Appendix A

Final Statement of Reasons for Rulemaking

Public Hearing to Consider the Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations

Comment 1 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: CARB Board Governance / PFAS / Falsehoods
Comment:

1 To the CARB board members,
CARB states in the Initial Statement of Reasons for the ATCM (ISOR, Page 8, second paragraph of 2. Environmental Impacts and Benefits), and I quote, “An additional co-benefit of the proposed phase out is the elimination of perfluoroalkyl and polyfluoroalkyl substances (PFAS/PFOS) contained in the fume suppressants used in chrome plating operations.”
The quoted statement contains the following falsehoods.
False Statement 1 - “…contained in the fume suppressants used in chrome plating”. The reason this is false is because according to the CARB website here https://ww2.arb.ca.gov/resources/documents/fume-suppressant-information, the use of PFAS/PFOS fume suppressants has been banned in California since 2016. CARB maintains a list of approved and unapproved fume suppressants here https://ww2.arb.ca.gov/resources/documents/chrome-plating-approved-fume-suppressant-list.
You can verify that the footnotes show the PFAS/PFOS fume suppressants are not allowed.
False Statement 2 - “An additional co-benefit of the proposed phase out is the elimination of perfluoroalkyl and polyfluoroalkyl substances (PFAS)”. The reason this is false is that a benefit can only exist when change occurs as a result. In this case, there is no change. Fume Suppressants are not being used by California chrome platers. So, no co-benefit is achieved by eliminating something already eliminated.
I provided this comment to the staff previously in one of the recorded working meetings. I am disappointed that it remains in the documents that are now being presented to the Board for decision. The inclusion of PFAS/PFOS as a co-benefit is a dog whistle that un-necessarily attracts attention to this rule-making and increases pressure upon the board to make decisions which are not based on current facts and data. If the board truly believes that PFAS/PFOS are still being used by chrome platers in California then it is an enforcement failure which would shine the light directly upon the CARB.
As an individual decision maker on the CARB board, you should ask yourself these questions.
1) Why is staff adding this element to the decision I am being asked to make?
2) Are the other benefits of the

proposed ATCM so weak that these falsehoods and this appeal to emotion were necessary?
3) Does CARB staff respect the independent decision-making authority of the board or is the board a rubber stamp?
Thank you for your service on the CARB board.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2022-12-02 09:47:30

No Duplicates.

Comment 2 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Hunaid
Last Name: Nulwala
Email Address: Nulwala@lumishieldtech.com
Affiliation: Lumishield technologies

Subject: Please ban Chrome and chromating
Comment:

2 Unless regulations don't take a charge we will never be able to grow sustainable solutions.
There are solutions which replace Hex chrome.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2022-12-02 17:14:49

No Duplicates.

Comment 3 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: JIM
Last Name: MEYER
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: CORRECTION and APOLOGY to the Board
Comment:

3 I have been informed by a knowleddgeable party that the premise of my comment made on 12-2-2022 was incorrect. There are some hex chrome plating firms that do use PFAS fume suppressants. They do that because PFOS was banned but not PFAS. Some platers do use PFAS fume suppressants; purportedly because their air permits require it.
So, I apologize to the CARB board for my ignorant statement.
Our facility does not use PFAS or PFOS and never has. That would seem to make us a potential asset to the State of California - A hex chrome plater, with HEPA controls and no PFAS/PFOS dependency or liability and with a mission to support the national aviation infrastructure and the national defense. Yet, the ATCM bans us.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2022-12-05 13:42:28

No Duplicates.

Comment 4 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: AB 617 Community Emissions Reduction Plan
Comment:

Attention CARB board members.
4-1 South Coast AQMD and leaders in this community spent many months, days, and hours to create a Community Emissions Reduction Plan under AB 617. Please have your staff take a look at it. It is for the Wilmington, Carson, West Long Beach Community which CARB consistently uses as a poster child for disadvantage relative to the environment. The Cal Enviro Score in West Long Beach near Cabrillo High School is in the 96th percentile.
Here is the final CERP published in 2019.
https://www.aqmd.gov/docs/default-source/ab-617-ab-134/steering-committees/wilmington/cerp/final-cerp-wcwlb.pdf?sfvrsn=8
On page 3a-9, the chart shows the total cancer risk in our area by cause. It shows that cancer risk from diesel is more than 1000 in a million but that cancer risk from ALL OTHER SOURCES COMBINED (INCLUDING HEX CHROME) is less than 240 per million. So, why does CARB, in the ISOR document take pains to point out that hex chrome is 500 times more cancer potent than diesel? That is a very misleading way to present potency information. The AQMD method of presentation is much more honest. CARB staff should be ashamed of that. Why bring up diesel in the hex chrome ISOR document at all? Your staff knows these numbers and this data but has consciously chosen to present it in the most fear provoking way possible. Is diesel so prevalent that we measure and express cancer risks relative to diesel in ATCMs so people can understand? Has diesel pollution become the standard to which other risks are compared? Pretty pathetic approach to science and to communication of real risk if you ask me. It is certainly not representative of an organization purporting to be the World Standard in air pollution control.
An astute reader will go on to note that the same cancer risk chart on page 3a-9 shows the relationship between diesel and other air toxics IN THE ENTIRE SOUTH COAST BASIN which is home to 86 of the 113 hex chrome facilities in this ATCM. This isn't just an isolated area this is the vast majority of what your decision will impact with the ATCM. The data shows diesel FAR outweighs hex chrome in terms of cancer risk to the entire South Coast community.
But let's talk about hex chrome a little bit more.
4-2 Look at Page 3b-1 of the CERP. I am intrigued by the information in the box that states hexavalent chromium is a key air toxic in this

community and that the cause is MOSTLY FROM BRAKE WEAR... yet we should BAN chrome platers.

4-3 If you ban chrome platers the employees who live here will become unemployed, how does that help them or the people in this community?

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2022-12-06 16:20:07

No Duplicates.

