her contention, the Commenter vastly overestimates the number of jobs that would be lost. This is partially due to overestimating the number of businesses that will close. Relating to job losses, staff incorporates the Agency Response to Comments 154 & 155 herein. Again, we note that the Commenter's analysis assumes the closures of businesses will lead to the loss of the products and services provided by those businesses. In reality, those products and services will go to other existing businesses, leading to potential job gains. As a result, the demand for services provided by existing businesses will increase, which should increase their abilities to raise their prices and profitability. These businesses will be hiring more workers to meet the increase in demand for their products and services. Because we do not expect declines in demands for products and services, it is illogical to assume that there will be concomitant job losses in businesses that supply, or provide services to the plating and anodizing industry.

In addition, the analysis assumes that businesses absorb the entire regulatory cost. This is a very conservative assumption and is unlikely to be true in the real world. It is more likely that businesses would be able to pass on at least part of the regulatory cost to their customers, thereby reducing the impact on their profitability. As a result, the ATCM will have a lesser impact on business closures and employment than estimated by the Commenter.

151. <u>Comment</u>: The Staff Report nowhere presents the Staff's cost estimates in "annualized" terms – the levelized annual amount of costs which, if incurred each year forever, would exactly equal the total of capital, one-time and recurring costs. One needs to express costs in annualized terms, as the amount that will be incurred each year, so as to be able to compare costs against an affected business' annual profits. A comparison of costs against profits for an affected business is the key first step in estimating economic impacts. [The Commenter provides a description of how it is assumed CARB Staff would calculate

annualized costs.] CARB Staff annualizes (amortizes) the capital costs by assuming a useful life of 10 years and applying a discount rate of 5% per year. This yields a capital recovery factor (CRF) of 0.1295. CARB Staff would then calculate the $10.6 million in capital costs as equivalent to $1.37 million per year in annualized costs ($10.6 million x 0.1295 = $1.37 million).

CARB Staff would thus estimate total annualized compliance costs as $4.97 million/year ($3.6 million/year in recurring costs, plus $1.37 million/year in annualized capital costs). Spread across 228 affected facilities, this amounts to an average compliance cost of $21,800 per year per affected facility. (MFASC-3)

Agency Response: We agree that it is important to present annualized costs and did so. Therefore the Commenter's objection is unclear. Chapter X of the Staff Report, pages 108-112 set forth the annualized cost for each facility and how the costs were calculated. Note that costs for some facilities are one-time costs because over 60 percent of businesses are in substantial compliance. In addition, we estimate costs for facilities that will likely need to install add-on air pollution control devices to range from $46,000 to $217,000. We projected that nine facilities would have annual ongoing costs of over $50,000. These cost ranges are based on the size of the equipment needed to be purchased to properly ventilate the plating tank(s). The annualized cost that was calculated for each facility is then used in the analysis to determine, on a per facility basis, the decline in after-tax ROE. Because the Commenter has ignored this information in the Staff Report, their analysis is flawed.

152. Comment: Our economic analysis of the PAATCM suggests that the return on owner's equity ("ROE") under the PAATCM would result in a 44-60% decline in profits, not 9% as the Staff Report suggests. We believe the PAATCM will accelerate the contraction of this industry in California by forcing closure of 68 facilities, result in a ripple effect costing more than 3,000 jobs and affect these businesses competitive position outside of this state. The reduction in cancer burden caused by the PAATCM, we estimate, will cost more that $150 million per cancer case avoided, an amount higher than anything ever adopted by CARB. (MFASC-3)

Agency Response: We disagree with the Commenter's assertions. Related to decline in after-tax ROE, business closures, and job losses, the Agency Responses to Comments 148-150, 154 & 155, and 156 & 157 are incorporated herein. Related to cost per cancer case avoided, the Agency Responses to Comments 139 & 140 and 156 & 157 is incorporated herein.

The Commenter uses different assumptions, related to the plating and anodizing industry, that result in underestimating profitability (see Comments 148-150). The Commenter also uses incorrect assumptions to estimate business closures and job losses (see Comments 154 & 155). Because of these incorrect assumptions, it is not surprising that the Commenter arrives at different

conclusions as to the economic impacts of the proposed amendments to the ATCM. Moreover, the analysis used by the Commenter to estimate cost per cancer case avoided is also done incorrectly. It is incorrect to divide the cancer burden by the 70-year lifespan as was the case here. Therefore, the entire analysis and conclusions are inaccurately derived.

153. Comment: CARB Staff's analysis concludes that the regulation will reduce average profitability by only 9%. How does CARB Staff reach this erroneous conclusion? We don't know. CARB Staff provides 1.5 pages describing their approach for evaluating the potential economic impact of the proposed regulations (pages 105 - 106 of the Staff Report), but does not include in this description any of the actual data or calculations that were used. CARB Staff does not indicate what pre-regulation profitability is assumed for affected businesses nor what post-regulation profitability is estimated. The reader is provided only with the result of CARB Staff's calculation to the effect that post-regulation profitability is 9% lower than pre-regulation profitability, a reduction that Staff asserts "does not represent a noticeable decline in the profitability of most affected businesses." (Page 106) This lack of adequate documentation makes it difficult to comment meaningfully on CARB Staff s economic impact analysis.

Nevertheless, CARB Staff does describe on page 105 some elements of their analytical approach. We object strongly to several aspects of how they have apparently performed the analysis.

CARB Staff’s choice of the Dun and Bradstreet data series to represent "a typical business engaged in plating and polishing businesses" is poor. We agree that SIC 3471 (NAICS 332813) is the correct industry to evaluate. The Dun and Bradstreet data on this industry, however, is limited and biased, and does not provide an accurate picture of "a typical business engaged in plating and polishing". Using the Dun and Bradstreet data in an attempt to estimate the annual profits of a typical electroplating firm, whether in the U.S. in general or in California in particular, will result in a serious overestimate. In then comparing regulatory compliance costs against a too-high estimate of electroplating facility profits, CARB Staff will obtain a much too low estimate of economic impacts.

Indeed, we formerly used the Dun and Bradstreet data on SIC 3471 for a variety of economic analysis purposes relating to the electroplating industry. However, we abandoned use of this data series in 2002 for several reasons:

1. Declining coverage of the electroplating industry. Dun and Bradstreet (D&B), as well as a competitor in providing industry financial information, Risk Management Associates (RMA), develop data on an industry by collecting the financial statements of firms in that industry. The data profiles that D&B or RMA then provide describing an industry such as electroplating represent the average or other statistics (e.g., the 25th percentile, the

median, etc.) across the financial statements D&B or RMA have obtained for firms in that industry. An initial concern with the D&B data on the electroplating industry is the declining number of financial statements they have obtained in recent years from firms in this industry. The following table shows the number of financial statements obtained and aggregated into an overall electroplating industry profile by D&B and by RMA in years since 1991. [The Commenter provides a table containing numbers of financial statements.]

In 2002, we decided to switch from using D&B to using RMA data for profiling electroplating firms because of the much larger sample of such firms represented in recent years in the RMA collection of financial statements.

2. Bias in the electroplating data profiles toward larger and more profitable firms. Both D&B and RMA suffer from this problem. Both D&B and RMA collect the financial statements that comprise their industry profiles from affiliated banks and other financial institutions. The financial statements that are voluntarily provided to D&B and RMA are for the banks' and other financial institutions' customers and prospective customers. Electroplating firms seeking bank loans or issuing debt or equity through other financial institutions are mostly the more profitable, larger firms. Smaller electroplating firms are often individually or family-owned, and they are often provided with debt or equity capital directly from their individual owners rather than from financial institutions. Smaller electroplating firms often are not sufficiently credit-worthy to approach a bank at all about a commercial loan, or they may obtain a bank loan but their loan may be personally guaranteed by the owner and the bank may not obtain a financial statement for the business. Banks are much less likely to obtain financial statements from smaller electroplating firms and D&B and RMA are thus more likely to have in their data pools financial statements from larger and more profitable firms.

Some indication of this bias can be obtained by comparing the Census data for 2002 for SIC 3471 (which represents the collection of information from virtually every electroplating facility) against D&B and RMA data for this industry for this year. Census counts 3,050 electroplating establishments, with average revenues of $1.799 million per establishment. D&B's compilation includes data for only 97 electroplating establishments, with average revenues of $2.529 million each, nearly 50% higher than the presumably accurate industry average figure obtained by the Census. RMA provides data for 167 firms, only 58 of which have revenues of less than $3 million per year.

The nature of the bias resulting from the D&B and RMA manner of collecting data is further suggested by the first table on page 12. From this table, consisting of 10 years of RMA data on electroplating firms, it is immediately apparent that large electroplating firms tend to be far more profitable than small firms. Over the

ten year period, firms with revenues of less than $1 million per year earned pre-tax profits averaging only 0.6% of sales, while the largest electroplating firms, those with annual revenues exceeding $25 million, earned pre-tax profits averaging 5.4% of sales. The relationship between profitability and size of firm is nearly uniformly increasing across all the size categories.

The substantial bias toward unrepresentatively large and profitable firms is why both we and CARB Staff should choose to use Census and/or IRS data when creating a financial profile of electroplating firms. The Census data is a nearly complete census, while the information in IRS' "Corporation Source Book" (which U.S. OSHA used in generating the profitability figure that we used in our initial economic impact calculation) derives from a representative stratified random sample of firms.

Although both the D&B and RMA profile data on electroplaters are clearly biased toward larger and more profitable firms, a crucial distinction between these two data sets is that the RMA data are presented in a manner such that this bias can be reduced or eliminated. This is not possible with the D&B data. The RMA profitability data are provided with a breakout by size class of firm. One can obtain the average profitability for firms in each size class (as shown in the first table on page 12) and then estimate reasonably accurately the average profitability across all electroplating firms by combining this data on profitability by size class with information from Census on the true distribution of firms across size classes. This is what we do on the second table on page 12. We use this procedure to estimate reasonably accurately that the average pre-tax profit rate across the entire industry in 2002 was 3.3% of sales. In estimating the annual profits of an average electroplating firm in California, then, we multiply this reasonably accurate estimate of profitability against presumably accurate revenue information from Census.

We are quite certain that whatever estimate CARB Staff drew from the D&B data for the average profitability of firms across the electroplating industry is substantially overstated. The D&B data are not available broken down by size class of firm of facility, so one cannot apply the D&B data the disaggregation process that we applied to correct the bias in profitability data in the RMA data set. If CARB Staff persist in using the D&B sample to estimate the profitability of an average electroplating firm, they will be stuck with the fact that the D&B sample disproportionally includes larger and thus more profitable firms. The average or median profitability of the electroplating firms in the D&B data set is undoubtedly far higher than the true average profitability of electroplating firms in the U.S. or in California.

We suspect that CARB Staff may have used the D&B data to estimate not only the profitability of an average electroplating firm, but also the size of the average electroplating firm. Doing so would compound the overestimate inherent in using the D&B data. We suspect that CARB Staff's economic impact analysis involves

comparing the annual profits of an average electroplating firm against the annualized compliance cost for an average affected electroplating firm. We suspect that CARB Staff estimated the annual profits of an average electroplating firm by multiplying:

> (1) The estimated average profitability of an electroplating firm (return on sales, ROE, etc.) by
>
> (2) The estimated average size of an electroplating firm (sales, owner's equity, etc.).

Both quantities (1) and (2) are seriously overstated in the D&B database. If CARB Staff in fact used the D&B profile in this manner, we would not be surprised if the annual profits of an average electroplating firm or facility were overestimated by a factor of 4 -5.

3. The D&B profitability data are specified on an after-tax basis. Our third problem with using the D&B data is that they are provided only on an after-tax basis. In the D&B industry profile, each of the profitability measures that are provided –return on sales, return on assets, and return on net worth –are on an after-tax basis. This forces the analyst to conduct the analysis on an after-tax basis rather than a before-tax basis, which we believe to be far better. We will explain why.

The CARB Staff appears to conduct their economic impact analysis on an after-tax basis. It appears from the discussion on page 105 of the Staff Report that the Staff estimates compliance costs for an affected facility, assumes that these costs are deductible for tax purposes at maximum marginal Federal and California State corporate income tax rates, and then calculates the after-tax compliance costs as 55.7% of the pre-tax compliance costs. CARB Staff assume that every facility affected by the proposed regulation benefits from a tax shield of 44.3%, consisting of 35% for Federal corporate income tax and 9.3% for State corporate income tax. This is highly inappropriate. Most electroplating firms are small enough and/or insufficiently profitable so that they do not pay Federal and State taxes at the highest marginal rate. U.S. OSHA calculates the average annual taxable income for an electroplating firm at some $36,000, which would put the marginal Federal corporate income tax rate at 15%, not 35%. Many electroplating firms suffered substantial losses during the manufacturing recession several years ago and have not yet recovered; they carry forward substantial tax losses that make their marginal tax rate effectively zero for some years to come. Some electroplating firms are organized as partnerships or Subchapter S corporations, which receive different tax treatment and different marginal tax rates.

We doubt that CARB Staff can accurately estimate the marginal tax rates that affected electroplating firms in California will face over the next several years.

The answer certainly is not 44.3%. CARB Staff should conduct the economic impact analysis on a before-tax basis and thereby avoid the likely error in estimating realistically what the average tax shield is likely to be. CARB Staff should estimate pre-tax profits and profitability for an average affected facility, compare the estimated average compliance costs against these figures, without concern for tax shield, and then estimate the resulting percentage reduction in pre-tax profitability. Using the post-tax D&B data would not be appropriate in this calculation. (MFASC-3)

Agency Response: The Commenter questions that the profitability of businesses will be reduced by only nine percent and goes on to provide reasons why the data chosen by ARB staff are not representative of the industry. Specifically, the Commenter describes why Dun & Bradstreet data should not be used. However, staff notes that Dun & Bradstreet were suitable for other portions of the Commenter's analysis [see Comment 148]. Using different data sources, the Commenter goes on to provide an alternative analysis of profitability decline. To respond, staff incorporates the Agency Responses to Comments 145, 148-150, and 154 & 155, herein. Staff did use after-tax ROE to estimate profitability declines. While the Commenter arrives at different profitability impacts, several of the underlying assumptions are overestimated or are flawed. In the absence of any actual data from the affected businesses, staff used the most reliable publicly available data sources to conduct its cost and economic impact analyses. We also note that the Dun & Bradstreet data were used in the economic impact analysis for Rule 1469 and the Commenter did not object to this.

154. Comment: The Staff Report prepared its economic analysis by focusing only on the metal finishing industry and failed to consider the ripple effect within the state. The Staff Report states that other customer businesses are "potentially affected," but specifically declines to analyze that impact. We therefore prepared an analysis estimating the likely number of jobs that will be lost among the metal finishing businesses as well as their suppliers and customers if the PAATCM is adopted. From our analysis, we determined that the state will suffer a loss of 3,860 manufacturing jobs as a result of the adoption of this PAATCM. (MFASC-3)

155. Comment: This ripple effect for me would be moving out of the State of California. It would not only affect my employees and their families, but would affect companies in the local economy such as producers of cardboard for my product, machine tool sales, recyclers for steel product, and a host of others. I would guess that many hundreds of Californians would be impacted by this rule just by the relocation of my one company alone. Add the effect of 50 to 100 other hex chrome platers moving or, more likely, just closing, and this ripple effect will affect thousands of Californians. (Lucas-1)

Agency Response to Comments 154 & 155: The Staff Report does indicate that adoption of the amendments will likely result in business closures and lost jobs. The Economic Impact Statement, prepared in accordance with State law, indicates that potentially 35 businesses could close. Based on actual employee data provided by facilities, then, staff estimates that up to 350 jobs could be lost if all 35 businesses were to close. Staff also concludes that the Commenter's analysis is static, meaning that they assume the closures of businesses will lead to the loss of the products and services provided by those businesses. In reality, the products and services provided will go to other existing businesses, because we do not expect the demand for chromium plated or anodized parts to decrease. Because we don't expect a decline in demand for products and services, we expect very little ripple effect, if any. Their analysis fails to account for these potential job gains. As a result of business closures, the demand for services provided by other existing businesses will likely increase, leading to their abilities to raise their prices and profitability. These businesses may be hiring more workers to meet the increase in demand for their products and services. In addition, businesses that install or service HEPA filtration are likely to experience an increase in demand for their services. These businesses may hire more workers to meet the increased demand for their services.

156. Comment: The PAATCM will cost approximately $154 million per statistical life saved. This cost per unit of benefit would put it among the least cost-effective environmental, health or safety regulations ever promulgated in the U.S. Several compilations exist comparing the cost-per-life saved or cost-per-year-of-life-saved across hundreds of U.S. regulations (environmental, health care, occupational, residential, transportation) and other life-saving interventions (e.g., medical treatments), including Morrall (2003), Tengs, et al (1995) and others. In general, a rule such as the PAATCM that costs $154 million per life saved would be significantly higher than any regulation previously adopted by CARB. Thus, this PAATCM would, by far, be the least cost-effective measure CARB has ever adopted. The proposed regulation will yield very little in the way of health benefits at an extremely high cost per unit of benefit.