Comment 5 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Rich
Last Name: Roberson
Email Address: richroberson@outlook.com
Affiliation:

Subject: A Process Comparison: Hexavalent vs. Trivalent Hard Chrome
Comment:

Hexavalent Cr

Trivalent Cr

Excellent deposit properties

Struggles with many issues

Simple bath chemistry

Very complicated bath formulation

Very good corrosion resistance

Requires a nickel deposit first

Fewer tanks & less floorspace

Much larger plating lines

Reverse etch activation

Needs an alkaline cleaner and acid dip

Broad operating window

Sensitive to operating conditions

Easy to control & maintain

Daily analysis & additions needed

Tolerant to bath impurities

Very sensitive to many impurities

Uses standard lead anodes

Expensive MMO anodes required

Tolerates water additions

Sensitive to water concentration

Bath additions not a problem

Requires ‘Bleed and Feed’

Indefinite bath life

Periodic bath dumps required

Easily Zero Discharged

Waste treatment always needed

Over 100 years of success

New and unproven

Much lower investment

Considerable higher entry cost

Inexpensive to operate

Significantly higher operating costs

Many possible vendors

Tied to a single supplier

Easily made Sustainable

Considerable waste generator

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2022-12-06 16:41:34

No Duplicates.

Comment 6 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Art
Last Name: Holman
Email Address: art@shermsplating.com
Affiliation: Sherm's Plating

Subject: Public Comment
Comment:

"Please add the two attachments to the public comment section for Chrome ATCM."

Comment uploaded by CARB Staff on behalf of Art Holman

Attachment: 'www.arb.ca.gov/lists/com-attach/11-chromeatcm2023-VDUCdlMmAw8GaARr.pdf'

Original File Name: Art Holman.pdf

Date and Time Comment Was Submitted: 2022-12-12 18:08:50

No Duplicates.

Hopkins, Chris@ARB

From: Rubin, Eugene@ARB
Sent: Monday, December 12, 2022 4:26 PM
To: Hopkins, Chris@ARB
Subject: FW: Public comment
Attachments: To whom it may concern.docx; To whom it may concern 2.docx

Here you go Chris.

Eugene Rubin (he/him)
(916) 287-8214

From: Art <art@shermsplating.com>
Sent: Friday, December 9, 2022 1:43 PM
To: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Subject: Public comment

Eugene,

Please add the two attachments to the public comment section for Chrome ATCM.

Thank you,

Art Holman
Sherm's Plating
2140 Acoma St.
Sacramento, CA 95815
(916) 646-0160
(916) 646-0248 Fax
www.facebook.com/shermsplating
www.shermsplating.com

To whom it may concern,

My name is Art Holman one of the owners of a small decorative plating facility in Sacramento California. I am looking for support on an unfair ruling that is being implemented by California air resources board (CARB)

6-1 Sherm's plating in Sacramento has been on the forefront of emission control for decades now, we manage all our hexavalent chrome emissions and have test results to prove it. C.A.R.B. board as well as others have toured our facility twice in 2021 to view facility layout and emission control systems which were effectively demonstrated along with documentation validating our compliance to regulations.

6-2 As a long-time industry leader in decorative chrome, it is becoming clear that the facts on emissions are not being considered in this new ruling concerning the ban on CRVI, forcing decorative platers to use Trivalent Chrome will do nothing to curb chrome emissions in the state. When decorative chrome isn't available in Ca. customers will simply ship there products out of state to be plated, adding more chrome emissions due to transportation than the original chrome plating would have produced under our current regulations. I ask you to look at the facts surrounding this issue and what will be accomplished by moving forward on the ruling.

6-1 If there is fact-based documentation that shows decorative chrome platers have contributed considerable hex chrome emissions, I would like to see it, we have been regulated and controlled for years and our industry is NOT the problem.

6-3 Even if you eliminate all chrome plating in Ca. over 99% of the emissions remain due to transportation, shipping, concrete and other industry that have a higher pollution rate than platers but are not being addressed. How is it fair to regulate an industry out of Ca. that has emission rates below 1% of total chrome emissions in the state?

6-4 Therefore, I don't believe this rule is based on facts anymore, my customers won't accept trivalent chrome as a substitute and have made that fact very clear,

but my client's pleas have fell on deaf ears. Rule makers are proceeding ahead as
6-4 if they haven't heard any of the facts or comments from our customer base stating time and time again that trivalent is not an acceptable replacement for hex chrome due to color inconsistencies. My clients have been in the automotive restoration industry for decades and have the knowledge of what is an acceptable product to be considered period correct and trivalent chrome is not period correct.

Once again it is California forcing its will on small business and our customer base, all while addressing less than 1% of the real problem. As a business owner
6-5 and taxpayer in California, who stands up for my rights? We have over a dozen employees that make a good living and support their families working in the decorative chrome industry in this one little shop, is it because we don't have the lobbyists of the environmental justice community behind us that makes us expendable? It sure feels that way, as we keep providing facts only to be disregarded over mere accusations from the EJ community. It seems decorative chrome platers are just a bargaining chip for CARB to play against the EJ community, a sacrificial lamb so to speak.

When you just look at the facts this whole rule falls flat on its face, there does not appear to be any partnership between CARB and the decorative platers in Ca to
6-6 come to a workable solution that allows jobs to remain and control emissions at the same time. They have done it in South coast where rule 1469 was implemented and considerable resources were spent to comply, and now companies have 2 years before a ban is implemented. This is ridiculous that a rule is passed only to be followed up with a ban eliminating the process completely.

What about the South Coast companies that have invested large capitol sums in their process to comply and now have a two-year window before a phase out ban is initiated; these people are just hard-working individuals that many have secured loans to pay for emission control devices and site compliance development for the new ruling of 1469

We as an industry are just asking to be able to provide for our families while complying with emission regulations that are attainable and provide further safety for the community. As a regulating body CARB is tasked with fair compliance issues as well as concerns from environmental groups and we

understand that, but no one is standing up for our rights as a clean and complying industry to continue to provide employment and a way of life that cannot be replaced.

6-4 When there is an acceptable market replacement for CRVI we would gladly look at changing our process, but the facts don't lie, and the facts show that if forced to use trivalent our customer base will simply find an alternative plater out of state that can provide the product that is required for these restorations.

6-7 This is the part of the rule making process that is frustrating to our group, we have continued to work with CARB to provide facts about facility operations and customer comments stating they won't accept trivalent only to be dismissed. Our customer base has provided many emails and phone calls asking for a workable solution to the emission control standard, and that is exactly what we need, an emission-based rule that will be fair for everyone.

6-8 How can CARB say that a hard chrome or chromic acid anodize facility is more essential than a decorative facility? Should this not be based on emissions? Afterall decorative facilities have the smallest emissions of anyone in the industry and yet are being regulated out of business first. This really doesn't make sense except those decorative platers don't have the aircraft industry or military contracts behind us to make us a big player in the political game being played here in California. So, as you can see it would be easy for someone in the decorative industry to feel like we are being singled out as a scapegoat while the real problem isn't being addressed.

6-3 As I have already stated the real problem isn't the plating industry at all, it's the transportation industry among others. Ships and rail as well as trucking far out produce hex emissions of platers in the state and will continue. Even with the elimination of all chrome plating and chromic acid anodizing you still have over 99% of the current problem unresolved, so how is this rule helping California? I feel this is because the environmental lobbyists have political ties in Ca. that are just more powerful and profitable than the decorative chrome industry and therefore, we can just be eliminated.

As another example of how low the emission level is in this industry, I ask that the study look at Disneyland's level of emissions on a yearly basis, would you be surprised to find that the happiest place on earth has a higher chrome emission

level than the entire decorative chrome plating industry in Ca.? Once again though we are talking about a hugely politically connected corporation that doesn't have to play by the same rules as the plating industry.

6-9 This is particularly frustrating when we can see the facts are not being addressed and my business is going to be sacrificed for some so called greater good of the climate and community, when is CARB going to have to produce their facts to show CRVI levels for the plating and coating industry justify this type of ban? We will see but, I don't think anyone at CARB is looking at or going to be held accountable for these decisions on the rulemaking process that will affect thousands of Californians in the plating industry and beyond.

6-9 The metal finishing industry has met repeatedly with CARB to discuss solutions to this issue and presented our facts, along with the EJ lobbyists and attorneys. We have heard many accusations about how dangerous chrome platers are to the environment and community without ever being provided and documentation backing up their claims. When I hear someone who sits on The CARB board say "we have to give them something" meaning ban decorative platers to keep the EJ community appeased for the time being is just not how our rulemaking process should be conducted.

This process should be based on facts and the best technology available to decrease platers chrome emissions even further than have already been accomplished. The information is there, we have seen further reductions in emissions in South Coast under rule 1469 that can be attainable for a large portion of our industry. It's true not all companies will be able to meet the standard of rule 1469 due to the financial expense, but at least we have an obtainable emissions-based rule that will tighten chrome emissions and still allow companies to operate in California.

Seriously concerned,

Art Holman

Sherm's Custom Plating

Sacramento Ca. 95815

To whom it may concern,

6-8 As a stakeholder in the decorative chrome plating industry here in California I am shocked and extremely disappointed as to how our rule making policies are being conducted. Firstly, I thought the goal is to minimize emissions to the lowest possible level without banning an entire sector of the chrome plating industry. The chemistry used for decorative and functional chrome are near identical, yet functional plating will be allowed to continue while decorative will be banned.

Please explain how CARB can justify banning decorative while allowing functional platers to operate at hugely higher emission levels, I know you are going to say trivalent is an acceptable replacement and therefor decorative has an alternative. I say that is not the case as well as many letters you have received from my client base and others stating the same.

6-1 I have had the CARB executive board at my facility on the plating floor, feet from the chrome tank to share emission data and control device performance including a smoke test, if you recall all members present were very impressed and couldn't understand why there would be an issue with such low emission rates, except for one member who made it very clear that as far as he was concerned "CARB has to give the EJ community something", his words not mine.

I have worked with CARB and opened my facility and data for inspection, allowing tours and educating CARB members through sharing information of the decorative plating industry all in good faith that the facts speak for themselves, and they do! Those in attendance agreed.

6-9 It has become obvious that it is not about facts or statistics but rather a politically driven agenda from the EJ community. If this were about facts, we would have been presented with data to show that, not just accusations that are being accepted as fact. The comments made by an unnamed attorney were deeply troubling and frankly made me ask myself a question.

Comments made by an EJ community leader included that "she is tired of seeing children killed by the plating industry through poorly regulated emissions", which made me ask myself, as a parent or partner of an injured loved one, would you not be involved in a regulatory process that caused damage to your loved one? I know I would and yet through the seven working group meetings all we have heard from the EJ lawyers are claims we are the problem without producing facts to back up claims of hexavalent chrome exposure from platers.

6-1 This is my 42nd year in the decorative chrome industry and I can assure you we are anything but poorly regulated, my emissions are proven through scientific data to show I am being proficient in controlling those emissions not just a statement, but data provided to back up my claim. I as well as others have asked to see data supporting the claims being made against us but as of yet nothing has been presented.

6-5 I know firsthand that if this rule is implemented as is my company will have no choice but to close, along with most other decorative platers in the state. The data you were provided on

6-4 trivalent chrome largely came from chemical suppliers, so what exactly do you think a chemical supplier/salesman is going to say? Yes, we have an alternative product, but the client base will not accept it. Of course not, it is their job to sell product therefor they will make it as attractive as possible. I have had multiple meetings with vendors to see if an acceptable alternative to hexavalent has been developed and at this time they cannot produce a color that matches industry standards.

When we compare trivalent samples produced from the vendor to my chrome plating, I just ask the vendor one question, can you produce this color in trivalent and the answer is always the same, NO but this is very close. Well in decorative chrome close is not good enough, I sell a product that must meet or exceed OEM standards in color and durability not to mention show winning quality restoration for classic auto enthusiasts.

6-8 My confusion on this subject arises from critical thinking, if Decorative and functional are using the same chemistry and functional platers are using millions of amp hrs. monthly and I used 32,230-amp hrs. all of 2021 while having proven control device in place to capture those emissions, how am I the problem? Logic tells you I am not, and the facts back that up.

The only way to a fair and equitable rule for all is emission based, if you set the standard for hexavalent chrome then that should be the standard, functional or decorative should not matter as we are using the same product with the same technologies. Those who cannot meet the standard must comply or get out of the industry. For CARB to mandate a ban on decorative platers like myself while allowing functional platers to continue in the state can only mean one thing, CARB must appease the EJ community, it's the only thing that makes sense.