We looked at the analysis performed on the cancer risk associated with the current status, R1469 and the PAATCM. Presently, the metal finishing industry is estimated to cause 4.11 cancer risks throughout the state, assuming a 70 year exposure or slightly less than 0.06 cancer risks per year. (MFASC-3)

157. Comment: If passed, the proposed ATCM will cost $154 million for cancer case avoided. The highest previous CARB-approved ATCM is 18.6 million, resulting in over an 8-fold increase from your highest previous. The economic analysis by Environomics on these concerns is found in the MFASC/STA submission. (Lucas-1)

Agency Response to Comments 156 & 157: We disagree with the Commenters' assertions related to cost per life saved. Again, the Commenter's analysis is based on estimating a cancer burden which is not appropriate for this source category given that emission impacts are near-source. The Agency Response to Comments 139 & 140 is incorporated herein. State law, in Health and Safety Code section 39666(c), requires the State to adopt ATCMs requiring BACT for TACs with no level of exposure considered safe. The requirement in State law is to estimate the costs of the ATCM and the reduction in risk attributed to the ATCM (Health and Safety Code section 39666(c)), which staff has done. There is no requirement to estimate the cost per life saved. Staff also disagrees that there is no benefit. Analyses demonstrate that, once implemented, cancer risks for about 75 percent of facilities will be no more than one per million people exposed, and cancer risk for over 90 percent of facilities will be no more than ten per million people exposed.

158. Comment: The Staff Report does not provide any estimate of the reduced number of adverse health effects that would occur among individuals exposed to hexavalent chromium emissions from affected facilities if the rule were to be promulgated. Nor does the Staff Report estimate the monetary value of these or any other benefits expected from promulgation of the PAATCM. Such information is necessary if the CARB Board members and the public are to be able to judge whether the proposed rule's benefits exceed its costs.

As part of our report, we prepared a conservative (likely too high, since it is based on the Staff Report's worst-case modeling assumptions) estimate of the number of health effects that will be avoided each year if the rule were promulgated. Standard techniques exist for assigning a dollar value to this reduction in health effects that would result from implementation of the PAATCM (see, for example, U.S. Occupational Safety and Health Administration: Final Economic and Regulatory Flexibility Analysis for OSHA's Final Standard for Occupational Exposure to Hexavalent Chromium, 2006). Applying U.S. OSHA's approach, we estimate that the annual benefits from the proposed rule would amount to range from $28,000 to $175,000 per year and compare it to the costs estimated at $4.97 million per year in the Staff Report. The result shows that the annual costs of the proposed regulation are some 30 to 180 times larger than the benefits. The health benefits of the rule are trivial in comparison to the rule's costs. (MFASC-3)

159. Comment: We can estimate the monetized benefits of the PAATCM using a methodology and values developed by the U.S. Occupational Safety and Health Administration for their recent regulatory impact analysis in support of revisions to the Permissible Exposure Limit (PEL) for occupational exposures to hexavalent chromium. [The Commenter provides data OSHA used in its analysis.] We can use these figures developed by U.S. OSHA to value the 0.0323 cancer cases per year that we estimate would be avoided by the PAATCM. 88% of these cases will be fatal, giving an estimated 0.0284 fatal

cases avoided per year. 12% of these cases will be non-fatal, giving an estimated 0.0039 non-fatal cases avoided per year. The benefits of the proposed regulation are thus estimated at $28,000 - $175,000 per year, compared against costs estimated at $4.97 million per year. The monetized health benefits of the proposed regulation are very small compared with the costs of the regulation. The costs of the proposed regulation are some 30 to 180 times larger than the benefits. (MFASC-3)

160. Comment: CARB Staff have not prepared estimates of the population risks or total number of cancer cases that will be avoided by the proposed regulation. This lack of information prevents the public from commenting effectively on the proposed regulation, since the public is not provided with information regarding the cost-effectiveness of the proposed rule (the cost per cancer case avoided) or information regarding the monetized benefits of the proposed rule (for comparison against the costs of the rule).

Using CARB Staff's conservative modeling assumptions and CARB Staff's (too low) estimate of compliance costs for the proposed rule, we have prepared an estimate of the cost per cancer case avoided by the rule, and a comparison of the rule's benefits against its costs. We conclude: 1) The rule avoids approximately 0.0323 cancer cases per year, at a cost of $154 million per cancer case avoided. The proposed rule is extremely cost-ineffective. This cost per cancer case avoided is some eight (8) to 15,000 times higher than the least cost-effective previous ATCM promulgated by CARB; and 2) the monetized value of the health benefits generated by the proposed rule is only $28,000 - $175,000 per year in comparison to the rule's costs of $4.97 million per year. The costs of the proposed regulation are some 30 to 180 times larger than the benefits. (MFASC-3)

161. Comment: In order to estimate the number of cancer cases that will be avoided by the proposed regulation, CARB Staff would need to estimate: 1) the average (not maximum) expected (not worst case) concentration at which individuals surrounding an electroplating facility are exposed; and 2) the number of individuals so exposed. CARB Staff apparently have not conducted any analysis to estimate these two quantities. Thus, CARB Staff have estimated for each facility only the maximum individual risk for a hypothetical most exposed individual. CARB Staff have not developed the information that would be necessary to estimate the population risk (i.e., the number of cancer cases expected to occur among the entire exposed population) posed by each facility. Information on population risks is necessary if one is to estimate the number of cancer cases prevented by the regulation and, ultimately, the benefits of the regulation.

The failure by CARB Staff to estimate the population risks avoided by the proposed regulation is unfortunate. In our view, this sort of quantitative information about the benefits expected from a regulation is crucial to meaningful

public review of the proposal. CARB Staff has prepared such an estimate of population risks avoided for other regulations; see, for example, the CARB Staff Report for Airborne Toxic Control Measure for Emissions of Chlorinated Toxic Air Contaminants from Automotive Maintenance and Repair Activities, March, 2000. In the absence of such-an estimate from CARB Staff for the proposed regulation, the affected industry has prepared its own best estimate. The industry estimate of baseline 2005 population cancer risks posed by hexavalent chromium emissions from chrome plating and chromic acid anodizing operations – prepared using the conservative modeling assumptions found within the Staff Report – will be provided in industry's comments to the California Air Resources Board.

Industry estimates that baseline cancer risks from hexavalent chromium emissions from these facilities amount to 4.11 cases in an assumed 70 year lifespan for the population of individuals exposed around these facilities. See Table 1 in industry comments.

Assuming conservatively that the PAATCM results in elimination of all emissions of hexavalent chromium from electroplating facilities, the proposal would abate 0.0587 cancer cases per year among the entire population exposed to these emissions in the baseline. If the proposed regulation is something less than 100% effective in reducing baseline cancer cases, then the reduction would be fewer than 0.0587 cases per year. We will assume that the proposal will avoid a similar fraction of baseline estimated cancers as the fraction of baseline hexavalent chromium emissions that the proposal will abate—55%, according to CARB Staff (page 81 in the Staff Report). In this case, we estimate that the proposal would abate 0.0323 cancer cases per year.

The PAATCM is estimated by CARB Staff to cost an annualized amount of $4.97 million/year (see page ES-I6 of the Staff Report and our paper on economic impacts from the proposed regulation). At a cost of $4.97 million/year and 0.0323 cancer cases avoided per year, the PAATCM would avoid a case of cancer at a cost of nearly $154 million. At $154 million per cancer case avoided, the PAATCM would be by far the least cost-effective ATCM promulgated by CARB. Other ATCMs adopted by CARB have cost between $10,000 and $60,000 per cancer case avoided. The PAATCM avoids cancer cases at a cost that is some eight (8) to 15,000 times higher than the least cost-effective previous regulations. (MFASC-3)

Agency Response to Comments 158-161: The Staff Report contains all of the information required by Health and Safety Code section 39665. The detailed information presented in the Staff Report is more than adequate for the public to effectively comment on the proposed ATCM. The Commenter is correct that staff did not estimate the average expected concentration at which individuals surrounding an electroplating facility are exposed, and did not estimate the number of individuals so exposed. While the analysis presented by the

Commenter is fairly accurate as to how a cancer burden analysis would be calculated, the analysis is flawed because it is incorrect to divide the calculated cancer burden by 70 (the assumed lifespan).

Moreover, this type of cancer burden analysis is not appropriate for this source category because of the extreme near-source impact of the emissions. Related to this, we incorporate the Agency Response to Comments 139 & 140 herein. We also note that State law requires ATCMs to require BACT for all facilities in instances where there is no level of exposure considered safe, as is the case for hexavalent chromium. The requirement in State law is to estimate the costs of the ATCM and the reduction in risk attributed to the ATCM (Health and Safety Code section 39666(c)), which staff has done. There is no requirement to estimate the cost per life saved. As to benefits of the amended ATCM, analyses demonstrate that, once implemented, cancer risks for about 75 percent of facilities will be no more than one per million people exposed, and cancer risk for over 90 percent of facilities will be no more than ten per million people exposed.

162. Comment: Well, I'm in the 9 million amp-hours per year range. So I would have no choice but to put on HEPA filtration. If we went with the Rule 1469, it would cost me some money. But I guaranty you that staff's estimate of $50,000 for control technology would not apply in my case. It would be closer to 150,000 or $200,000. I could comply with 1469 for far less than that. I think it would be far more economical for me if I was able to meet the rule however I needed to (technology neutral). (Lucas-1)

Agency Response: Staff agrees with the Commenter in that the cost for a large facility would be higher than $50,000 if installation of add-on controls would be required. As described in Chapter X of the Staff Report, pages 110-111, annualized cost for a large facility is estimated to be $217,000. While it may be less expensive for the Commenter to comply with a less effective regulation, staff believes that the ATCM's requirements are necessary to protect public health.

163. Comment: I'm concerned about health risks. And my company employs between 70 people and 100 people, with capabilities of supporting 500 people. The business is leaving the country left and right. I have many, many customers locally that are all relatively high-end customers: Architectural, jewelry, and automotive. Every one of those customers will go out of the country if we impose the rules that we're working on here, not equally to the rest of the United States and the rest of the world. (Olick-1)

164. Comment: Also there's an impact on out-of-state competitiveness. My company is the only company in California that manufactures truck bumpers. And my only competition is in Alabama and Tennessee. So these companies would not be affected like I would, so it would be an unfair business advantage for them. (Lucas-1)

165. Comment: Our customer base is from all over the United States, California. And we're having to compete against other American companies that have outsourced overseas into Mexico, companies that have fewer environmental regulations and less government oversight. So it becomes an unfair business advantage to become more strict than what we need to be to meet the new rule. (Bell-1)

Agency Response to Comments 163-165: The Staff Report, in Chapter X, page 113, explains that for the industry as a whole there will not be a significant, statewide adverse impact on the ability of California businesses to compete with businesses in other states, although the competitiveness of some individual businesses would be adversely impacted. The Staff Report further explains that California has always controlled hexavalent chromium emissions from plating and anodizing more stringently than other states. Therefore, the existing ATCM creates a competitive disadvantage because California businesses have higher compliance costs. The amendments to the ATCM may make this existing competitive disadvantage worse for some individual businesses.

166. Comment: So I just want to remind you that -- there's been a lot of talk here about the $14 million cost. One child cancer is about a million dollars to treat. So Dr. Gong's emphasis on the public health problems and the public health costs is very real. (Williams-1)

Agency Response: Staff acknowledges that cost of the ATCM must be put in context of the health benefits derived from its implementation.

167. Comment: I would just submit that I -- you know, $14 million for the staff's proposal to me seems like a very modest cost. And I would also just add that we had supported creating a pot of funding at the California Pollution Control Financing Authority for grants and loans to small businesses to comply with this type of rule because of the tremendous risk that it poses. And I mean I have spoken with ARB staff about this. If we would be supportive, both administration and in the Legislature to move forward with a sort of the second wave of what was in Nunez bill to create more funding that would be available. This is certainly a very, very high risk type of industry, very problematic. I am totally understanding that the small business component of it needs that kind of government to support. And that was what the California Pollution Control Financing Authority was originally created to do, was to provide low interest loans and grants exactly for this thing. (Williams-1)

Agency Response: As described in the Staff Report, Chapter X, page 103, the Governor signed legislation to establish a loan guarantee program for plating and anodizing businesses. The program provides loan guarantees of up to $100,000 to small businesses that may not be able to qualify for a conventional loan. The program is administered by the Business, Transportation, and Housing Agency.

e. Comments on the Environmental Impacts Assessment

168. Comment: There's a bit of a wrinkle here that I need to make the Board aware of, however. The staff proposal was relying upon fume suppressants that are actually based upon a chemical that's being phased out. It's PFAS P-F-A-S. It's sub-class of PFOS, which many of you may be aware of is being phased out by U.S. EPA. I had my toxicologist do some research this morning. And I don't -- it wasn't mentioned in the Staff Report. But the U.S. EPA Science Advisory Board actually forwarded a report back in March of this year basically saying that PFAS, which is what is in these chemical suppressants that are being used, has the same structure activity relationships of PFOS. They're a developmental toxin, a reproductive toxin and a carcinogen. And there's epidemiological studies linking them to bladder cancer. (Williams-1)

169. Comment: I also think that we need to look at whether with the fume suppressants we would be allowing for the substitution of another toxin here. And this is something that I think we need to look at generally when we're talking about how we're going to prevent pollution, is let's not allow for a material that we have now identified as being toxic to be introduced more widely. This is a persistent biocumulative toxin. I'm talking of course about the PFOS. And it is addressed in the report, but I think there needs to be a more comprehensive evaluation. And what I don't see in the report is any indication that the experts on pollution prevention and hazardous materials at the Department of Toxic Substances Control were consulted on this. If they were, that would be good to know about. But I think in general, within this building, the different Boards, departments and offices need so move toward more of a multimedia approach, and to be looking at, "Well, if we're substituting something and saying that this is going to be good for controlling pollution in one area, is there a danger that we're actually increasing use of a toxin somewhere?" (Magavern)

Agency Response to Comments 168 & 169: Chapter VI, pages 53-54 and Chapter XI, pages 120-121 discuss the use of perfluorooctyl sulfonates (PFOS) in chemical fume suppressants used today. These compounds are being added to a Significant New Use Rule being promulgated by U.S. EPA because data suggest that they are persistent, bioaccumulative, and toxic to mammals. However, contrary to what the Commenter suggests, there are no plans for phase-out of their use in the plating and anodizing industry. Use of these compounds in plating and anodizing will be considered an 'existing' use and not a 'new' use. Moreover, as the Staff Report explains, the amendments are likely to result in a negligible increase in use of PFOS compounds. Staff of the Model Shop Program, run by Department of Toxic Substances Control, was consulted with regard to use of these compounds and no concerns were raised. The Model Shop Program is a pollution prevention program for plating and anodizing operations. Regulations in place related to hazardous wastewater disposal are adequate to address potential release of PFOS into the environment.

B. Comments Related to the November 17, 2006 Interim Proposal

170. Comment: Following the September 28, 2006 hearing, the Associations did not hear from the CARB Staff concerning this matter for over thirty days. There were no meetings or communications other than an email request to review two industry operations that was scheduled for November 1st. We further checked with the air districts and were informed they had not been contacted. Based on this general lack of communication and the late date of the industry review, we were concerned on how we would meet with Staff and the air districts and still reach resolution on the PAATCM in time for the November 16-17 hearing.

The Associations just received by email a copy of a draft entitled "Staff's Suggested Modifications to the Original Proposal November 17, 2006 ("New Proposal"). It has not been posted on the CARB website for public review. The New Proposal is the result of no interaction with the Associations. It does not narrow minor differences from the Original Proposal; instead it creates an entirely new regulation with significant additional impacts, both technically and economically, as well as a new prescriptive standard. The New Proposal is so radically different from what had been proposed originally, that the Initial Statement of Reasons becomes totally irrelevant. (MFASC-5)

Agency Response: The Commenter is referring to a draft regulation developed in response to the Board's direction to staff at the September 28, 2006 hearing. At that hearing, the Board directed staff to consult with the districts on a revised proposal to be considered by the Board at the November 16, 2006 hearing. The draft did contain provisions that were different from what was discussed in the Staff Report. In response to the Commenter, the Board delayed discussion of the revised proposal until the December 7, 2006 hearing.

171. Comment: We compared several of the major new issues found within the New Proposal with the PAATCM and found these changes were not sufficiently related to the PAATCM:

- PAATCM - based on statewide modeled risk (assumed 1 cancer risk or less per million persons over 70 years exposure).
- New Proposal - based on distances.
- PAATCM - 0.06 milligrams per ampere-hour (mg/AH) for small sources; all others 0.0015
- New Proposal - 0.0011 mg/AH.
- PAATCM – distance determined by district.
- New Proposal – distance determined from closest part of building (not emission source) to nearest point of receptor property.

- PAATCM distance determined at time of standard's effect on the facility.
- New Proposal – distance to be measured annually to determine if more stringent standards will be imposed. (MFASC-5)

Agency Response: The Commenter is referring to provisions in a draft regulation developed in response to the Board's direction to staff at the September 28, 2006 hearing. At that hearing, the Board directed staff to consult with the districts on a revised proposal to be considered by the Board at the November 16, 2006 hearing. In response to the Commenter, the hearing was further postponed until December 7, 2006, allowing staff additional time to work with stakeholders on the proposed amendments. Through this work, and based on comments received, further proposed revisions to the ATCM were developed. The staff's further revisions were approved by the Board at the December 7, 2006 hearing.

172. Comment: Based on the Notice posted for this item, the Associations must file written comments before noon, November 15, 2006. Given that short time frame, we do not believe there is time to work with Staff or to reach a common ground before the hearing. We do not believe a telephone conference after-the-fact is going to cure the multitude of problems associated with the New Proposal. We ask that this item be continued for at least 60 days so that industry, Staff and the air districts can meet and move back towards the PAATCM that was so near successful conclusion. (MFASC-5)

Agency Response: The Board continued the hearing until December 7, 2006.

C. 45-Day Comments Related to the December 7, 2006 Hearing

Comments 173 through 226 are directed at the proposed amendments to the Chromium Plating ATCM that were considered by the Board at the December 7, 2006 hearing. The original proposal was modified in response to the Board's direction at the September 28, 2006 hearing. Some comments that were submitted prior to the September 28, 2006 hearing, that were resubmitted prior to the December 7, 2006 hearing, are included in part A of this document, beginning on page 19.

i. General Comments on the Proposed Amendments

173. Comment: We believe that BACT should refer to an emission rate and not to a particular item of equipment or combination of equipment types. Use of a performance standard is consistent with the public policy against prescriptive standards. (MFASC-6)

Agency Response: For this source category, we disagree with the Commenter with regard to BACT being defined as an emission rate. Staff has defined BACT for small facilities as use of specified chemical fume suppressants without assigning an emission rate for this type of control. In this case, establishing an emission rate would require these small facilities, to demonstrate through source testing, that they were meeting a specified emission rate. We believe this would be unnecessarily costly and burdensome for these businesses.

Related to BACT, the Agency Response to Comment 39 is incorporated herein. In the case of facilities required to meet the 0.0015 milligrams per ampere-hour limit, our modeling analyses show that the estimated cancer risk for facilities meeting this emission rate, as measured after add-on controls, is significantly lower than for a facility meeting the emission rate using in-tank controls. This is due to how the emissions are dispersed from the facility. Because of this, it would not as effectively protect public health to express BACT solely as an emission rate; it is more effective to require add-on control devices and express BACT as an emission rate measured after the addition of add-on control devices. However, the Board also provided flexibility for compliance, as noted in the Agency Response to Comments 11-14, which is incorporated herein. This could potentially allow some facilities to demonstrate compliance without add-on controls.

174. Comment: From our conference call conversation on November 20, 2006, we understood that the revised PAATCM is still proposed to be heard at the December 7 CARB hearing. Based on the current schedule, we do not see how we or any other members of the public will have adequate time to fully respond to any further changes you will be making to the PAATCM since the period for written comment closes December 6, 2006 at noon and we still have not seen the revisions in writing. We suggest that the final draft of the PAATCM be issued and the proposal be set for the January CARB meeting so that there would be sufficient time for our industry and the public to review the proposal and to provide written comment. (MFASC-6, MFASC-7)

175. Comment: The Metal Finishers Association of Southern California ("MFASC") and the Surface Technologies Association ("STA"),(collectively, the "Associations") write you to request that the December 7, 2006 hearing, for the Proposed Amended ATCM for Chrome Plating and Chromic Acid Anodizing Operations ("PAATCM") be postponed until the January 2007 CARB meeting. The receipt of the newly revised PAATCM with only a five and one-half day window for comment makes meaningful response by the public and industry impossible. The 60 page PAATCM has several hundred changes. While many of those changes were made in the original version of the PAATCM ("Version #1) many more changes have occurred in Version #3. (MFASC-7)

Agency Response to Comments 174 & 175: The Board did not further postpone the hearing as suggested by the Commenter. The Board decided that adequate time for review was provided, and that further review of the approved amendments would be provided during the 15-day comment period.

176. Comment: We briefly reviewed Version #3 of the PAATCM and note that it still fails to address the three points members of the Associations identified at the September 28, 2006 hearing, as necessary for industry to embrace Version #1 of the PAATCM presented. (MFASC-7)

177. Comment: Since the September 28, 2006 hearing, two versions of the PAATCM have been issued. We have written letters to CARB Staff concerning the changes. Without reiterating those letters in their entirety, we remain concerned that the issues we identified, and for which the September 28, 2006 CARB Hearing was continued so that those differences could be addressed, remain unaltered. (MFASC-8)

Agency Response to Comments 176 & 177: Staff worked with the MFASC and STA following the September 28, 2006 hearing to understand their issues with the staff's proposal. Where appropriate, and when public health would not be compromised, staff made modifications to the amendments to address some of these concerns. As described in the Agency Responses to Comments 185, 186, 187, 188, 189, 190 and 199, modifications were made to the ATCM to address their concerns. Staff's proposal balances the issues and concerns of all stakeholders, while protecting the residents of California from hexavalent chromium emissions from plating and anodizing operations.

178. Comment: There's five main items that we would like to address. The first three were previously addressed at the September 28th Board meeting:
1) regarding flexibility where we will be addressing the language that was added, without change to that; 2) the use of foam blankets certified, where the result was no change in the language; 3) regarding low risk of small facilities being allowed to use chemical fume suppressants where minimal changes have been made; 4) a new measure was added since the September Board hearing, concerning the annual distance tracking. And we will be proposing the deletion of this measure; 5) as far as existing measures, our continued support as an organization in being proactive, in a good housekeeping, record keeping, maintaining clean shops, being responsible business people in the community, which benefits our employees, our neighbors, and our environment. (Appleton-2)

Agency Response: The revised proposal considered by the Board at the December 7, 2006 hearing addressed the Commenter's concerns in part.
The Agency Response to Comments 11-14, which is incorporated herein, describes the proposal approved by the Board at the December 7, 2006 hearing. Responding to point 1, the Board in accordance with State law (Health and Safety Code section 39666(f)) approved a provision that allows any facility to

demonstrate compliance through an alternative. The provision is contained in section 93102.4(b)(3) of the amended ATCM and is explained in more detail in the Response to Comments 11-14.

As to point 2, the Agency Response to Comments 78-81 is incorporated herein. The amendments do not prohibit the use of foam blanket chemical fume suppressants as the Commenter suggests. Any facility can choose to use a foam blanket chemical fume suppressant. However, those facilities required to use a chemical fume suppressant to comply with section 93102.4(b), must, in addition to the foam blanket chemical fume suppressant, use a chemical fume suppressant specified in section 93102.8. This latter provision is analogous to the provision contained in Rule 1469. We also note that any other facility, other than the small facilities described here, can use any chemical fume suppressant.

Staff also notes that subsequent to the December 7, 2006 hearing, staff reviewed a request submitted prior to the hearing to include two additional chemical fume suppressants in Table 93102.8. Staff approved these chemical fume suppressants for use and included them in Table 93102.8, which was re-circulated for public comments as part of the April 13, 2007 15-Day Notice. Approval of these two additional chemical fume suppressants provides more options for facilities. The Agency Response to Comment 213 explains this further.

Responding to point 3, the Agency Response to Comments 39, 11-14 and 103-106 are incorporated herein. In accordance with State law, staff's proposal requires BACT for all facilities. The suggestion offered by this Commenter would result in a lesser level of control and would not require application of BACT for all facilities. Thus, the Board rejected this Commenter's proposal and instead approved the staff's proposal at the December 7, 2006 hearing.

In response to point 4, the Commenter is referring to a provision for providing an annual measurement to the nearest sensitive receptor. Appendix 3, Content of Ongoing Compliance Status Reports, contains this provision which was approved by the Board at the December 7, 2006 hearing. However, the requirements of the ATCM are based on a single measurement taken and submitted to the permitting agency within 30 days of the effective date of the ATCM. This provision is found in section 93102.4(b)(2)(A). There is no regulatory consequence should the distance change. However, if the distance changes such that sensitive receptors are now located nearer a facility, the district should have this information, and determine if, in accordance with the Air Toxics "Hot Spots" program, further control is warranted. We also note that this provision is similar to a provision in Appendix 3 of Rule 1469 which the Commenter has endorsed.

Finally, with regard to point 5, the Board agreed that housekeeping is important, and approved measures to reduce fugitive dust emissions. These measures are

contained in section 93102.5. The Board also approved a training requirement that should improve compliance.

179. Comment: The metal finishers associations want facts to drive your decision. The metal finishers want the flexibility to achieve the .0015 emission standard through in-tank controls and not to be mandated HEPA filters for use.

How do we get there and prove these facts? The metal finishers need a joint demonstration project for emission control technology where CARB participates in the process. Metal finishers need CARB to see the foam blankets and how they're used so they can be certified. We want to break down the walls that divide us by providing proof and facts and not rely on modeling or assumptions.

If metal finishers are to be judged, it should be on their current actions individually, where risk is controlled not to one in a billion exposure standard if that costs jobs and hurts hard working families, but to a one in a million standard which we believe is an acceptable and rational threshold.

Metal finishers are clean and responsible businesses. Throughout this process they have asked for flexibility and fairness based on facts. These associations again ask for these points so they can meet this tough and stringent standard. (Pomeroy-2)

Agency Response: Staff incorporates the Agency Response to Comments 11-14 herein. The Board in accordance with State law (Health and Safety Code section 39666(f)) approved a provision which provides flexibility by allowing any facility to demonstrate compliance through an alternative. The provision is contained in section 93102.4(b)(3) of the amended ATCM.

Secondly, the amendments do not prohibit the use of foam blanket chemical fume suppressants as the Commenter suggests. Any facility can choose to use a foam blanket chemical fume suppressant. The Agency Responses to Comments 78-81 and 212 are incorporated herein.

The Board did not find a demonstration program to be necessary. Demonstrating compliance through an alternative method should be done on a case-by-case basis due to differences among facilities.

Responding to establishing a specific risk level, in accordance with State law staff's proposal requires BACT for all facilities. The suggestion offered by this Commenter would result in a lesser level of control and would not require application of BACT for all facilities. Thus, the Board rejected this Commenter's proposal. The Agency Response to Comments 39 and 96 & 97 are incorporated herein.

180. Comment: When the California Air Resource Board and the Department of Toxic Substances Control actually did a series of inspections of 37 chrome plating facilities they found that 90 percent of those facilities violated their air regulations. They found that 93 percent of those facilities violated their storm water permits and that 90 percent of those facilities violated their RCRA regulations. That was in 1999. So the emphasis on the stack controls is important. But as Ms. Witherspoon said, the emphasis really needs to be on both. It needs to be on housekeeping and enforcement as well as stack controls.

A further lesson in ancient history is actually last Friday in Orange County. A facility that I would not consider a rogue facility because in 1999 when CARB inspected it with DTSC, it actually performed very well on that inspection. It was one of the few facilities actually that was in compliance with its air permits. But seven children contracted leukemia at a school across the street from that facility. Nineteen mothers contracted leukemia who lived within a few blocks of that facility. And so a whistle-blower called the Department of Toxic Substances Control, and a lengthy investigation ensued which was actually settled last Friday. And 24 criminal counts went down to three criminal counts and a fine of $350,000. And I appended just the short notice on this to the letter that I submitted to you.

It's interesting for me to sit and to listen to the good actors in industry come and speak to you. And from my perspective representing communities that live around these facilities, I sure wish they would be talking to their other colleagues. I mean, I wish there was a way in which we could get the industry association more resources, that we could get the districts more enforcement resources, that we could get CARB more enforcement resources, and that truly these bad actors would go away.

But here's the very sad thing about Markland Manufacturing. It was given a permit to expand by the South Coast Air Quality Management District in the middle of this criminal investigation. And that really essentially is the problem. This is the list of facilities that are essentially going to be not as stringently regulated. And when I look at this list and where these facilities are, I would say that 80 percent of them are in my members' communities. A number of these facilities we have had to have EPA overfile on. One of these facilities was storing hazardous waste in the backyard of a day-care center.

And so I'm a little bit sympathetic to some of the industry guys that are in here doing the right thing that they're literally going to be competing with a facility that's down the street from them that's not going to have to meet the same stringent regulations. And I think that there are issues of equity and fairness. (Williams-2)

Agency Response: The Commenter emphasizes the importance of enforcement, housekeeping, and indicates that by not requiring all facilities to

meet the same level of control (*i.e.* add-on controls) raises issues of equity and fairness. Staff and the Board agreed that enforcement is key to ensuring compliance with the rule, but did not include in the ATCM requirements for districts to conduct more frequent inspections. Allocation of enforcement resources is a decision more appropriately left to individual districts.

Related to requiring the same level of control for all facilities, in consideration of potential health risk and cost, staff's analysis did not support requiring HEPA filtration devices or equivalent for all facilities. The Agency Response to Comments 200-204 is incorporated herein. Proper use of specified chemical fume suppressants along with diligent housekeeping, as required by section 93102.5, should provide the needed health protection.

181. Comment: SCAQMD staff recommends an addition to the resolution to clarify responsibility for approval of alternative methods. SCAQMD staff also supports CARB staff's position to minimize multi-agency review. These two aspects will significantly streamline the review process for alternative compliance options pursuant to section 93102.4 (b)(3).

To clearly reflect the requirements of Health and Safety Code section 39666(f), SCAQMD staff requests that the following paragraph be added to the adopting resolution:

> THEREFORE, BE IT FURTHER RESOLVED that local air districts have the responsibility for approving alternative methods for demonstrating compliance with the ATCM pursuant to section 93102.4 (b)(3) and Appendix 9.

SCAQMD staff has concerns about multi-agency reviews. Even with commitments to expedited reviews, facilities may face a cumbersome multi-agency review process that may not yield resolution before the ATCM compliance deadlines. The NESHAP had a 5-year compliance schedule. The proposed ATCM has 2, 3, or 4 years for adding controls. Previous experience with equivalency requests for NESHAP requirements for three South Coast facilities took four years.

If CARB or EPA must be in the review process, this should be minimized to the greatest extent possible. Table 93102.14 should be left as is for the existing NESHAP requirements still in effect and another similar table produced for only the minimum areas of additional review for new requirements that are more stringent than the NESHAP. (Wallerstein-2)

182. Comment: We do have two recommendations though in order to step this up (these are summarized in the attached letter dated December 6, 2006): 1) first, we've offered a paragraph to be added to the resolution. And it basically clarifies that the Health and Safety Code gives the responsibility for evaluating

and approving alternatives for equivalency with the local air districts; 2) Also, we support very strongly that in order to get the flexibility for industry and to give enough time for the process for them to do a source test and get that fully approved, we need to minimize multi-agency review. We're offering our help to work with EPA and ARB to expedite the equivalency process. (SCAQMD-3)

Agency Response to Comments 181 & 182: The Resolution includes the paragraph requested by the Commenter. However, U.S. EPA concurrence would still be required, as described in Comment 217 and the Agency Responses to Comments 191 and 217 which are incorporated herein. ARB staff review is not required except for approval of alternative test methods as shown in Table 93102.14. However, in accordance with Health and Safety Code section 39666(f) ARB is to be notified of actions related to alternative approvals.

Related to flexibility, the Board approved a process for complying through alternative methods. The Agency Response to Comments 11-14 is incorporated herein. The Board also agreed that the equivalency process should be expedited, but wanted to ensure that appropriate methodologies were in place to evaluate alternative methods of compliance to ensure that the alternative would provide equivalent or greater reductions in emissions and risks. To that end, the Board also directed staff to work with the California Air Pollution Control Officers Association on appropriate methodologies.

183. Comment: We do have ongoing concerns in the field about the fact that rules such as this are very, very resource intensive. And so if you don't monitor the amperage, if you don't maintain a good blanket across the tank, if you don't maintain it as you're taking in and out the parts themselves, you just don't maintain the compliance with the rule in general.