As you know I have been very vocal about this topic and rightfully so, my livelihood is on the line as well as those I employ. This rule is like banning diesel pickups while allowing large diesel trucks to continue to operate, it's mindboggling, we produce the same emission at lower levels using the same chemistry and yet decorative platers are the ones being banned.

6-4 Another question that I have not received an answer to is who makes the decision that trivalent is an acceptable replacement? Is it the CARB board or chemical suppliers the EJ community? No, it is not, it is our customer base and they have spoken on this subject repeatedly although it has fallen on def ears. With that said it's not totally the issue, if you allow hexavalent chrome in

6-7 California to operate at all then you must set a standard, it is not CARBs place to dictate what

industries can operate in the state, it is your place to set an emission standard and those that comply can legally operate and those that cannot cease operations.

6-7 I understand that CARB has a responsibility to protect the environment and communities but banning decorative platers does not accomplish any of those goals, it is only logical that having an emission base standard for the entire plating industry whether decorative or functional lowers emissions statewide while still allowing business owners to remain and provide jobs. As
6-10 a stakeholder who has provided my data, CARB can see my emission levels and I do not believe anyone on the board can honestly say my company is a threat to environment or community.

6-7 We can do more to further lower emissions as rule 1469 has proven while still allowing chrome plating here in California, which is a fact as proven in your own data. So, if there is technology and housekeeping techniques that lower emissions even further why are they not being considered? There is only one answer that makes sense and that is the EJ community has so much power that CARB would rather eliminate the decorative plater than stand up for what is right and face pushback from environmental justice attorneys.

As I move closer to my 60th birthday and CARB tries to justify ripping away my business and the lively hood of my employees know this, I will not go quietly or without a fight. This is still the United States of America, and we have rights, I know I am just a small business owner facing the State of California but right makes might and common sense does not lie. Common sense says
6-3 this is not about emissions when chrome platers are less than 1% of state emissions and yet are being targeted for elimination. Why is there not more being done to reduce the other 99% of emissions without destruction of an entire industry? Why is the EJ community not concerned about the other sources? Have studies been done to see actual reduction rates after factoring in additional transportation emissions to have plating done out of state? These are just a few of many valid questions that no one has given an answer.

6-7 I urge CARB to reevaluate the information and propose an emission-based rule for all hexavalent chrome platers in the state of California.

Sincerely,

Art Holman

Sherm's Custom Plating

Comment 7 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Eric
Last Name: Soiland
Email Address: esoiland@sonic.net
Affiliation:

Subject: Chrome Metal Finishing
Comment:

7-1 CARB has targeted a small industry to move the pressure off the State. Business will be forced to close, thousands of jobs will be lost, supply chains and consumers will have to find sources outside of
7-2 the State of California. Other States that do not have the regulations and controls that California shops have in place.
The three
7-3 finishes of Decorative, Functional Chrome Metal Finishing and Chromic Acid Anodizing represent less than 1% of total ChromeVI Emissions for the entire State of California.
When an entire industry is gone and CARB still has 99% Hex Chrome in air emissions who will be targeted next? Banning Chrome in the State
7-2 does not make the demand go away; it only creates more pollution from mobile emission sources such as trucks and cars. Why ban Hex Chrome in a State that has it under control?
Fun Fact: Based on the reported annual emissions CARB provided
7-3 (2018-2019) all of the decorative chrome platers in the state emitted less hexavalent chromium at .00856 lbs per year less than the popular theme park resort in Anaheim at 0.106 lbs per year.
CARB
7-4 should base the rule on real science and data, not emotions.

Please do NOT shut down our local chrome shops…there has to be a better way

Regards,

Eric Soiland
2211 Spyglass Drive
Brentwood, CA 94513

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2022-12-12 17:53:04

No Duplicates.

Comment 8 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Scott
Last Name: Babcock
Email Address: sdwbabcock@gmail.com
Affiliation:

Subject: plating
Comment:

Hello,
I work as
8-1 an engraver with many California platers who are restoring brightwork on vintage cars, usually in preparation for major shows such as the Concours d'Elegance in Pebble Beach.
It would
sadden me greatly to know that all of the high-quality chrome work that currently goes on in our state would be prohibited, in an effort to mitigate a very small percentage (less than one percent I understand) of the Chrome VI emissions currently being emitted statewide.
I am also
8-2 an environmental advocate, and recognize the need to control pollution of all kinds. However, this proposal seems out of balance with regards to the benefit/cost ratio. So many businesses will have to close, and people like me will also be discouraged from doing business in California.
I do
believe there are less Draconian ways of controlling emissions that would benefit a majority of the state's residents and businesses, and not just be a bullet point on a political agenda. Let's not make the plating industry be the fall guy!
Thanks
for listening.
Best,

Scott Babcock

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2022-12-12 22:03:06

No Duplicates.

Comment 9 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Rodger
Last Name: Lee
Email Address: iskhotrods@yahoo.com
Affiliation:

Subject: HEx Chrome
Comment:

my name is Rodger Lee and I have used Sherm's Chrome plating for 20 Years and a hand full of other chrome shops in Ca. I have been in business here in CA for 20 years building these very high end custom cars and I currently employee 18 people. We build very high end automobiles for clients all over the country. The chrome work that Sherm's custom Chrome plating is my go to source for quality chrome work. From where I sit there are 2 other Chrome shops in the country that do the work these guys do. One is in Ohio and another in Tennessee. If you outlaw the hexavalent chrome I
9-1 would be forced to send our work to another state or risk being not competitive with other builders who send there chrome work to other chrome shops outside of CA. Plus the lead time currently for this level of work in 12-16 weeks any where you go and the lead time would get even longer if there was only two vendors and not 3. If
9-2 all my work is going to be shipped across the country what is the real gain in your proposed legislation. Does the pollution not travel across state lines? Plus the huge expense for some thing I
9-1 usually hand deliver from Bakersfield to avoid UPS damaging priceless parts.