In addition, we have seen folks that have not had a HEPA filter on. And so when you're able to turn off equipment, we don't believe at South Coast that HEPA is necessarily the answer to everything, for just that reason. And that's why our governing Board went ahead and added two full-time-equivalent inspectors, so that we could ramp up our inspections to a full inspection quarterly. And we're not leaving it at that. We're going to do drop-in inspections on an even more frequent basis and target these tanks and see that that clipboard has the amp-hours already on it for the day, that all the record keeping is in place, and that the equipment on add-on controls is actually functioning on that day. (Coy)

Agency Response: The Commenter is referring to the importance of enforcement. The Board agreed, and directed staff to report back to them on compliance status in 18 months. The Board also approved amendments requiring personnel at plating and anodizing facilities to attend an ARB training course related to maintaining compliance with the ATCM.

ii. Specific Comments on the Proposed Amendments

a. Section 93102.3: Definitions

184. Comment: At the definition (37)(A) Modification, add an underline to the word “not” in the last sentence of the paragraph to add emphasis to remind the reader that the items listed are exclusionary. (Weintraub-2)

Agency Response: The language of this definition is quite clear as it is and does not need to be underlined for emphasis. Therefore, this requested change was not made.

b. Section 93102.4: Requirements

185. Comment: We strongly support allowing shops with operations under 20,000 ampere-hours per year ("AH/Y") to use certified fume suppressants. We also support the draft wording in Table 93102.4 that allows shops greater than 330 feet from a sensitive receptor and with less than 50,000 AH/Y operation to use certified fume suppressants. (MFASC-6)

Agency Response: The Commenter is providing comments on further regulatory proposals discussed with the MFASC and STA in a conference call on November 20, 2006. The provisions related to facilities complying through use of specific chemical fume suppressants, as described by the Commenter, were approved by the Board at their December 7, 2006 hearing.

186. Comment: We support the use of 0.0015 mg/AH as the emission limitation equivalent to best available control technology ("BACT") for Table 93102.4 when 1:1 Million cannot be achieved through the use of chemical fume suppressants. We do not think the 0.0011 mg/AH was meant to be used for all operations. The 0.0011 mg/AH value was based on the SCAQMD proposal for new facilities and where emissions from existing facilities were estimated to exceed 15 grams per year (equivalent to 10 million AH/Y). For facilities less than 15 grams per year, SCAQMD proposed equivalency by all using in-tank or add-on control technologies. The SCAQMD- referenced seven source tests averaged 0.0011 mg/AH, so some test results were higher and some lower. Furthermore, the proposal document did not make clear what in-tank or add-on control technologies were used in the seven referenced tests. If the 0.0011 mg/AH continues in any form in the PAATCM, we request to review copies of the source tests before a final decision is reached. (MFASC-6)

Agency Response: The Commenter is referring to establishing the emission rate for facilities other than those complying through use of specified chemical fume suppressants. Staff had originally proposed an emission rate of 0.0015 milligrams per ampere-hour for these facilities. However, at the September 28, 2006 hearing, the SCAQMD provided information indicating that

an emission rate of 0.0011 milligrams per ampere-hour was feasible for facilities using HEPA filters to reduce emissions. In an interim proposal circulated for public comment, staff proposed the emission rate of 0.0011 milligrams per ampere-hour to be met as measured after add-on control. In further discussions with the SCAQMD and other districts, and further analysis by staff, it was determined that new facilities could better design add-on control systems, making it feasible to meet a 0.0011 milligrams per ampere-hour limit. However, in instances where an existing facility would be retrofitting an add-on control device into the facility, meeting the 0.0011 milligrams per ampere-hour limit would be difficult. Therefore, staff returned to the original proposal of 0.0015 milligrams per ampere-hour for existing facilities, but proposed the 0.0011 milligrams per ampere-hour limit for any new hexavalent chromium facility.

However, contrary to the Commenter's recommendation, staff maintained that the emission rate of 0.0015 milligrams per ampere-hour should be met after add-on control devices, except for facilities with ampere-hours between 50,000 to less than 500,000 and with no sensitive receptor within 330 feet. The staff's revised proposal was approved by the Board at the December 7, 2006 hearing. We further note that the staff's proposal was not designed to reduce cancer risk to a specific level, but rather to require BACT for all facilities.

187. Comment: We recommend for distance measurements (93102.4(b)(2)(A)) that the PAATCM identify the stack or centroid of stacks as the source of emission from point sources, and the location or centroid of that part of the building housing the tank for volume sources. This procedure is consistent with modeling procedures and most districts' regulations. (MFASC-6)

Agency Response: Staff agrees in part with the Commenter. For facilities with stacks already in place, staff modified the proposal for determining the distance to the nearest sensitive receptor by specifying that the measurement be made beginning at the centroid of the stack. Staff also modified the proposal for determining the measurement for facilities without stacks. However, contrary to the suggestion of the Commenter, staff proposed that the measurement to the nearest sensitive receptor be made beginning at the edge of the plating or anodizing tank that is nearest the sensitive receptor. This provision makes sense because the source of the emissions should be the point from which measurements are made. The Board agreed and approved the staff's proposal at the December 7, 2006 hearing.

188. Comment: We believe this provision (93102.4(b)(2)(A)1. and 2.) should be deleted. It represents the taking of another's property and is totally unfair to a plating shop owner. (MFASC-6)

Agency Response: This Comment addresses the so-called "move-in" provision. This proposal would apply to situations where facilities had no

sensitive receptor within 330 feet at the time the rule becomes effective, and were within the ampere-hour limits to comply through use of chemical fume suppressants only. Under the "move-in" proposal, this facility would be required to meet the more stringent emission limit of 0.0015 milligrams per ampere-hour with add-on controls if a sensitive receptor, at a later date, moved within 330 feet of the facility. We disagree that this proposal represents the taking of another's property, as the Commenter suggests. However, because of equity concerns, the Board did not adopt the move-in provision, as discussed in the Agency Responses to Comments 55-60.

189. Comment: One requirement for facilities demonstrating compliance by an alternative method or methods considers that the alternative compliance method achieve an equal or greater reduction in risk than would be achieved by direct compliance with the proposed prescriptive requirements of section 93102.4(b)(2). We recommend that the PAATCM contain language such as follows:

"This requirement may be met by using a screening risk assessment procedure such as Tier 2 of "Risk Assessment Procedures for Rules 1401 and 212, Version 7, 2005 published by SCAQMD." (MFASC-6)

Agency Response: We disagree that the ATCM should specify the procedures to be used to conduct the risk assessment. The appropriate risk assessment process may vary depending on the procedures of the individual air districts. However, Appendix 9 does require that scientifically valid methods be used. Because the permitting agency is responsible for evaluating alternatives, it is incumbent on them to ensure that the methods employed to evaluate risk clearly demonstrate that the alternative results in equivalent or greater risk reduction than would direct compliance. The Board agreed with staff and did not incorporate the proposal suggested by the Commenter in the amendments approved at the December 7, 2006 hearing. The Board did direct staff, through resolution, to work the California Air Pollution Control Officers Association on appropriate methodologies to evaluate and compare risk.

190. Comment: Compliance with the chemical fume suppressant threshold for smaller facilities that have cancer risk of one per one million risk. The facilities described (less than 200,000 ampere-hours per year) do not have large emissions and at greater distances their risk is at or less than one per one million. These facilities also are likely to have the greatest economic impact from mandatory technology proscriptions and therefore, will be affected the most. Version # 3 does not address this issue at all. We believe that placing in the rule a simple screening method of determining equivalent risk for one in one million would demonstrate the risk at these facilities is minimal and the rule is health protective. (MFASC-7)

Agency Response: The amendments are based on application of BACT as required by State law. However, the proposal considered by the Board at the

December 7, 2006 hearing, provides a process for complying through an alternative method as long as the alternative provides equivalent emission and risk reduction. The Agency Responses to Comments 11-14, 189, and 191 are incorporated herein.

191. Comment: The MFASC and STA ask that "equivalency" in the standard be specifically deferred to the local air districts and that CARB Staff be directed to work with industry in reviewing equivalency alternatives as part of a 12 month demonstration program. (MFASC-8)

Agency Response: In response to this Commenter and others, ARB staff asked U.S. EPA if it would continue to be necessary to seek their concurrence on alternatives to direct compliance with the ATCM. In response, U.S. EPA indicated that in accordance with federal law they must remain as the concurring agency in some instances, especially with regard to alternative methods to comply with limits. U.S. EPA concurrence is necessary given that the ATCM has been found to be equivalent to the federal NESHAP, and is, therefore, federally enforceable. The Agency Response to Comments 217 and 181 & 182 are incorporated herein. The Board did not find a demonstration program to be necessary. Instead, the Board found that demonstrating compliance through alternative methods should be done on a case-by-case basis. In this way, there is greater assurance that the alternative method does reduce an individual facility's emissions and risk equivalent to direct compliance with the ATCM.

192. Comment: A third category that should be allowed to use certified fume suppressants are those shops with less than $1,000,000/year revenue and located more than 330 feet from a sensitive receptor. According to the Initial Statement of Reasons ("Staff Report"), 38% of the industry has less than $1,000,000 revenue and 57% of the industry is greater than 330 feet from a sensitive receptor. Also consistent with that Staff Report, a facility at 330 feet from, a sensitive receptor operating at 200,000 AH/Y would create a Maximum Incidence of Cancer Risk ("MICR") of only 1:1 Million. This value, when coupled to the acknowledged risk of less than 1:1 Million for 20,000 AH/Y, is confirmed at Page 72 of the Staff Report, where the emission decreases tenfold from its highest assumed point. Almost all of the shops with less than $1,000,000 revenue would have production below 200,000 AH/Y, so health would be protected and the small businesses could stay in business. Otherwise, they may be forced to close their business by the cost of add-on control systems. (MFASC-6)

193. Comment: We remain concerned over the failure of the PAATCM to address pollution controls in a way that achieves a favorable reduction of risk without economic harm to the metal finishing industry. The latest PAATCM mandates tighter control technologies than necessary to achieve a 1:1M risk threshold. Application of more economical control alternatives (i.e., chemical fume suppressants), specifically, for any facility below 200,000 ampere-hours per

year ("AH/Y") and further than 330 feet from a sensitive receptor, will achieve a 1:1M risk or lower. These smaller emitting facilities are also likely to be on the lower side for revenue and less likely capable of affording expensive add-on control technology. The result of this mandate would be significant to these facilities, especially considering that potential modeled exposure (which is far greater than actual exposure) will be at 1:1M risk or less with the more economical control technology. (MFASC-8)

194. Comment: The smallest shops are under $1 million in sales and they generally use the lowest amperage. I want to speak on behalf of these smallest of the metal finishers, the ones that are under $1 million in sales. And you talk about the facilities that may be going out of business, the small guys are on top of that list.

The economic benefit to these small shops is since they have small sales, the cost to put in these extra added controls becomes significant to them.

What we would like to ask, there's a chart up on the wall – [refers to a slide] there that you probably all have in front of you. The industry proposes the certified fume suppressants for facilities that are greater than 330 feet. The ARB has said at 50,000 ampere-hours, facilities don't have to put add on controls. We would request that that be increased to the 200,000 ampere-hours.

As you see from this chart, there's a diagonal line there that is the cancer risk of one in a million. And if they were allowed to go to the 200,000, because of the modeling effects, there's a major conservancy factor of one to ten to a hundred times overestimation on what's being presented. And we would just ask that the smaller facilities be allowed to go to 200,000 instead of 50,000. (Bell-2)

Agency Response to Comments 192-194: We disagree that creating a third category for allowing use of specific chemical fume suppressants to comply, as suggested by the Commenters, is appropriate. We also disagree that requirements should be based on a certain risk level or annual revenue. These proposals would result in lesser control than BACT for some facilities, which would not adequately protect public health. The Board approved the staff's proposal without the change suggested by the Commenter. However, we also note that facilities with no sensitive receptor within 330 feet, and with annual ampere-hours between 50,000 to 500,000, are to meet a technology neutral limit of 0.0015 milligrams per ampere-hour. This potentially allows these facilities to demonstrate compliance using in-tank controls such as chemical fume suppressants. In accordance with State law (Health and Safety Code section 39666(f)), the Board also approved a provision that allows any facility to demonstrate compliance through an alternative. This provision is discussed in the Agency Response to Comments 11-14.

195. Comment: The District supports ARB's promulgation of an alternative compliance method as established in section 93102.4 (b)(3), but requests that the reference to the California Health and Safety Code (H&SC) section 39666(f) be removed. Referencing H&SC section 39666(f) implies that ARB is establishing requirements for any alternative method that a district might approve pursuant to section 39666(f). ARB should not limit the Districts' independent authority to approve an alternative method under that section.

The District would also like to note that this alternative compliance option will require analysis on a site-specific basis and does not offer a streamlined alternative compliance option process for small facilities. The time and cost associated with demonstrating an alternative compliance method means this option may not be feasible for small chrome plating or anodizing facilities even if they do not pose a significant health risk. (SDAPCD-2)

Agency Response: The Board approved an alternative compliance option which is contained in section 93102.4(b)(3). However, the Board rejected the suggestion to delete the reference to the Health and Safety Code as suggested by the Commenter, which is authority that the Legislature has given the districts in Health and Safety Code section 39666(f). This reference does not limit the districts' authority to approve alternatives. To insure that districts understand this, the Board included in the Resolution the paragraph quoted in Comment 181. Finally, we agree that the alternative compliance option will require analysis on a site-specific basis.

196. Comment: It's critical to note that since 1986 this industry has reduced chrome emissions by 99.9 plus percent and are willing to comply with even more stringent regulations. All we ask is for the flexibility to meet the target number, be it .0015 per amp-hour or whatever. We feel this approach is health protective for both the community and our workers and will not have a devastating economic impact. We're not asking not to be regulated, just for reason and flexibility. (Cunningham-2)

Agency Response: The Board agreed in part with this Commenter by approving an alternative compliance option which is contained in section 93102.4(b)(3). In accordance with State law (Health and Safety Code section 39666(f)) and as discussed in the Agency Response to Comments 11-14, the Board approved a provision that allows any facility to demonstrate compliance through an alternative.

197. Comment: I'm here to talk about being able to do the in-tank controls and actually have it work. The proposed rule for me is a step backwards. We ran a source test, I believe it was '04. And in that source test we came up with a result of ten times less than what you guys are asking for at .0015. We came up with a result of .00013 milligrams per amp-hour. So for me, what everybody is telling me is that I need to spend a lot of money to do a less better job than I'm doing

right now with the in-tank controls that I have in place. I want to work with the agency. I did work with the agency when we did the source test. The source test was submitted in September. It's kind of a proof that it works and that it's a no brainer to me. As running a facility, I don't have to worry about the HEPA filter being on or it not being run properly. If I keep my controls in line, I'm going to meet or beat this number that they're looking for me to meet. (Grana-2)

Agency Response: To address this Comment, as well as others, the alternative compliance option contained in section 93102.4(b)(3) was approved by the Board. This provision allows any facility to demonstrate compliance through an alternative, as discussed in the Agency Response to Comments 11-14.

198. Comment: I believe that staff has done a good job with what resources that they have. However, I think that the actual amount of testing that was done probably was not adequate to describe the current conditions of what actually is as opposed to conditions of rogue shops that were dirty, needed to be shut down, were shut down. Those were compliance issues as opposed to regulations that needed to be improved.

I think that the risk threshold of one cancer in a million exposed is something that is reasonable and that the industry supports. As you can see on this slide here, the one in a million to begin with assumes an emission rate for 70 years of an exposure at our property line. And that in itself builds in a significant safety factor as long, and when we start adding other safety factors, we get out of skew several factors.

The latest proposal of 20,000 ampere-hours per year represents a one in a million or less modeled risk with fume suppressants, and we appreciate that ability. Also, the 50,000 ampere-hours per year represent a 1 in 4 million or less modeled risk when measured at 330 feet or more. We believe that that actual risk is even lower. We do support the provisions that allow for flexibility, the under-500,000 amp-hours per year provision. We would like to see that also for those that are 200,000 ampere-hours and at a closer range, with the flexibility to meet that risk, however they would like to do that. (Marrs-2)

Agency Response: We disagree that staff did not perform enough testing to evaluate emissions. The testing program and results are outlined in Chapter V of the Staff Report. In all, 11 source tests were conducted. The Commenter is also suggesting that the proposal be related to a certain risk level. In accordance with State law, however, staff's proposal requires BACT for all facilities.
The proposal is not designed to specifically address a risk level. We disagree that facilities with a sensitive receptor within 330 feet and up to 200,000 annual ampere-hours should be allowed to use a lesser level of control. Staff's modeling analyses found that more stringent control was necessary when people are

located within 330 feet of a facility. The Board rejected this Commenter's proposal and, instead approved the staff's proposal.

199. Comment: Our industry proposes that CARB do one of the following to achieve the goals that we want: 1) set .0015 milligrams per amp-hour as a threshold and make it technology neutral by eliminating add-on pollution control prescriptions mandating HEPA filters; or 2) include a resolution and adoption of this proposed and amended ATCM, clarifying that local air districts will determine equivalency and directing CARB to review and oversee demonstrations in source tests of technology alternatives within the first 12 months of the effective date. (Lucas-2)

Agency Response: Regarding point one, the Board did not delete the requirement for add-on controls as that could result in lower risk reduction than expected. However, in accordance with State law (Health and Safety Code section 39666(f)), at the December 7, 2006 hearing, the Board also approved a provision that allows any facility to demonstrate compliance through an alternative, as discussed in the Agency Response to Comments 11-14.

In response to point two, the Board did include in the resolution that districts will make the equivalency determinations. The Agency Response to Comments 181 & 182 is incorporated herein. This is also specified in Health and Safety Code section 39666(f). However, U.S. EPA concurrence is necessary given that the ATCM has been found to be equivalent to the federal NESHAP, and is, therefore, federally enforceable. The Agency Responses to Comments 54, 191 and 217 are incorporated herein. The Board did not find a demonstration program to be necessary. Instead, the Board found that demonstrating compliance through alternative methods should be done on a case-by-case basis. In this way, there is greater assurance that the alternative method does reduce an individual facility's emissions and risk equivalent to direct compliance with the ATCM.

200. Comment: We appreciate the considerable work that ARB staff has put into these proposed revisions since the last hearing. However, the concerns we expressed to you in our letter of September 21, 2006, and at the September 28 Board hearing, have not been addressed. We thus feel that the rule still does not go far enough to protect public health. Our concerns relate to the following two major issues:

HEPA Filtration systems, or equivalent add-on pollution control devices, are the Best Available Control Technology and should be required for all chrome platers in the State of California that are located within 1000 feet of a sensitive receptor.

At the September 28, 2006 Board hearing, ARB staff noted on several occasions that the HEPA filtration systems, or equivalent add-on controls, are the Best Available Control Technology for chrome plating, and are preferable to the use of fume suppressants and other in-tank controls due to their superior control

efficiency and the minimal potential for operator error. We agree. For this reason we urge you to require these systems for platers located within 1000 feet of a sensitive receptor. We are most concerned about those small sources that will be allowed to use fume suppressants without any requirement to show equivalency. We have often heard that there is an issue of fairness to business which leads staff not to propose a requirement for add-on controls for these "small" sources. However, in this way staff overlooks the issue of fairness and justice to those residents that live next door to these facilities. We dispute that the definition of BACT, and its associated emission rate, should be different depending on the size of the facility. Furthermore, according to the Staff Report, the model used to predict cancer risk from the smallest facilities, cannot accurately predict the risk at distances closer than 60 feet from the facility (see Staff Report at p. 72).

The Staff Report also notes that "A recent study, funded by ARB, indicated that the model, employed in this analysis may actually under-predict near-source concentrations" (see Staff Report at p. 74). Staff cannot predict if the risk next door is one per million, ten per million, or even greater, as was the case with Master Plating. Yet, these sources are not required in the proposal to install add-on controls, despite the risks that they pose to their neighbors.

At the hearing, several members of your Board noted the need to address the extreme near-source impact issue. This proposal does not go far enough to address the near source impacts associated with chrome plating. For the above reasons, we would again request that the proposal be amended to require that all existing facilities within 1000 feet of a sensitive receptor be required to install HEPA filtration or equivalent add-on control. At a minimum, small sources must be required to meet the same emission limit and BACT equivalency demonstration as other sources under the rule.

If sensitive receptors move to within 1000 feet of a chrome plater that does not have an add-on control device, that facility must be required to install controls within two years.

Staff initially proposed, in its November 17, 2006 version of the proposed ATCM, that add-on controls would be required if a sensitive receptor were to move in within 330 feet of a chrome plater. We heartily support this language, subject to the separation distance issues noted above. As we noted at the previous hearing, residents that are located in the future next to an existing chrome plater must be protected to the same degree as existing residents. Accordingly, we would suggest that the rule also be amended to provide that if a sensitive receptor moves to, within 1000 feet of a chrome plating or chromic acid anodizing operation, that facility must install HEPA or equivalent add-on controls within two years. (For the purposes of this letter, small sources are those operating at less than 20,000 ampere-hours at less than 330 feet, or less than 50,000 ampere-

hours at greater than 330 feet from a sensitive receptor.) (Environmental Groups-2)

201. Comment: EHC is still deeply concerned about the rule as proposed to you today, especially the lack of a move-in provision that would protect future residents to the same extent we're talking about protecting existing residents, and especially the provisions that apply to the small sources in this rule. These sources will be allowed to meet the same emission limit as they are under the existing ATCM. That is a .01 emission limit. And that is a limit that is over six times less stringent than the emission limits proposed for the other sources. Yes, the rule is going to limit them to the use of certified fume suppressants. But also recall that Master Plating was using one of these same fume suppressants and was found to be in compliance with the rules essentially and causing well over a 25 in a million risk at a distance greater than 330 feet. Now, in the Staff Report it indicates that these small facilities will be brought down to a level of one cancer per million. But keep in mind that that is at a distance of 60 feet from the facility. They cannot tell you what the risk is going to be closer in to the facility property line.

There's also a lot of uncertainty remaining about the contribution of fugitive dust from these facilities and any effectiveness of the proposed housekeeping measures.

I also want to bring to your attention that the smallest sources are those that are most likely to be located next to people's homes and schools. They're also the least likely to have sophisticated compliance programs as many of the larger industries do that are here represented today. These small sources can have extreme near-source impacts. Sources like California Plating are literally operating inches from the nearest home. And if that's not extreme near source, I don't really know what is. We continue to believe that all sources within a thousand feet of a sensitive receptor should be required to install HEPA filtration or equivalent add-on controls. It's consistent with your land-use guidance. It's consistent for the requirements for new sources.

However, at a minimum, all sources must be required to meet the same emission limit. Given the millions of dollars that ARB has spent monitoring and testing and in rule development and given all that we've learned from Master Plating, given the extreme toxicity of hexavalent chrome, given risks from extreme near sources and given the uncertainties around dust emissions and all of the environmental justice issues surrounding these facilities, why would you adopt a rule with an emission limit for small sources that is no different than what you have on the books today?

Today again I reiterate that we're asking for HEPA controls for sources within a thousand feet. But if you cannot do that, at least require all sources to meet the emission limit by installing controls or demonstrating equivalent emission and risk

reductions as the larger sources would be required. In other words meet the .0015 limit by installing controls or demonstrating equivalent emission reduction and risk reduction. The residents that live next to these sources demand and deserve nothing less. (Forbis-2)

202. Comment: We appreciate the staff proposal to strengthen the chrome plating regulation and strongly support the use of best available control technologies to reduce the health threat from this extremely toxic material. However, we remain concerned that the regulation does not go far enough to clean up chrome plating equipment in neighborhoods in close proximity to chrome plating facilities. And I should say houses or homes.

We strongly support the proposals of the Environmental Health Coalition and other community groups to:

1. Require HEPA filtration systems or equivalent add-on pollution control devices for all chrome platers located within 1,000 feet of a sensitive receptor; and
2. Add a move-in provision to require BACT, for example, HEPA filters, on facilities if sensitive receptors move to a location within 1,000 feet of a chrome plater.

We do not have faith that all local planning agencies will uniformly be vigilant about where they're allowing sensitive receptors to be located. We have seen many examples of such negligence here in the San Joaquin. (Sharpe)

203. Comment: Based on the rules that you're considering today, small chrome platers don't need to put controls on their operation even though they're located only a few feet from a house. California Plating, like other platers of its size, needs to install controls for its emissions. The use of fume suppressants won't protect people's health. The staff from ARB has said that the risk from this chrome plater would be less than one cancer. But this assumes perfect compliance with the rules.

And the risk is calculated at a distance of 60 feet from a facility. And within 60 feet from them there are a variety of houses, two or three restaurants and a basketball court. And so in reality no one can really tell us what the risk will be for these residents.

I understand that your major reason for not requiring controls of these facilities is because of the cost to those industries. But I'm here today to urge you to think about it well. Think in terms of the cost of the health of the residents that live next door. And when you give favorable treatment to these companies, the residents pay with the highest price, which is their health. You need to require controls or at least the same emission reductions from all the chrome platers including the most small. (Jimenez)

204. Comment: Working with Environmental Health Coalition I've seen the harmful impacts that industries have on communities. Specifically I've seen the impacts that Master Plating had on the health of the families living next door. We were hoping that the lesson learned with Master Plating would be a lesson that could be for the entire state, in learning that just chrome platings in communities don't mix.

I have with me a poster signed by individuals and environmental justice organizations from around the state. And they demand that you protect all residents within 1,000 feet of a chrome plater by requiring installations of controls and that you protect also future residents.

So the question comes down to our health, how much is our health worth, to you and to everyone? We learned a lot with Master Plating. We learned that even a very small facility can have terrible impacts on its neighbors. And we really don't know much about the dust that blows out of these facilities as well. We demand that you require controls or at least equivalent emissions standards for every facility within 1,000 feet of homes or schools regardless of their size. (Romero)

Agency Response to Comments 200-204: The Board agreed in part with these Commenters and approved amendments that prohibit new facilities from operating within areas zoned residential or mixed use, or within 1,000 feet of these areas, or within 1,000 feet of a school or school under construction. Further related to distance, in response to direction from the Board, staff evaluated the critical distance necessary to protect sensitive receptors located near existing businesses. Modeling analyses show that the emissions of hexavalent chromium from plating and anodizing have a very near source impact. While a 1,000 foot distance would be more health protective, as suggested by the Commenter, staff's further evaluation found that 330 feet (~100 meters) would also protect sensitive receptors. As described in the Staff Report, Chapter VII, page 72, at 100 meters the concentration has dropped off by about 90 percent for volume sources. In addition, the added cost of requiring add-on control systems for all facilities with a sensitive receptor within 1,000 feet did not justify the very small incremental health benefit. At the December 7, 2006 hearing, the Board agreed and approved amendments that establish the distance for requiring more rapid and stringent control at 330 feet. The Board rejected the suggestion of the Commenter to require add-on controls for all facilities, in consideration of the low health risk posed by very small facilities. Proper use of specified chemical fume suppressants along with diligent housekeeping, as required by section 93102.5, should provide the needed health protection.

The so-called "move-in" provision was included in a draft ATCM circulated for comment after the September 28, 2006 hearing. This would apply to situations where facilities had no sensitive receptor within 330 feet at the time the rule becomes effective, and were within the ampere-hour limits to use chemical fume

suppressants for compliance. Under this Commenter's proposal, this facility would be required to meet the more stringent emission limit of 0.0015 milligrams per ampere-hour with add-on controls if a sensitive receptor, at a later date, moved within 330 feet of the facility. However, because of equity concerns, staff did not propose this provision to the Board. The Board agreed that the provision was unfair to the facility, but also indicated that these types of "move-in" situations should be prevented. To that end the Board directed staff to work with local planning agencies. The goal would be to educate them on the hazards associated with hexavalent chromium plating and anodizing businesses to help insure that projects would not be approved that would result in sensitive receptors being located near existing facilities.

c. Section 93102.5: Additional Requirements

205. Comment: We ask that the ATCM have provisions to allow for "in-house" training programs such as ours, subject to verification by CARB or local air pollution control agency that may be tasked with enforcing compliance of this ATCM. Since we have the Handbook and CD we can present some of those materials in addition to our own materials without the added expense of travel, course cost, loss of production and employee pay. (Weintraub-2)

206. Comment: The most recent version of the Chrome Plating ATCM (dated 10/22/2006 section 93102), has now reverted back to the original training requirements, which can be interpreted that anyone tasked with maintaining compliance with the ATCM must attend a CARB Compliance Training Course. This places a burden to send well over 40 of our personnel offsite for training. We provide extensive training to our plate shop personnel and operators that, we feel, meets and/or exceeds those training requirements found in the Chrome ATCM. We ask CARB that the ATCM allow for "in-house" training programs such as ours, subject to verification by CARB or that local agency that may be tasked with enforcing compliance of this ATCM. (Sulgit-2)

Agency Response to Comments 205 & 206: While we agree and encourage "in-house" training, we disagree that this type of training should be substituted for the ARB training class. The quality of in-house training can vary widely and we believe that requiring an ARB training class is the best way to insure that accurate and complete information is presented. Therefore, the Commenter's suggestions were not approved. However, for convenience, it is possible to schedule the ARB's training class at the Commenters' facility. This should help to minimize cost.

207. Comment: The second thing I'd like to make a point on is the record keeping and housekeeping. One of the things that we do is we already are doing a lot of record keeping and housekeeping. However, we will do more, whatever it is that you feel comfortable with, coming in and making sure. I think the visit to

the shop is one good way for you to understand that we basically are doing an awful lot.

We look forward to having somebody come in and help us. And if you find something that you think we could do better to reduce air emissions, we're all for that. We want to work safely and we want to have everybody help us. That would also be consistent with the new rule of 1469 that they basically developed down in the Los Angeles area.

One of the other things I'd like to basically say on the tail end is the Barrio Logan. A lot of these rules and regulations are coming out of the air emissions from a rogue facility that was shut down, the way it should have been. A lot of the air emissions are during their cleanup process when all kinds of things are going on. It would be like you trying to take an air emission of a house that's functioning or one that you just tore down and everything's flying around everywhere. I hope you allow us to stay in business. (McBride)

Agency Response: The Board agreed that housekeeping was important, and approved measures to reduce fugitive dust emissions. These measures are contained in section 93102.5. The Board also approved a training requirement which should improve compliance. The existing ATCM requires recordkeeping to track compliance.

d. Section 93102.8: Chemical Fume Suppressants

208. Comment: The draft PAATCM at page 29 (Table 93102.8) lists three of the five fume suppressants SCAQMD certified through a rigorous and professional testing procedure. Each sponsoring fume suppressant manufacturer paid for the time, chemicals, travel and shipping costs of their staff to arrange and observe the testing, which took several days. Each of the five were certified as meeting or besting the 0.01 mg/AH. In fact, most results were in the 0.0025 mg/AH range Enthone Zero Mist and F-140 with Dismist NP have essentially been outlawed by their omission from the CARB-approved chemical fume suppressants. Such an action is unfair to these two manufacturers and is unreasonable for the users of these products.

CARB should discuss this issue with users and manufacturers before disallowing the use of fume suppressants that have been certified by the SCAQMD. (MFASC-6)

209. Comment: Foam blankets. Version #3 does not change this issue at all. The failure to change this issue is more troubling considering that CARB Staff at the September 28th hearing indicated its acceptability when used with other certified chemical fume suppressant. (MFASC-7)

210. Comment: I have many, many employees that have been with our companies over 30 years. None of them really have any medical problems. We are environmentalists, and we're being blamed for not being an environmentalist at the same time. Our shops are very clean, neat. We take great care not to spill any chemical outside of a plating tank, onto the ground or into the air. I believe we're not given credit for what we do that's right. And because a few people have not done what's right, we're being held as their scapegoat and being asked to close our businesses. My company supports over a hundred people. We use several subcontractors. We have several families. We provide health insurance, uniforms, and retirement benefits, all of which will be lost if our companies have to close. We don't want to have to do that. We want to work with all the agencies. We've worked with South Coast Air Quality Management District for years. We thought we had everything working fine. And our foam mist suppressants, foam blanket that goes on top of the wetting agent that we use to control chrome mist has been ratified to be a very good prohibitive measure for putting anything into the air. And now we're having to testify all over again, saying that they want to take that away from us. We really need to have the Board consider to allow us to use the foam blanket as well as the new suppressants and the wetting agents that we currently use. And we will keep on trying and spend our money on research to improve things. We really don't think that adding expensive HEPA filters, which require lots of maintenance, is a necessary thing for us to have to do. If we do have to do it, of course we will. HEPA filters also produce waste themselves that have to be dealt with. And under State law, we're supposed to do waste minimization, not create more waste. So our goal is to keep the solution in the tank and keep the fumes in the tank and keep people healthy and stay in business. (Olick-2)

Agency Response to Comments 208-210: Staff incorporates the Agency Responses to Comments 78-81 and 212 herein. Staff is not prohibiting the use of any chemical fume suppressant. The staff's proposal does require small facilities to use specific chemical fume suppressants as listed in Table 93102.8. The list of chemical fume suppressants contained in this table does not include all of the chemical fume suppressants certified by the SCAQMD. This is because two of SCAQMD's certified chemical fume suppressants require a foam blanket to form as part of the control. As explained in the Agency Response to Comments 78-81, the foam blanket does not always have time to fully form because plating times, especially for small facilities, are short and/or are intermittent. Therefore, approving the use of these two chemical fume suppressants would result in a lesser level of control and would not adequately protect public health in all instances. However, as long as these facilities use one of the chemical fume suppressants listed in Table 93102.8, they can also use a foam blanket producing chemical fume suppressant, or any other chemical fume suppressant. We also note that any other facility, other than the small facilities described here, can use any chemical fume suppressant.