I have no idea the pollution issues with both Chromes,
9-2 but what if its all outlawed in the US its just going to be done over seas or across the border. The need for top quality Chrome happens from the craftsmen level prep and the use of quality plating supplies.

Forcing us to go to another or across the border is not a big help for all parties involved.

9-3 I can tell the difference from HEX an TRI. Its not nearly as good and If I tried to pass off the lesser quality to my customers they would know. The depth, clarity and color are all different.

If you have anymore
further questions or concerns please feel free to follow up. I'm sure there is some solution to allowing Sherms and other high end platers follow stricter guidelines without forcing more people to flee CA.

9-2 The transportation
segment is nearly a 100 times bigger issue that the decorative chorme platers.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2022-12-13 05:56:07

No Duplicates.

Comment 10 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Christopher
Last Name: Moore
Email Address: Chris@ironworksspeedandkustom.com
Affiliation:

Subject: Chrome
Comment:

My name is
Christopher Moore. I am a manager at a high end custom car shop
that has been using chrome plating
for 20 years. We build very high-end automobiles for clients all
over the United States. The hexavalent chrome work that
Sherm's Custom Chrome Plating does is some of the best in the
country. They are our “go to” source for quality chrome
work.
In our opinion
there are 2 other Chrome shops in the country that put out the
quality these guys put out. One is in Ohio and another in
Tennessee. If you make it illegal to use hexavalent chrome in CA we
10-1 will be forced to send our work to another state.
If all of
California’s chrome plating is going to be shipped across the
country what is the real gain in your proposed legislation? If this
legislation is passed you are now causing more pollution. You are
doing this because the chrome plating is not going to just stop. It
10-2 will continue but it will have to be shipped out of CA and then
back to CA. Do you think that pollution will not cross state
lines? Forcing us to go
across the border is not a big help for all parties involved. It
10-1 will just continue to raise the prices in this time of
inflation.
We can tell the
difference from hexavalent and TRI. TRI is not even close
to the quality of hexavalent
10-3 chrome. If we were to
try to pass off the lesser quality to our clients they would see
the difference and would leave our shop for shops in other states.
Please do not force more people to flee
CA. I believe California can be one of the best states in the
union; we just need to stop hampering capitalism.
Please shut down this proposed
legislation.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2022-12-13 05:59:35

No Duplicates.

Comment 11 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: William
Last Name: Ganahl
Email Address: southcityrodandcustom@gmail.com
Affiliation: South City Rod and Custom

Subject: Chromium Plating Ban in California
Comment:

To
whom it may concern,

I own a
11-1 small business here in California restoring classic cars. I restore and customize cars from the 1920's through the 1960's, all of which have many chrome pieces. We restore these cars to an extremely high level, and they have been shown around the country, and some around the world. We compete for awards, which is a big part of our business, and the finish and texture of the chrome on these cars is a detrimental component of our ability to compete at a high level. I know that there are many shops here in California (the epicenter of custom and classic car culture) that share the same experience and produce the same level of quality as
11-1 we do. We absolutely cannot use any other method or quality of chrome plating than hexavalent chromium to complement the quality of our builds.

I
11-2 understand that if Hex Chrome is banned in CA, we could potentially send our parts out of state to be chromed. First, we currently do not ship any parts to chrome; we personally deliver all parts so as not to damage or lose any of these valuable pieces. Many of the parts are hand-made from scratch and have countless hours into their fabrication and manufacture. And many of the parts are very rare, very valuable original pieces that cannot be duplicated or replaced. For this reason, we cannot take the risk of shipping parts and having them damaged or lost. And second, it is typically California's intention to
11-3 set precedent by example; if other states follow suit and hex chrome is banned in America for good, it would seriously affect the entire industry of classic and custom car building and restoration. This could mean job losses in both the chrome industry AND the classic and custom car industry, which I think you will find is a very large industry (just look at the number of car events and TV shows currently).

11-4 All of
this said, the amount of pollution caused by the hex chrome process is miniscule compared to the large-scale production of mass-produced commodities. We are building one to three cars per year, which means our collective use of the chrome process is very small. It is an essential part of these builds, yet a

very small portion of the overall output of chrome shops in general. But there are chrome shops that specialize in our
11-3 specific, very high standard requirements, and they would be devastated by this ban. They are all upstanding businesses (the ones we deal with) that already comply with state and federal laws, and some of which would already comply with proposed laws, as they want to stay ahead of the curve and curtail pollution and emissions.

11-5 Please consider amending your proposed legislation to allow for concessions for my industry. If this might mean allowing small production numbers, while banning production over a certain limit, I am positive that the businesses in my industry would fall well below any threshold of significant pollution. Car
11-1 culture, while not appreciated by everyone, is an integral and important element of Californian and American popular culture. It is part of our history that we are trying to maintain and carry on, and it represents a huge industry that affects multitudes of businesses that contribute to the craft.

Thank you
for your consideration,

Bill
Ganahl

--

South City Rod & Custom
22432
Thunderbird Place
Hayward, CA
94545
(510)
783-6300

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2022-12-13 09:18:08

No Duplicates.

Comment 12 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: CARB and EJ - Where did Science go?
Comment:

In the past, we have been able to depend on
12-1 the California air regulators for taking science based, data driven approaches to solve problems. This ATCM proposal is evidence that science and data are trumped by politics.
According to the SCAQMD MATES V study,
12-2 there are over 300 pounds of hex chrome emitted annually in the region. Note, that is only in the South Coast area, not the entire state. Let’s call it 500 pounds in the state.
According to the CARB ISOR, SRIA, and Appendix B of this ATCM, the amount of PERMITTED Hex Chromium emissions by chrome platers in THE ENTIRE STATE is 10.19 pounds.
According to the CARB Appendix B of this ATCM, the ACTUAL Hex Chromium Emissions by chrome platers in the ENTIRE STATE are 0.901 pounds.
So, this proposed rule bans decorative platers in the short term, and functional platers in the long term to save less than 0.2% of the hexavalent chromium emissions in the state. That is one pound out of 500.
CARB presents the purpose for the rule
12-3 change as being necessary to achieve environmental justice goals. (See the purpose section of the ISOR pages 1 to 5). But, based on data, this doesn’t even seem to be valid. You can see for yourself if you take the time to read the AB 617 process Community Emissions Reduction Plans from the following environmental justice communities: 1) Wilmington, Carson, and West Long Beach; 2) San Bernardino / Muscoy; 3) East LA, Boyle Heights; 4) East Coachella; 5) South LA; and 6) Southeast LA. All of those community generated plans (with one exception) appropriately recognize that chrome plating firms are not an area of concern. So, who is CARB listening to?
Why would CARB move to implement a STATEWIDE ban based on what might be an issue in one EJ community?
Keeping in mind that metal working is a major job engine for California, is this how social justice is supposed to work. Do jobs count for anything?
It seems to me that the whole point of the EJ movement is to be responsive to people in their communities. So, to do that, the state (CARB) should not implement statewide edicts that impact communities other than the ones where problems may exist. Otherwise, they create more problems than they solve! Things just get worse in more communities.
It is a fact that stainless steel contains