However, the Board did not eliminate the requirement for add-on controls for larger facilities. Facilities located within 330 feet of a sensitive receptor, and with annual ampere-hours exceeding 20,000, and facilities more than 330 feet from a sensitive receptor with more than 500,000 annual ampere-hours are required to meet the 0.0015 milligrams per ampere-hour emission rate as measured after add-on controls. Nevertheless, any facility is provided the opportunity to comply through use of an alternative method as outlined in section 93102.4(b)(3).

211. Comment: We believe that CARB has not had adequate experience with the in-tank control technologies that industry believes are equally effective. We believe the agency's involvement will validate our data. Our industry concern for certifying foam blankets is simple – they work. The SCAQMD has actually tested and certified their use. We continue to request that CARB work with industry as part of a demonstration program. We also suggest that language be included in the final ATCM whereby CARB will permit the local air districts the discretion to certify fume suppressants both separately and used in conjunction with foam blankets in addition to the ones CARB has already listed. (MFASC-8)

Agency Response: We agree that foam blanket-forming chemical fume suppressants can be part of an effective means to reduce hexavalent chromium emissions for some facilities. Their greatest benefit is achieved during periods of prolonged plating times, as is the case for hard chrome plating, but are less effective for operations where plating times are short and intermittent. In these cases, the foam blanket does not have adequate time to form and it is, therefore, not maintained. This is because electric current must be applied to the plating bath, consistently and for a prolonged period, to maintain the foam blanket. Without a fully formed foam blanket, the emission control is lessened. The Agency Response to Comments 78-81 is incorporated herein. Staff is not proposing to prohibit use of foam blanket-forming chemical fume suppressants. Therefore, there is no need to conduct further demonstrations of their effectiveness. To promote statewide consistency, we believe that the ARB Executive Officer should maintain control of approval of additional chemical fume suppressants and that the districts should not be allowed to do their own certifications.

212. Comment: We just recently finished work on another fume suppressant that is coming into the marketplace. And that too is showing equivalence to that of a HEPA filter. I think CARB has a copy of our report, which they are now in the process of evaluating. We feel that with the tests that we have done we're confident that fume suppressants and in-tank controls do work. They essentially give us equivalent emission reductions to those of the exhaust systems and HEPA filters. (Becvar)

Agency Response: Prior to the December 7, 2006 hearing, staff received a request to consider addition of two chemical fume suppressants from Hunter Chemical. Data submitted were reviewed by staff and determined that use of

these chemical fume suppressants, at specified surface tensions, were capable of reducing emissions to no more than 0.01 milligrams per ampere-hour. Therefore, based on this review, two additional chemical fume suppressants were proposed for addition to Table 93102.8. [It should be noted that these two chemical fume suppressants are different from those mentioned in Comment 208.] This proposal was circulated for public comment during the April 13, 2007 15-day comment period, and was subsequently adopted by the ARB.

213. Comment: Please find enclosed the source test report covering the evaluation of our two products HCA-6.2 and HCA-4, which was prepared by Professional Environmental Services, and submitted to South Coast Air Quality Management District. I have also enclosed a copy of the letter of approval from Mr. Thomas Liebel of SCAQMD regarding these products. We would appreciate if you could evaluate these products for inclusion in the state ATCM. (Hunter Chemical)

Agency Response: Staff evaluated the test report data for the two products (HCA-6.2 and HCA-4) and determined that they met the requirements for chemical fume suppressants. The two products were added into table 93102.8 in the ATCM. Addition of these two chemical fume suppressants was circulated for public comment in the April 13, 2007, 15-Day Notice.

e. Section 93102.14: Approval of Alternatives

214. Comment: The proposed equivalency procedure requires each company to prove the efficacy of an alternative control technology if they do not wish to install add-on equipment to meet the BACT standard. Such proof is expensive ($10,000 or more if a variance is required) and very time-consuming (six months plus another two-three years for agencies' approvals). This time frame is not hypothetical but was experienced by four hard chrome platers when they requested using fume suppressants to comply with local, state and USEPA chromium regulations.

We are concerned the latest PAATCM does not offer a viable alternative if agency concurrence is not already assured. We request CARB and MFASC/STA jointly sponsor a demonstration project, to be completed within one year of the adoption of the revised PAATCM, to certify combinations of in-tank control technologies such as use of fume-suppressants, foam blankets and polyballs. Such a project would be much more cost-effective to the industry and would enhance the universal acceptance and approval by USEPA of these technologies. (MFASC-6)

215. Comment: An alternative to mandatory prescribed controls ("technology neutral"). All drafts of the PAATCM apply window dressing that an actual technology neutral alternative is available because EPA concurrence is required on a case-by-case basis. Difficulty in obtaining EPA concurrence is something

that we have experienced. Four hard chrome platers sought concurrence with EPA, which took about four years to obtain. The language offering an alternative is not an alternative at all, but a repackaging of the existing ATCM, which already has the concurrence requirement. Dr. Barham told us one EPA staffer indicated that a concurrence review could be turned around in 45 days, but given our experience, we have no confidence that a large federal agency such as EPA will be timely on up to 75-100 individual concurrence requests. As we see it, the technology neutral alternative may be the only way for many of our members to stay in business. Without a real alternative, they will be forced to close. (MFASC-7)

216. Comment: The latest PAATCM now sets new greater limits based on facilities located less than 330 feet and greater than that distance from a sensitive receptor. Flexibility to achieve compliance with alternative technologies remains unchanged; add-on controls are still mandated and this prescription requires that EPA concur with any alternative technology. EPA concurrence is already a part of the standard and more pointedly, the concurrence process has been notoriously and glacially slow in the past. Four hard chrome platers sought EPA concurrence for alternative compliance starting in 1998 and obtained it not in 45 days, but four years and three months later in September 2002. The idea that words implying flexibility will make the latest version of the PAATCM different is not accurate in practice. We continue to request removal of the language mandating add-on controls. (MFASC-8)

217. Comment: The way the ATCM is proposed, the language is leaning towards HEPA filters or add-on equipment. And we have found beginning in the late 1990s that fume suppressants and foam blankets are essentially equivalent to the use of a HEPA filter. In the late '90s we developed test protocols, which EPA and SCAQMD approved, for testing four different hard chrome platers (facilities that plate in excess of five million amp-hours per year) to see if add-on in-tank controls actually work, since, per the EPA NESHAP, we had the option of evaluating an equivalency approach. The results were essentially equivalent to the emissions that you would have with the HEPA filter. So, we sent our reports in to EPA, and I think to CARB as well, and to the SCAQMD. It took us about four years and several months before we heard back from EPA regarding whether they were going to accept our equivalent approach, that is, using fume suppressants as opposed to using add-on controls such as a HEPA filter. I noticed that in the presentation by staff that they're suggesting that EPA is going to respond back to us within about 45 days if we have other platers that choose to use the in-tank controls. Based on our experience of four years and several months, I think the 45 days is probably a bit optimistic. And time, as you well know, is always of the essence when we're trying to reduce emissions.
And we feel that there may have to be another approach at taking a look at the in-tank controls, because I don't think the 45 days is going to be sufficient for our industry to be able to get approval and to continue in compliance. We're

estimating that we have about 75 to 100 facilities that could be affected by this. (Becvar)

Agency Response to Comments 214-217: The Commenters are referring to the process for receiving concurrence from the U.S. EPA when alternative methods are employed. Staff agrees that there will be some costs associated with demonstrating compliance through use of an alternative method. The largest cost would be associated with source testing to demonstrate equivalent emission reductions. However, if a facility chose to directly comply with the emission limit requirements in section 93102.4(b) instead, the facility would also incur the cost of the source test, as well as the cost of the add-on control device.

Staff disagrees that the proposal to demonstrate compliance through an alternative is not viable. With regard to concurrence, staff incorporates the Agency Responses to Comments 191 and 218 herein. While the Commenters correctly state that in the past the equivalency process took a long time for four hard chromium plating facilities, this was largely due to not providing the information U.S. EPA required for their review. Therefore, it is important to improve the concurrence process, to ensure that U.S. EPA gets the correct information in a timely manner. To that end, staff intends to work with U.S. EPA to develop a list of the type of materials and information to be submitted to them for their concurrence review. U.S. EPA has committed to concurrence reviews within 45 days provided the correct information is submitted to them.

We also note that in the case of the aforementioned four hard chromium plating facilities, once U.S. EPA had the necessary information, the reviews and concurrence approvals were processed within 45 days.

With regard to more testing or a demonstration project being needed, the Board did not agree. Instead, the Board found that demonstrating compliance through alternative methods should be done on a case-by-case basis. A case-by-case review provides the greatest assurance that the alternative method will reduce an individual facility's emissions and risk equivalent to direct compliance with the ATCM.

Staff also disagrees that use of chemical fume suppressants and other in-tank controls has been proven to be equivalent to controlling emissions with HEPA filtration systems or other add-on control devices. Relating to this, the Agency Response to Comments 39 and 47-50 are incorporated herein. However, the alternative compliance option, which is outlined in section 93102.4(b)(3), allows any facility to demonstrate compliance through an alternative, as discussed in the Agency Response to Comments 11-14.

218. Comment: The United States Environmental Protection Agency, Region IX Office (U.S. EPA) has reviewed the proposed amendments to ATCM

section 93102.14 that you sent with your letter, a copy of which is enclosed. In harmony with the Code of Federal Regulations, Title 40, section 63.91(g)(2), U.S. EPA cannot delegate to States the authority to approve alternatives to emissions standards. Therefore, we request that U.S. EPA remain listed as the concurring agency in Table 93102.14, for the category of limits and requirements. Additionally, for clarity, we recommend that the concurring agency for recordkeeping, retention of records, and reporting, be listed as U.S. EPA for major changes. (U.S. EPA)

Agency Response: Staff maintained U.S. EPA as the concurring agency for alternatives in Table 93102.14 where necessary. Additionally, federal definitions for minor, intermediate, and major changes were added to achieve consistency with federal regulations. The changes made to Table 93102.14 were discussed with U.S. EPA Region IX staff, and are necessary to insure that U.S. EPA will continue to regard the ATCM as equivalent to the federal chromium NESHAP under section 112(l) of the federal Clean Air Act. Table 93102.14 was also modified to eliminate the requirements for U.S. EPA concurrence in situations where U.S. EPA staff indicated that concurrence is unnecessary.

f. Section 93102.16: Appendices

219. Comment: The latest version of the PAATCM now includes a requirement in Appendix 3 mandating that facilities measure annually the distance to the nearest sensitive receptor and include that information in their compliance status reports. See Appendix 3, #1, November 30, 2006, PAATCM. The measurement requirement has no bearing on the standard under the latest revised PAATCM. A single threshold measurement is made pursuant to section 93102.4(b)(2)(A) within 30 days of the Effective Date of the PAATCM. Once that measure is made, the distance measure is no longer needed since it no longer applies to the standard. We do not know if local air districts might have an interest in this information, but believe that interest should be left to the local district without mandating it in the rule. We propose that the requirement be deleted. (MFASC-8)

220. Comment: On the move-in provision, if you glance up there on the Board [referring to a slide], you'll see that the latest provision proposed with ATCM, removes the requirement of the facility annual measure and potentially changes its permitting status based on sensitive receptor when moving closer to the facility. But at the same time the latest revision includes this annual measure of distance to the nearest receptor as part of compliance reports in Appendix 3. The annual measure is not required for any part of the proposed standard. So our industry endorses the original proposed ATCM, then proposes deletion of the Appendix 3 requirement since moving in the provision is no longer included. (McBride)

Agency Response to Comments 219 & 220: The Commenters are referring to the provision for providing an annual measurement to the nearest sensitive receptor, and correctly describe that the requirements of the ATCM are based on a single measurement. There is no regulatory consequence should the distance change. However, if the distance changes such that sensitive receptors are now located nearer a facility, the district should have this information and determine, if in accordance with the Air Toxics "Hot Spots" program, further control is warranted. We also note that this provision is similar to a provision in Appendix 3 of Rule 1469 which the Commenter has endorsed.

iii. Comments on the Economic Analysis

221. Comment: We are still concerned over the significant economic impact of the changes you proposed. We expect to make further substantive comments on the proposal, especially since you mentioned that further changes are still forthcoming. (MFASC-6)

Agency Response: The Commenter is providing comments on further regulatory proposals discussed with the MFASC and STA in a conference call on November 20, 2006. As a result of discussions with stakeholders and additional data analyses, staff developed further revisions to the ATCM for the Board's consideration. The revisions will lessen the economic burden for some facilities, however, we acknowledge that the economic impact to some small businesses would be significant.

222. Comment: Our ongoing concerns over the economic burden imposed by the PAATCM and the extreme costs associated with reducing two pounds of hexavalent chromium within the state's 3,000 plus pound annual inventory cannot be understated. Comparable emissions reductions in this industry can be achieved without severe economic consequences. The Staff Report ignored many economic issues that we previously identified. The latest version of the PAATCM does not correct or mitigate these economic concerns, and its greater impact has not been analyzed by CARB Staff or industry, since we were given no time to adequately prepare a response with our economic expert. (MFASC-8)

Agency Response: Staff and the Board fully recognized the economic impacts associated with the modifications to the ATCM. These impacts were presented in the Staff Report, Chapter X, and were reiterated at both the September 28 and December 7, 2006 hearings. However, the Board agreed with staff and found that the extreme carcinogenicity of hexavalent chromium necessitated stringent controls, especially in instances where people and children were living very near plating and anodizing facilities. Even very small amounts of hexavalent chromium present a health hazard, so by reducing two pounds of hexavalent chromium provide a large reduction in cancer risk. We disagree that the Commenter provides a proposal that will offer similar risk

reduction benefits. The Agency Responses to Comments 23, 39, 96 & 97, 125, 126, 148-150, and 163-165 are incorporated herein.

223. Comment: As we outlined previously, the cost of this PAATCM before it was significantly revised, is well beyond the threshold causing significant impact to business in this state. As we also have previously shown, the impact spreads to other industry. The loss of jobs and the inability to compete against out-of-state metal finishers will have a major impact. Likewise, the adoption of this PAATCM will be at a cost far exceeding any other ATCM adopted by CARB for a measure whose costs far exceed its alleged benefits. (MFASC-8)

224. Comment: The Staff Report estimated the cost originally at 14.2 million and now has lowered it to 13, which was to be borne by about 90 facilities. And the Staff Report identified that a decline in the average owner's equity, or ROE, would average about 9 percent, 10 percent being the break-off point which would be considered significant. But using the CARB data, the economist from Environomics determined the ROE to be approximately 44 to 60 percent, demonstrating a significant adverse effect on business. The changes in the latest proposed ATCM make economic consequences worse for specific facilities with low risk, those that would be less than one in a million. If adopted as drafted, the proposed ATCM causes closure of approximately 68 facilities, which would be about 30 percent of the facilities, loss of approximately 4,000 jobs directly. And having worked with a community association looking at impacts when companies are lost to a community, for every direct employee that you lose on payroll, it severe affects about seven other people within the community. This means approximately 30,000 people being affected. There is also a ripple effect throughout the manufacturing industry. Our company alone serves a number of machine shops, metal fabricating shops, foundries, heat treaters, all different types of customers. We put the final finish on other people's products. And they, of course, would also be affected.

The impact on out-of-state competitiveness also can't be overlooked because, obviously, I don't think that any electroplaters are planning to move to California. But there might be other people that would be looking to put a manufacturing facility in California, and they have to look at the feasibility of being able to get competitively priced. So, I would say that the highest previous CARB-approved ATCM prior to this proposal was under 20 million, 18.6 million. And this proposed ATCM will run approximately 154 million per cancer risk avoided. What we did provide from Environomics does show a significantly higher cost. So if the cost turns out to be three times, or four times higher than the estimated cost, obviously there would be far more facilities that would be forced to close. They wouldn't be able to meet it. (Blake)

Agency Response to Comments 223 & 224: The cost of the revised proposal, approved by the Board at the December 7, 2006 hearing, was somewhat lower than the original proposal contained in the Staff Report, as the

Commenter indicates. While the total cost of the revised proposal was estimated to be about $13.5 million, the original economic analysis prepared by staff is still relevant. We agree that the revised proposal will still cause significant economic impacts for a number of facilities.

We also agree that the profitability of some businesses will decline by more than 10 percent. However, we disagree that the ROE would decline by 44-60 percent as the Commenter suggests. The Agency Response to Comments 148-150, which is incorporated herein, provides our analysis of why this assertion is flawed. As described in Chapter X of the Staff Report, we found that for the industry as a whole, the average after-tax decline in ROE would be 9 percent. However, staff goes on to describe that the range of after-tax decline on ROE ranges from less than one percent to 41 percent. As a result of this severe decline in ROE for some businesses staff determined that the proposed amendments would result in business closures and job losses.