chromium. According to CARB and AQMD and science, the heating, forging, grinding, milling, melting, welding, and cutting of stainless steel releases hexavalent chromium. It isn’t just chrome plating. So, is this rule-making a shot across the bow to the entire metal working industry in California? Should we all just leave now? After all, the metal finishers were told repeatedly that since there is no “safe” level for hexavalent chromium it was necessary for CARB staff to propose this complete ban based on California health and safety laws. They say they have no choice.

12-4 If that is the case, then machinists, welders, recyclers, fabricators, heat-treaters and all other metal workers will soon join the chrome platers in the unemployment line.

12-5 According to the American Cancer Society, hexavalent chrome causes cancer. Somehow, the California Health and Safety Code and therefore CARB bans it.

But, also according to the American Cancer Society, alcoholic beverages (wine) cause cancer. California markets it to the world and our governor owns a wine business. I call bullstuff on the lie that CARB is forced to impose a ban.

There are serious problems at CARB. They are being pulled away from data and science. It is hurting the state. High-paying, middle-class jobs are leaving. As CARB focuses on satisfying squeaky wheels it loses credibility on this and other important work. The job of a regulator is to adopt thoughtful rules, a ban is not thoughtful.

12-3 CARB should adopt an emissions based approach.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2022-12-13 12:22:57

No Duplicates.

Comment 13 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Bryan
Last Name: Leiker
Email Address: bleiker@klanodizing.com
Affiliation: MFASC-MFANC-NASF

Subject: MFASC-MFANC-NASF Previous Comments Compilation 12-13-22
Comment:

The Metal Finishing Association of Southern California, the Metal Finishing Association of Northern California, and the National Association for Surface Finishing submit the attached comments that the associations previously submitted on June 4, 2021, June 7, 2021, June 9, 2021, February 3, 2022, May 11, 2022, and July 19, 2022. We reaffirm and reiterate each of the comments in these communications.

Attachment: 'www.arb.ca.gov/lists/com-attach/19-chromeatcm2023-VThcPARaBzcAZwR2.pdf'

Original File Name: MF CARB CrVI ATCM Prior Comments Compilation 12-13-22.pdf

Date and Time Comment Was Submitted: 2022-12-13 13:03:15

No Duplicates.

June 4, 2021

Liane M. Randolph, Chair
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Update to Airborne Toxic Control Measure for Hexavalent Chromium [CrVI ATCM]

Chair Randolph and Board Members —

Our organizations are greatly concerned with the proposed regulatory language that has now been released for the update to the Airborne Toxic Control Measure for Hexavalent Chromium [CrVI ATCM]. As proposed, the update will ban decorative chrome plating on July 1, 2024, hard chrome plating on July 1, 2028, and chromic acid anodizing on July 1, 2033.

13-1 We urge the Board to revise the proposed language so that, rather than outright bans, the update is based on measures that will be effective in further reducing the negligible amount of air emissions of hexavalent chromium from metal finishing facilities, recognize the extremely negative consequences of these bans, and provide a reasoned, science- based approach moving forward.

13-2 The bans do not change what the market requires, but will simply export these operations to other states and countries where there are less if any controls and will result in an increase in emissions. 13-3 These bans will leak significant businesses and associated jobs away from California.

13-4 The processes covered by the CrVI ATCM are critical to many industries. Decorative hex chrome plating is utilized for key segments of the consumer marketplace, while the aerospace and defense industries use hard chrome plating and chromic acid anodizing to meet strict OEM and defense [MIL-SPEC] requirements. It is estimated that 30% of contractors for the aerospace and defense sectors are located in California. The ability to meet these specifications is crucial to many supply chains.

13-5 There is an effective alternative. Metal finishing shops in Southern California are investing significant capital to install and operate new measures as required by the recently-enacted South Coast Air Quality Management District [SCAQMD] Rule 1469 to further reduce emissions of hexavalent chromium. CARB supported this rulemaking, and 13-6 should adopt it on a statewide basis. State-enacted bans will override this new rule and strand significant assets.

13-7 Emissions have been significantly reduced over the years to the extent that chrome metal finishing comprises significantly less than 1% of total CrVI emissions for the entire state. The draft MATES V report shows a significant decline in hexchrome emissions. This is prior to the adoption of SCAQMD's Rule 1469. Adoption of this rule and its
13-6 controls (HEPA/fume suppressant) by facilities not located within the district would reduce emissions statewide by a projected 94%.

For each of these reasons, we urge your timely engagement and leadership to ensure that the updated CrVI ATCM is based on currently available and proven technologies that significantly decrease emissions and does not lead to a ban of these critical processes, strand assets, export plating and their jobs to other states and countries, and significantly increase air emissions.

We remain committed to working with the Board as we have in each of the previous rulemakings addressing hexavalent chromium, to develop an updated rule that protects public health.

Sincerely,
[in alphabetical order]

American Motorcyclist Association
Nicholas Haris, Western States Representative, 530-626-4250

California Small Business Alliance
Bill LaMarr, Executive Director, 714-778-0763

Metal Finishing Association of Northern California
Bobbi Burns, President, 510-659-8764

Metal Finishing Association of Southern California
Justin Guzman, President, 323-587-4141

Metal Finishing Association of California
Bryan Leiker, Executive Director, 818-207-1021

National Association for Surface Finishing
Jeff Brassard, President, 202-457-8404

Rod Shows
John Buck, Owner, 877-763-7469 x 3

Specialty Equipment Market Association
Stuart Gosswein, Senior Director, Federal Government Affairs, 202-777-1220

C: Members, California Air Resources Board
Richard Corey, Executive Officer, California Air Resources Board

STILESPOMEROY LLP

CHARLES H. POMEROY
CPOMEROY@STILESPOMEROY.COM
PH.: (626) 243-5599

301 E. COLORADO BLVD., STE. 600
PASADENA, CALIFORNIA 91101
FAX: (626) 389-0599

June 7, 2021

Via Email Only: Eugene.rubin@arb.ca.gov

Eugene Rubin
Air Pollution Specialist
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Comment Letter for Proposed CARB Chromium Air Toxics Control Measure

Dear Mr. Rubin:

This firm represents the Metal Finishing Associations of Southern California and Northern California ("MFACA") and appreciates the opportunity to provide these comments and questions to the California Air Resources Board ("CARB") and its Staff ("CARB Staff") concerning its current draft language concerning the Air Toxics Control Measure ("ATCM") for chromium metal finishing operations ("Draft Chrome ATCM").

MFACA prepared comments to the Draft Chrome ATCM as well as a series of questions. We believe the questions are particularly relevant and require answers that will allow currently unknown areas of concern to be developed so that they can instruct and assist CARB and the regulated community in this process. Without this vital formative information, the Draft Chrome ATCM appears to be based more on conjecture concerning the overall presence of hexavalent chromium in the state and its communities, its actual emissions from chromium metal finishing operations and its perceived environmental justice concerns of harmful impacts to local communities.

Comments

13-8 1. The Draft Chrome ATCM includes three definitions that do not appear to be relevant anymore considering CARB's own conclusion that over 141 metal finishers in the state, there is less than four pounds of hexavalent chromium emitted. The three definitions are:

> "Large, hard chromium electroplating facility" (more than 10 pounds of hexavalent chromium emitted)
>
> "Medium, hard chromium electroplating facility" (between 2 and 10 pounds of hexavalent chromium emitted)

"Small, hard chromium electroplating facility" (less than 2 pounds of hexavalent chromium emitted)

These three definitions appear to have been part of the Chrome ATCM when it was originally adopted; however, in the current regulatory environment, there are no metal finishing facilities statewide that would qualify as either medium or large. With all facilities falling within the small category, there appears to be no reason to segregate facilities based on these inapplicable definitions. Based on information known at this time, these definitions do not appear to have any function.

2. "Chromium electroplating or chromic anodizing tank" is a defined term that appears in the Draft Chrome ATCM text; however, there are several instances within the text where the terms "chromium electroplating or chromic anodizing operation" or "chromium electroplating or chromic anodizing facility" are used. See e.g., definition of "Source". Neither of these latter terms are defined. This ambiguity could alter the understanding and scope of what constitutes this sort of operation or facility.

3. The revised Table 93102.4 has proposed deleting the Effective Date for compliance for all allowed uses. Section 93102.7(a)(3) states: "Existing facilities must conduct the performance test required by this section 93102.7 no later than the applicable effective date contained in Table 93102.4." If there is no longer an effective date, then the latter section appears unnecessary.

Questions

The following questions have been organized according to a statement made by CARB Staff or by topic area. Each statement or topic is lettered, and the questions are numbered and grouped.

13-9 **A. Based on Presentation #5 RTC**

1. Based on CARB Staff comments at Workshop #5, we understand that CARB has identified 141 metal finishers ("MFs") statewide. Were all these facilities identified as part of CARB's survey?

2. Has CARB identified any MFs that are not part of its survey? Is CARB making assumptions on the existence of MFs? Has CARB verified the 141 MFs?

3. Based on CARB Staff comments at Workshop #5, we understand that CARB has identified 110 (of a total of 141) MFs within the jurisdiction of the South Coast Air Quality Management District ("SCAQMD"). Of the remaining 31 facilities, how many MFs are located in the San Diego area? How many MFs are in the San Joaquin Air Pollution Control District. Is there a list showing the number of facilities per each air pollution control district?

4. Is CARB assuming some MFs have not been identified? Is CARB assuming emissions data for MFs with unknown actual emissions? If so to either or both or the prior questions, how is CARB determining the number of MFs not being reported or with unknown actuals?

13-9 5. Has CARB determined and distinguished chromium emissions based on type of use (decorative, hard chrome, anodizing)?

6. If yes to question 4, how is CARB determining the type of MFs not being reported or with unknown actuals? (decorative, hard chrome, anodizing)?

B. Based on Presentation #4 RTC

In Workshop Presentation #4, CARB stated

> "The original 3 lb of emissions is attributed to 80% of the facilities in the inventory for which CARB has actual emissions data." Then CARB assumed "The last 1 lb comes from applying the same ratio of actual to potential emissions for the 20% of facilities with unknown actuals."

1. If 80% = 3 lbs, then why shouldn't 20% = ¼ of 3 lbs or 0.75 lbs? How was the 1 lb calculated by CARB Staff and why wasn't 0.75 lbs the result? What were the assumptions employed by CARB Staff to reach its conclusion? Are the 3 lb and 80% values in the statement exact or only approximations? If approximations, what are the actual values?

2. How is the 3 lbs figure calculated? Did CARB base this number using the current year emissions or is it based on an average of more than one year? If it was based on the most current data, did that calculation include emissions taken from different years?

3. How many California MFs exceed 15 grams hexavalent chromium per year in emissions? How many MFs exceed one pound?

4. What is the highest emitting amount (in pounds or grams) for a MF in the CARB database? From what year is this highest emitting amount derived? In what air district is this highest amount located?

5. Has the emissions difference for hexavalent chromium been determined for pre- and post-SCAQMD Rule 1469 ("1469") implementation?

6. Have the emissions data used by CARB been audited for accuracy? Is it coming from the air districts? Are the data sources similar? Is the data directly comparable or does it require further manipulation?

7. How do the current emissions compare between MFs in the SCAQMD (where 1469 applies) and the rest of California?

8. Are the values for assumed emissions derived solely from agency-derived default values and source tests? Is CARB using existing ATCM source emissions limits (from Table 92107.4) and multiplying them against the amp-hours per facility?