While the Staff Report does indicate that adoption of the amendments will likely result in business closures and lost jobs, we believe the Commenter has vastly overestimated the number of businesses that could close by making invalid assumptions. We also believe that the Commenter vastly overestimates the number of jobs that would be lost. This is partially due to overestimating the number of businesses that will close. The Economic Impact Statement, prepared in accordance with State law, indicates that potentially 35 businesses could close. Based on actual employee data provided by facilities, staff estimates that up to 350 jobs could be lost if all 35 businesses were to close. As described in the Agency Response to Comments 148-150, the Commenter's analysis is static, meaning that it assumes the closures of businesses will lead to the loss of the products and services provided by those businesses. In reality, the products and services provided will likely go to other existing businesses, because we do not expect the demand for chromium plated or anodized parts to decrease.

Therefore, there should be very little ripple effect, if any, because we do not expect a decline in demand for products and services. If businesses should close, the demand for services provided by other existing businesses may increase, leading to their abilities to raise their prices and profitability. These businesses may be hiring more workers to meet the increase in demand for their products and services. In addition, businesses that install or service HEPA filtration systems are likely to experience an increase in demand for their services. These businesses may hire more workers to meet the increased demand for their services.

Related to business competitiveness, the Staff Report, in Chapter X, page 113, explains that for the industry as a whole there will not be a significant, statewide adverse impact on the ability of California businesses to compete with businesses in other states, although the competitiveness of some individual businesses would be adversely impacted. The Staff Report further explains that

California has always controlled hexavalent chromium emissions from plating and anodizing more stringently than other states. Therefore, the existing ATCM creates a competitive disadvantage because California businesses have higher compliance costs. The amendments to the ATCM may make this existing competitive disadvantage worse for some individual businesses.

We also disagree with the Commenter's assertions related to cost per life saved. Again, the analysis is based on estimating a cancer burden which is not appropriate for this source category given that emission impacts are near-source. Moreover, the cost estimate is flawed because an inappropriate method was used to estimate the cost per cancer case avoided. The Agency Responses to Comments 139 & 140 and 158-161 are incorporated herein. State law, in Health and Safety Code section 39666(c), requires the State to adopt ATCMs requiring BACT for TACs with no level of exposure considered safe. The requirement in State law is to estimate the costs of the ATCM and reduction in risk attributed to the ATCM (Health and Safety Code section 39666(c)), which staff has done. There is no requirement to estimate the cost per life saved. Staff also disagrees that there is no benefit. Analyses demonstrate that, once implemented, cancer risks for about 75 percent of facilities will be no more than one per million people exposed, and cancer risk for over 90 percent of facilities will be no more than ten per million people exposed.

In addition, the staff's analysis assumes that businesses absorb the entire regulatory cost. This is a very conservative assumption and is unlikely to be true in the real world. It is more likely that businesses would be able to pass on at least part of the regulatory cost to their customers, thereby reducing the impact on their profitability. As a result, the regulation will have a lesser impact on business closures and employment than estimated by the Commenter.

We also note that if facilities successfully demonstrate compliance using an alternative method, as allowed by section 93102.4(b)(3), individual facility compliance costs will be substantially less than estimated by staff. In developing cost estimates staff assumed facilities would be installing add-on control devices when ampere-hours exceeded the specified thresholds.

iv. Comments Supporting the Proposed Amendments

225. Comment: Based on comments received, your staff modified the original proposal considered by the Board on September 28, 2006, and issued draft rule amendments dated November 30, 2006. We have reviewed this modified proposal, and find that it adequately addresses our earlier concerns. Nearly all of our decorative platers fall within the new category created for facilities with a sensitive receptor distance more than 330 feet, and with annual throughput less than or equal to 500,000 amp-hours. Under the new proposal, these facilities will have to meet the very stringent 0.0015 mg/amp-hr emission limit, but not be required to use an add-on control device if compliance can be demonstrated

using multiple plating bath additives or other alternative control methods. Thank you for considering our comments, and modifying the proposed ATCM in a way that provides public health protection while allowing flexibility in terms of more cost-effective control options. (BAAQMD-2)

226. Comment: I spoke at the public hearing on September 27th on this matter. At that time, we recommended that the ATCM proposal be modified to provide some additional flexibility to allow certain chrome plating facilities to achieve emission limits using control technologies that are more cost effective than HEPA filters, if these alternatives could be demonstrated to perform adequately. We believe that the modified staff proposal before you today addresses our concerns. The modified ATCM would allow our decorative chrome plating facilities to comply by using multiple plating bath additives or other technologies, provided that it could be demonstrated that they can meet the .0015 milligram per amp-hour emission limit. We're in support of this proposal. (Bateman-2)

227. Comment: This Comment is directed at the staff's revised proposal considered and approved by the Board at the December 7, 2006 hearing. And I'm very pleased that the staff from the South Coast is actually in support of the current proposal that you have today. Your staff has done an excellent job taking your direction and trying to balance all the competing interests. And what you have before you today is, by far, the most stringent regulation that chrome platers will be facing anywhere in the world, and it offers significant public health protection. (SCAQMD-3)

Agency Response to Comments 225-227: These Comments support the staff's revised proposal considered and approved by the Board at the December 7, 2006 hearing.

D. 15-Day Comments

i. General Comments on the Proposed Amendments

228. Comment: United submitted similar comments to the ARB on a previous version of the draft ATCM, however, since many of the issues discussed in our letter were not acknowledged, nor did anyone from the ARB Staff contacted us to discuss the identified issues; United still has concerns on the provisions in the ATCM and respectfully requests that the ARB seriously consider the comments prior to signing into law. (Weintraub-3)

Agency Response: Staff did seriously consider the Commenter's submissions. In response to previous comments from this Commenter, staff proposed revisions to address the Commenter's concerns where appropriate. The Agency Responses to Comments 35, 36, 61, 62, 66 and 67 describe changes made to address this Commenter's concerns.

229. Comment: For the most part, we do not have a concern over the proposed changes and identify those changes with the comment "No issue." We have no issue with the following provisions:

- Some notes are revised to include additional explanation or authority cited (See, e.g., Attachment 1, Page 2).
- Three clarifications at 93102.4 in describing facilities with enclosed tanks, adding section 93102.16 and deleting five year implementation schedule.
- 93102.4(a) adds 93102.16.
- 93102.4(a)(1)(C). added term "parameter."
- Removed term "(b)(2)" from 93102.4(b)(3)(C).
- Deleted term at 93102.4(c)(1)(B).
- Modified 93102.4(c)(2) to meet the permitting agency's risk analysis procedures.
- Modified 93102.4(c)(3) to limit the change to add-on air pollution control devices.
- Modified 93102.4(d)(5) to limit exception to 93102.4(d)(2) to HEPA installation.
- 93102.5(b) clarifying language.
- Changed a specific schedule within 93102.5(c)(5) so the "cleaned at least once every seven days in one or more of the following manner" now modifies dusting, etc and does not modify non-toxic dust suppressants.
- Added an additional section to 93102.6(a0(3) that does not apply to trivalent chromium operations.
- New section 93102.6(a)(4). Old section changed to become 93102.6(a)(5).
- 93102.7(a)(3) is modified and deleted the "180 days after installation of the control equipment."
- Two new chemical fume suppressants are now included in Table 93102.8.
- Added clarifying language to 93102.8(b)(1) "normal operations."
- Clarified 93102.13(b) now applies to all of ATCM.
- 93102.14(b), (c) and (d) are modified and concurrence may be now required in certain instances by ARB. The change only applies to alternative test methods under 93102.7. 93102.14(d) now requires that ARB be copied by the permitting agency on everything that is sent to EPA. No issue although it is contrary to CARB's position that it would not be involved in the ongoing actions under this ATCM.
- Appendix 2, at 1., now contains distance measuring information. It requires the distance to the first sensitive receptor no matter the distance.

- Appendix 3 and 1., now contains distance measuring information. (MFASC-9)

Agency Response: We acknowledge these comments. Staff also responds to the comment related to concurrence in section 93102.14(b), (c) and (d). The Commenter is correct that the change only applies to alternative test methods under 93102.7. ARB does not have to receive copies of all data that are sent to EPA. The requirement added to section 93102.14(d) requires only that the permitting agency provide ARB with "copies of all approved alternative requirements." This provision is necessary so that ARB staff is aware of ongoing implementation issues involving the ATCM.

230. Comment: The Resolution contains an inartful description of cancer risk in Paragraph 1, Page 3. I suggest the following to be inserted after the word "exposed" so that the explanation is scientifically correct, "assuming a constant 70-year rate of exposure." (MFASC-9)

Agency Response: This Comment is not related to the April 13, 2007 15-Day Notice. However, the Resolution is the document adopted by the Board at their December 7, 2006 hearing, and it would be inappropriate to change it after the Board has already acted.

231. Comment: The Resolution requires a paragraph identifying that an additional public hearing was held on December 7, 2006.

Agency Response: This Comment is not related to the April 13, 2007 15-Day Notice. However, the Resolution is the document adopted by the Board at their December 7, 2006 hearing, and it would be inappropriate to change it after the Board has already acted.

ii. Specific Comments on the Proposed Amendments

a. Section 93102.3: Definitions

232. Comment: Section 93102.3(a) Definitions: For the three facility size definitions at (31) "Large, hard chromium electroplating facility"; (36) "Medium, hard chromium electroplating facility"; (48) "Small, hard chromium electroplating facility" it is recommended that the ARB add "from all affected tanks" at the end of the sentence. This would make clarification that the emission ranges specified are from all tanks not just the one tank, since the definition of facility does not indicate this.

Although the end result of the emission limits will do away with the existing limits presented in section 93102.4(a), we find no value in keeping Table A or B with classifications such as large, medium and small in terms of controlled emissions. If the Staff Report has found that approximately 4 pounds of hexavalent

chromium emissions are emitted per year from 228 sources, how is it that a source can still be classified as >10 lbs/yr controlled for large facilities and the like? (Weintraub-3)

Agency Response: This Comment is not related to the April 13, 2007 15-Day Notice. The Agency Response to Comment 27 is incorporated herein.

233. Comment: The definition of HEPA removed the term "or larger" in reference to the particle size that the filter could remove. There does not appear to be a reason why these words were struck since the filter does collect particles of larger size (section 93102.3(a)(29) at Attachment 1, Page 8). (MFASC-9)

Agency Response: As described in the Staff Report, Chapter VI, page 58, HEPA filters are rated at 99.97 percent effective in capturing particles 0.3 µm in diameter. Particles of 0.3 µm in diameter represent the most penetrating particles size, meaning that particles of larger and smaller sizes are trapped with higher efficiency. Staff, therefore modified the definition to make it more technically accurate.

234. Comment: At the definition (37)(A) Modification, add an underline to the word “not” in the last sentence of the paragraph to add emphasis to remind the reader that the items listed are exclusionary. (Weintraub-3)

Agency Response: This Comment is not related to the April 13, 2007 15-Day Notice. The Agency Response to Comment 184 is incorporated herein.

b. Section 93102.4: Requirements

235. Comment: Added "93102.4" to title at 93102.4(a)(1) preceding "(b)" (Attachment 1, Page 14). For consistency, I suggest that "93102.4" be added to modify the term "(b)" throughout at sections 93102.4(a)(1)(A), (B), (C) and 93102.4(a)(2). (MFASC-9)

Agency Response: Staff agrees and made the changes suggested by the Commenter. These are nonsubstantial administrative changes which can be made without requiring further public comment.

236. Comment: Footnotes below Table 93102.4(a)(1)(B) also apply to Table 93102.4(a)(1)(A). I suggest that the footnotes show that they apply to both Tables, or the footnotes be added directly below Table (A). (MFASC-9)

Agency Response: Staff agrees and made the changes suggested by the Commenter. These are nonsubstantial administrative changes which can be made without requiring further public comment.

237. Comment: 93102.4(b)(2)(A) is revised to exclude the definition of the distance measurement. New sections 93102.4(b)(2)(A)(1) and (2) now describe the distance measures. I suggest the term "hexavalent chromium" be added to (1) to modify the undefined term "plating or anodizing tank". (MFASC-9)

Agency Response: Staff agrees and made the changes suggested by the Commenter. These are nonsubstantial administrative changes which can be made without requiring further public comment.

238. Comment: The term “Effective Date” appeared to have two meanings. It appeared confusing that the table column **Effective Date** and the inscriptions indicating the period after Effective Date (e.g., Two Years after Effective Date) do not communicate the rule-maker’s intent correctly. We interpret the following: The Effective Date is the future date in which the emission limit will become effective. The inscription “[Two Years after Effective Date]” means two years after the effective date of the adopted proposed regulation or implementation date – the date the Executive Officer signs the proposed ATCM amendments into law. Perhaps in the future the ARB Staff will use implementation date when referencing the expected date of adoption. (Weintraub-3)

Agency Response: The term “Effective Date” is used in draft regulations because the exact effective date is unknown at the time the amendments are considered. The “Effective Date” will be 30 days after approval of the ATCM amendments by the Office of Administrative Law. Once the exact date is known, the regulation will be updated to include the exact date when each provision becomes effective.

239. Comment: It is our understanding that part of the basis ARB establishing the emission limitations for the various receptor distance and annual current consumption was risk based. That is, the ARB in establishing the emission limits, conducted risk assessments for various configurations and have determined that if a facility reduces emissions to the levels indicated in Table 93102.4, then the corresponding public risk impact would be at acceptable levels (reduction from pre-amendment controls). Therefore, if a facility has undergone its responsibility and the associated financial burden in reducing emissions via air pollution controls and demonstrates that the emissions meet the emission limitation set forth in the ATCM, then that facility should be exempt from having to conduct a site-specific risk analysis. Conducting a site-specific risk analysis (likely a refined risk assessment) would put an additional financial burden on the facility.

If the ARB decides to keep the site-specific analysis requirement in the regulation, United further recommends that the regulation require the LAPCD to perform the analysis not the facilities themselves. This is based on the fact that most LAPCDs have established technical and planning divisions that conduct air dispersion modeling and risk evaluations. Since the LAPCDs already have

the appropriate dispersion models, receptor grids, local representative meteorology and source information, such an effort would not only be more cost effective, but would allow a more uniform approach that can be better compared across Districts. (Weintraub-3)

Agency Response: We disagree that the site specific risk analysis should be eliminated for certain operations. Modeling data and health risk analyses indicate that when throughput exceeds certain annual ampere-hours, that even with maximum installed controls, the facility could still pose an unacceptable health risk. Therefore, this provision was retained in the ATCM. However, ARB staff did modify the language, as suggested by the Commenter in his September 13, 2006 letter, to specify that if a facility had already conducted a site specific risk analysis and that analysis had been approved by the permitting agency, they would not be required to conduct another one.

ARB staff disagrees that the district should be required to conduct the site-specific analysis. It is the responsibility of the individual facility to meet regulatory requirements. The facility likely would work with the permitting agency to determine how the analysis should be done.

240. Comment: Under this subpart [93102.4(d)(2)], the emission limit for new facilities has been lowered from 0.0015 to 0.0011 milligrams per ampere-hour after controls. We could not find evidence of any existing facilities that can demonstrate meeting hexavalent chromium emissions to this level. This "last-minute" change in the emission limit appeared to be a way for the Staff to differentiate between existing and new facilities, as most regulations have a built-in stepped approach that places more stringency on newer emissions.

Without public disclosure or review of the additional data analysis that the ARB staff conducted, United does not believe the change to be justified and recommends that the Board maintain the 0.0015 mg/amp-hr level as originally proposed. (Weintraub-3)

Agency Response: The 0.0011 milligram/ampere-hour limit was proposed by the SCAQMD at the September 28, 2006 hearing, and was endorsed as feasible by the MFASC and the STA. Staff's data also show that the 0.0011 limit to be feasible with some add-on control devices. The Agency Response to Comment 186 is incorporated herein.

c. Section 93102.5: Additional Requirements

241. Comment: 93102.5 Requirements that Apply to Existing, Modified, and new Hexavalent Chromium Plating or Chromic Acid Anodizing Facilities Beginning [Effected Date]. Note that this numbered section is also used for ARB's newly adopted Thermal Spray ATCM. It is suggested that the ARB

consider reassignment of a section number to the Thermal Spray ATCM or skip this number within this proposed regulation. (Weintraub-3)

Agency Response: The Agency Response to Comment 61 addresses this Comment.

242. Comment: The most recent version of the Chrome Plating ATCM still does not provide the flexibility needed for a large operation such as ours, and in fact, proposed changes that will require that we now send almost all of our plating operation personnel to a CARB Compliance course, some 50 employees. Our operations is a 24/7 shop, and one off-shift (afternoon and midnight shifts), is sometimes supervised by other departmental supervisors. While not specifically trained on plating, they do manage the employees who are specifically trained on all operational requirements. It also now specified that CARB trained personnel be onsite at all times, during all operations, which will require that we send more personnel to CARB Training, which is not local, and for some, not necessary. (Sulgit-3)

Agency Response: Staff proposed and the Board agreed that training was appropriate and that trained personnel must be onsite during plating operations to insure that ATCM requirements are met. However, to address the Commenter's concern in part, arrangements can be made with ARB's training staff to conduct training onsite at the Commenter's facility.

243. Comment: We also have a concern that, in our case, there will be interpretational differences [related to training] between the promulgating agency original intent, and our enforcing agency. We believe that this rule must be clear and concise as it pertains to training requirements. Again, we are not a small operation with a small number of personnel who can easily go outside for training. Our in-house training will meet and exceed the training requirements needed to meet your regulations, and we ask that you seriously consider our request to allow for "in-house" training programs, such as ours, subject to verification by CARB or that local agency that may be tasked with enforcing compliance of this ATCM. (Sulgit-3)

Agency Response: Staff believes that the provision related to training is clearly defined. Therefore, there should be no interpretational differences. The district will be primarily responsible for enforcing the ATCM. The comment related to allowing "in-house" training is not related to the modifications subject for review as part of the April 13, 2007 15-Day Notice. However, staff incorporates the Agency Response to Comments 205 & 206 herein.

244. Comment: Modified 93102.5(b)(1) to now require all compliance and recordkeeping under the ATCM (not just the section) to be conducted by trained persons. The change is significant since it appears to mandate that all recordkeeping under the ATCM can only be performed by the trained person. It

is unclear whether persons under the direction of a trained person can perform recordkeeping activities for every aspect of the ATCM. I suggest inserting after "only" "under the direction of". (MFASC-9)

Agency Response: This Comment is not related to the April 13, 2007 15-Day Notice. Staff disagrees that recordkeeping should be conducted by untrained personnel and the ATCM was not modified to accommodate this concern.

245. Comment: Section 93102.5(b): Environmental Compliance Training: While training may be a good idea for small facilities with limited number of responsible people, extending this to a large facility introduces various complexities as described below. At a facility such as ours, there are many people at varying hierarchy within the company that are “responsible” for compliance and recordkeeping. From the mechanics at the shop floor, supervisors, department managers, general manager, environmental staff, corporate staff including the on-site Responsible Official (VP of Maintenance) – all have a role in the company’s environmental compliance. We believe the requirements as proposed are unduly burdensome for the following reasons:

1. The idea of mandatory training within a highly specialized field within a State regulation is unprecedented. Since a facility is ultimately required to comply with the ATCM and any other applicable regulation, then it should be up to the facility on how it achieves compliance. Perhaps the local air pollution control districts and their implementing regulations can require such training, but it should be up to the individual District’s to decide to implement such a requirement. It is believed that mandatory attendance to a State sponsored training is beyond the purview of the legislative process in setting emission standards.

2. Conducting the training every two years is completely unnecessary. Since those that are working at the facility do so on a regular basis are implementing the ATCM requirements on a daily basis, forgetting the requirements is quite hard to do. United recommends that such recurrent training not be required.

3. The ARB Compliance Assistance Training course material is overly simplistic, covers areas related to process safety and chemical awareness as well as regurgitation of the ATCM requirements. United has in-house Training and Qualification courses that already incorporate these principles.

4. The requirement to attend and pay for an agency sanctioned course has the appearance as nothing more than an income bearing scheme cloaked within a regulation. Note that many other regulations such as OSHA, Hazardous Waste and other non-air related disciplines allow training by

third-party organizations or by the company's sanctioned training department.

5. The location of the training in southern California is not convenient for our facility and would require extensive travel and travel costs. (Weintraub-3)

Agency Response: Points one, two, and three of this Comment are not related to the April 13, 2007 15-Day Notice. However, as to point one, requiring training is not without precedent. Title 17, CCR, section 93110, established an Environmental Training Program for Dry Cleaning Operations. As to point two, the Board found that training at regular intervals was appropriate. Human nature being what it is, individuals do forget details even if they regularly work in a profession. Two years is a reasonable period to require re-training. To respond to point three, the Agency Responses to Comments 63 and 64 are incorporated herein.

Responding to points four and five, a nominal fee is required to attend ARB training classes. However, arrangements can be made to have the training conducted on site at the Commenter's facility to limit travel expenses. Training locations are not limited to Southern California as the Commenter suggests.

246. Comment: We feel that the requirement under proposed section 93102.4(b) to send "responsible personnel" to an Air Resources Board Training Course would be an overburden. In an operation such as our Plating Shop, there is no one person who is solely responsible or accountable for environmental compliance. We do acknowledge that our Management Team holds ultimate accountability for the operations at our facility, but this could also be construed that they, too, would have to attend a training course.

We ask that the regulation allow for a small number of key personnel, i.e. supervisor, lead plating mechanic, or environmental compliance representative to attend a CARB Compliance Course, to assure that our training programs meet or exceed the requirements established by the ARB. We would also submit that our training program and records be reviewed during regular enforcement inspections to ensure that we continue to meet the ATCM requirements. (Sulgit-3)

Agency Response: Staff disagrees with the change suggested by the Commenter. Staff determined, and the Board agreed, that personnel responsible for compliance should be trained and be onsite. However, ARB's compliance training staff will work with the Commenter to schedule training at the Commenter's facility.

247. Comment: The ARB Compliance Assistance Training website describes Course #290.3, Chrome Plating & Anodizing and indicates the manual used for the training as Handbook #02-033. This handbook published by CARB is entitled

"Chrome Plating and Anodizing Operations Self-Inspection Handbook, For Personnel in Chrome Plating and Chromic Acid Anodizing Operations." United reviewed the CARB published booklet and it appears to be simplistic providing general information on air pollution, process information, general health effects and chemical safety and hazards, information on the regulation, requirements and pollution control along with inspection and recordkeeping summary.

The emission limits, control equipment requirements and quarterly inspection portion is basically a synopsis of the requirements already identified in the current ATCM (which can be read by anyone for free and not have to pay to attend a course in which the same or similar information will be restated by an instructor).

In addition, the current Handbook references the existing ATCM and not the proposed amendments to the ATCM, does the ARB intend to update the handbook upon promulgation of the final version of the ATCM?, If so, when would the revision be completed?

If an update were intended, would a draft revision of the handbook be available for public comment? This way perhaps the Handbook can be enhanced by introducing actual chrome plater's perspective on related issues.

United also has the Chrome Plating and Anodizing Operations Interactive CD January 2006 Version 1.0b. Although the information presented in the CD is more in depth than the handbook, most of the information is already incorporated into United's in-house training programs. Like the handbook, the regulatory information does not have the proposed regulatory changes or other Staff Report supporting documentation. (Weintraub-3)

Agency Response: This Comment is not related to the April 13, 2007 15-Day Notice. However, the material presented at the training class required by the regulation will be updated to explain the requirements contained in the amended ATCM. The revision will be completed prior to any scheduled training after the amendments become legally effective.

248. Comment: We ask that the ATCM have provisions to allow for "in-house" training programs such as ours, subject to verification by CARB or local air pollution control agency that may be tasked with enforcing compliance of this ATCM. Since we have the Handbook and CD we can present some of those materials in addition to our own materials without the added expense of travel, course cost, loss of production and employee pay. (Weintraub-3; Sulgit-3)

Agency Response: This Comment is not related to the April 13, 2007 15-Day Notice. For completeness, while we agree and encourage "in-house" training, we disagree that this type of training should be substituted for the ARB

training class. Having a training course conducted by the ARB will help achieve both accuracy and statewide consistency. Therefore, the Board did not approve the modification suggested by the Commenter. However, for convenience, it is possible to schedule the ARB's training class at the Commenter's facility.

249. Comment: 93102.5(b)(4) Nothing in this subsection 93102.5(b) shall absolve an owner or operator from complying with sections 93102 – 93102.16. While this statement is meant as a catch all, it is too broad of a statement to be placed where it is proposed. It states the obvious - that it is the general duty of the facility to comply with the regulation.

Such a phrase implies that if for some reason the training doesn't work out, or persons trained are not available at the facility (e.g. training is cancelled, or persons trained are not available due to illness, vacation) that the facility must still comply with the ATCM.

This means that the facility must then have someone not trained to conduct the required recordkeeping or other compliance related task. Essentially the statement says it's okay to have someone not trained to do the required tasks as long as compliance is achieved.

United recommends that 93102.5(b)(4) be deleted from the proposed regulation. (Weintraub-3)

Agency Response: This Comment is not related to the April 13, 2007 15-Day Notice. For completeness, we disagree with the Commenter. The language clarifies that failure to take the training class, or have an employee who has been trained on site during plating operations, does not absolve the facility from complying with regulatory requirements, such as the emission limits in section 93102.4. The Commenter may believe that this is obvious, but not everyone will and it does not hurt to underscore the point.

250. Comment: 93102.5(c)(B). Facilities without automated lines.

1. Each electroplated or anodized part must be handled so that chromic acid is not dripped outside the electroplating tank.

Due to the intricate shapes of some parts electroplated at United, upon parts pull and rinse, (and after allowing for excess liquid to drain back in the plating tank) usually by hoist and during transport to the next process, there is potential for residual chromic acid within a crevice or pocket to drip outside of the tank depending on the angle at which the part is placed. Hence, compliance would be very difficult to maintain on a routine basis. According to the way the subsection is written, one drop outside the tank would be a violation of the regulation! It is believed that this is not the intent of the regulation to control every drop of chromic acid but to emphasize the effort to reduce potential emission of

hexavalent chromium. Therefore, United recommends modifying the section to read:

"Each electroplated or anodized part must be handled so as to minimize excess chromic acid spillage outside the electroplating tank"

2. Each facility spraying down parts over the electroplating or anodizing tank(s) to remove excess chromic acid shall have a splash guard installed around the tank to minimize over-spray and to ensure that any hexavalent chromium laden liquid is returned to the electro-plating or anodizing tank.

This subsection does not provide or reference splash guard specifications or how many sides of the tank must have splash guards. Will this be at the discretion of the facility? What percentages of facilities have splash guards and what are their configurations?

Based on the type of parts and workflow and tank configurations at United, implementation of splash guards can be quite an impediment to tank access and to hoist clearance on some of the larger landing gears. For those facilities where splash guards may be impractical, we suggest that the subsection have an added statement, stating that if a splash guard is not feasible, then the owner or operator should rinse each part so as to minimize excess chromic acid spillage outside the electroplating tank. (Weintraub-3)

Agency Response: Contrary to what the Commenter suggests, staff's intent is that no chromic acid be dripped outside of the tank. This requirement will reduce the potential for fugitive dust emissions.

In response to the second point, changes were proposed and circulated in the April 13, 2007 15-Day Notice to address this concern in part. Staff proposed that there must be a splash guard at the tank, but allows the operator to determine how best to configure the splash guard for the operation. The Commenter's further suggestion as to adding a statement, "that if a splash guard is not feasible, then the owner or operator should rinse each part so as to minimize excess chromic acid spillage outside the electroplating tank" is not related to the April 13, 2007 15-Day Notice. Staff continues to believe that a splash guard is an important mechanism to reduce potential fugitive emissions of hexavalent chromium. The Commenter's suggested language is therefore inappropriate.

251. Comment: 93102.5(c)(5): Does the statement "or otherwise cleaned as approved by the permitting agency" include wash down with hose? The flooring is setup on a mezzanine-like area that is made up of metal grating to allow spillage and cleanup to be directed into collection troughs and then to a central collection and neutralization area in the building basement. Please verify that this practice would meet the intent of the regulation.

We believe that the strict schedule of once per week to clean such areas is unnecessary and burdensome. If a facility complies with 93102.5(c)(1), (2) (3), and (4), then how is it possible to have at the end of each week any liquid or solid accumulation to be cleaned. If the areas are already free of any potential liquid or solid materials, why should a facility go through the burden to clean an area that does not need cleaning?

United recommends that 93102.5(c)(5) be deleted from the proposed regulation. (Weintraub-3)

Agency Response: Because the permitting agency has primary authority to enforce the ATCM, the Commenter's question related to "washdown with a hose" should be directed to them. Note that the regulatory language which the Commenter cites indicates cleaning methods are to be approved by the permitting agency. Relating to the requirement to clean areas weekly, note that the ATCM language specifies that areas that are potentially contaminated with hexavalent chromium are to be cleaned weekly. If, through diligent housekeeping, the Commenter's facility does not have areas potentially contaminated with hexavalent chromium, then no cleaning would be needed.

d. Section 93102.7: Performance Tests

252. Comment: 93102.7(a)(1) "The following hexavalent chromium facilities must conduct a performance test to …" Please modify the phrase "hexavalent chromium facilities" at this point and all locations throughout the regulation. There is no such thing as "hexavalent chromium facilities". It is suggested that the phrase be written as: "The following chromium plating and chromic acid anodizing facilities must conduct a performance test to …." (Weintraub-3)

Agency Response: We disagree with the Commenter's suggestion. Specifying 'hexavalent chromium' is the clearest way to distinguish facilities using this process from those using the trivalent chromium process.

253. Comment: 93102.7(a)(3): If source testing must be concluded by the effective date (Table 93102.4), then that in effect decreases the amount of time a facility has to comply with the regulation. This is especially applicable to the two-years or less effective dates. In order to meet the 93102.7(a)(3) deadline, this would provide less time for a facility to actually implement the necessary changes to the process including testing of in-tank mechanical fume suppressants and/or the modification of associated ventilation and abatement systems. A typical source test itself can take up to two months or more to conduct and have a final report prepared for submittal. This in itself would cut short the allotted time frame granted in Table 93102.4. United recommends that this subsection be re-written to allow demonstration of compliance within 6 months of the applicable effective date period. (Weintraub-3)

Agency Response: Staff disagrees that providing more time to conduct the source test is appropriate. Allowing this additional time would only delay providing the needed emission control to protect near-by receptors. Facilities should be aware of their compliance status, as well as the effective date for meeting the ATCM's requirements, and plan accordingly to meet the specified timeframes.

254. Comment: 93102.7(e) Test all emission points. Each emission point subject to the requirements of this regulation must be tested unless a waiver is granted by U.S. EPA, and approved by the permitting agency.

Under what circumstances can a waiver be granted? Does the ARB have any examples of such waivers?

If a facility has multiple stacks of the exact configuration (both process and abatement), can a facility conduct a source test at one exhaust stack to be representative of the remaining exhaust stacks providing certain criteria be met? (Weintraub-3)

Agency Response: This Comment is not related to the April 13, 2007 15-Day Notice. However, for completeness, staff reiterates the Agency Response to Comment 75 herein. Section 93102.14 of the amendments specifies the process for applying for an alternative and receiving a waiver from a particular requirement. In the case of an alternative to 'testing all emission points' because a facility has multiple stacks, the person seeking approval of an alternative would first submit the proposed alternative requirement to the permitting agency for approval. Table 93102.14 lays out the agencies which must approve and concur before any waiver is granted. In this case, the district (permitting agency) is the approving agency and no concurrence is required. ARB staff is not aware of any waivers that have been granted related to section 93102.7(e).

e. Section 93102.10: Inspection and Maintenance Requirements

255. Comment: Table 93012.10 -- Summary of Inspection and Maintenance Requirements Under Inspection and Maintenance Requirements column, Item 1, it is suggested that the ARB modify the wording to include "intended performance" as one of the indicators that can be affected.

> "1. Visually inspect device to ensure .... no evidence of chemical attack that affects the structural integrity or intended performance of the device." (Weintraub-3)

Agency Response: This Comment is not related to the April 13, 2007,

15-Day Notice. However, staff responds as follows. Staff is not aware of any issues related to this inspection requirement, and believes that the language is sufficient to identify, and fix as necessary, potential problems with the device.

256. Comment: Under Inspection and Maintenance Requirements column for High Efficiency Particulate Air (HEPA) filters, the inspection requirement (item 1) to look for changes in the pressure drop appears to be vague. Since pressure drop is covered in section 93102.9(b), looking for changes in the pressure is not an inspection/maintenance related activity, rather an ongoing monitoring activity – just like the CMP, PBS or fiberbed mist eliminators.

Since there is no requirement to conduct pressure drop evaluations for CMP, PBS or fiberbed mist eliminators, there should not be one for HEPA.
It is recommended that the ARB delete item 1 under the HEPA Inspection and Maintenance Requirements. (Weintraub-3)

Agency Response: This Comment is not related to the April 13, 2007 15-Day Notice. However, staff responds as follows. Staff believes the requirement to look for changes in pressure drop continues to be important for HEPA filters. A change in pressure drop indicates that it is likely time to replace the filter.