13-9 9. How are the default values for emissions calculations determined generally? Are they averaged or assume worst-case? Are margins of safety explicitly or impliedly used in the default values?

10. Source tests are conducted by applying maximum amperage for prolonged periods. How does this worst-case use compare to real-world use at lower amperages over shorter periods of time?

11. Is there an assumed margin of safety resulting from the source test process and results? Are hexavalent chromium emissions results using source test data overly conservative?

12. How many facilities have conducted source tests? Is there a list of facilities per air district? Has CARB used this information in making its calculations for statewide MF hexavalent chromium emissions?

In Workshop Presentation #4, CARB stated:

> "Surface plating makes up less than 1% of hex chromium emissions nationally. • Response – This number comes from the 2005 National Emission Inventory. CARB staff reviewed the 2017 National Emission Inventory which seems to agree with 2005 estimates. However, the inventory only lists ~1/2 of known chrome platers in California."

13. Does the response above mean that CARB now assumes surface plating in California would be double that amount and therefore surface plating makes up less than 2% of California's hexavalent chromium emissions? If not, then explain.

14. Is it possible there are equivalent other unlisted users and hexavalent chromium emitters (non-California MFs) not accounted for in the survey and located in the other 49 states?

15. Have you been able to determine the general accuracy of the survey as being consistent across all usages and jurisdictions?

16. What is the exact percentage of known MFs identified as "~1/2"? Are CARB's known chrome platers the 141 identified by CARB Staff?

17. Has there been a comparison of the MFs on the inventory list with CARB's known chrome platers to determine the emissions differences? Are the unlisted MFs known to CARB smaller or larger emitters compared to the listed parties?

18. Has there been an evaluation of the types of operations identified on the CARB inventory versus the MFs on the inventory list?

19. What are the other emissions sources comprising the remainder (98-99%) of the hexavalent chromium emissions? What does each other source emit by pounds and percentage?

13-9 20. How much of this remaining 98-99% can be regulated by CARB? What are the overall impacts to local communities affected by environmental justice from these sources CARB cannot regulate?

13-10 **C. OEHHA**

OEHHA has established an acceptable level of exposure to hexavalent chromium. It has further established that an inhalation exposure of 0.001 micrograms per day is a level at which there is no significant risk pursuant to California "Proposition 65". *See* Title 27 Cal. Code of Regs Section 25705(b)(1).

1. Are OEHHA's standards for safe levels of chemicals and health generally considered for all ATCMs?

2 Are the OEHHA standards for hexavalent chromium as a carcinogen and health risk being considered by CARB in this Draft Chrome ATCM?

3. Since OEHHA has not established a "zero" threshold for exposure for hexavalent chromium, is there an acceptable level of hexavalent chromium emissions that could continue to be emitted from MFs?

4. Are OEHHA's inherent margins of safety for all hexavalent chromium allowable emission levels being taken into account for this Draft Chrome ATCM?

5. Has CARB evaluated the application of equivalent hexavalent chromium reductions from other hexavalent chromium uses as an alternative to an outright ban?

6. Has CARB Staff evaluated continued hexavalent chromium use when facilities do not pose a harmful risk to sensitive receptors exceeding OEHHA's standards?

7. Has CARB identified facilities providing Proposition 65 notice to the local community? Is there a list of these facilities per air district? Have these Proposition 65 notices been accounted for as part of the evaluation for Environmental Justice?

8. Has CARB applied Proposition 65's no significant risk threshold for hexavalent chromium for off-site exposure (i.e., environmental exposure) at the known 141 MFs in California?

9. Notwithstanding Proposition 65, has CARB otherwise evaluated actual community risk at every MF facility?

13-11 **D. Hot Spots**

The Air Toxics "Hot Spots" Information and Assessment Act of 1987 was developed to identify and assess air toxics data, including hexavalent chromium. Facilities subject to the law are required to inventory and, in some cases, model their emissions for potential risk. Where required, facilities must reduce their airborne toxic risk.

13-11 1. Has CARB reviewed all Toxic Hot Spots inventories in the state as part of the development of the Draft Chrome ATCM? If so, have the hexavalent chromium emitters been identified generally?

2. Has CARB identified MFs specifically in reviewing the Toxic Hots Spots inventory? If so, have any of the MFs been required to model their risk? Have any MFs been required to reduce their airborne toxic risk?

3. Have these reports and considerations been accounted for as part of the evaluation for Environmental Justice?

13-12 **E. Environmental Justice**

1. How are the Environmental Justice values for general emissions determined for the state's website and how do they apply in this Draft Chrome ATCM? How do all the variables apply to this Draft Chrome ATCM?

2. Is hexavalent chromium captured as a separate component within the general emissions values used for Environmental Justice evaluation? Is hexavalent chromium from MFs being captured as a separate component within the general emissions values used for Environmental Justice evaluation.

3. Does the Environmental Justice value identify or determine the impact of encroachment of sensitive receptors moving toward the hexavalent chromium use?

4. Does Environmental Justice account for the direct and indirect benefit of valuable jobs being provided in the affected community? Conversely, does Environmental Justice account for the direct and indirect loss of valuable jobs in the affected community?

5. How many fewer cancer cases does CARB believe will result if the Draft Chrome ATCM is approved? How was that number determined? Is the evaluation specific to facilities or generally for the entire state? If it is for the entire state, how is that value being attributed to Environmental Justice since it is focused on specifically local emissions exposures? Are generalized numbers being spread to all locations?

6. How does Environmental Justice get affected where MFs are located more than 330 feet from sensitive receptors? More than 1,000 feet? Is distance from a source a consideration or is the evaluation solely on the risk presented?

7. How does Environmental Justice get affected when hexavalent chromium emissions are less than the risk levels deemed acceptable by OEHHA at a sensitive receptor? Would this outcome be considered acceptable for Environmental Justice?

13-13 **F. Economics**

1. What is the economic cost of this Draft Chrome ATCM? What assumptions are being used for the economic evaluation?

2. What businesses do CARB believe will be impacted with the loss of these activities? How many of the 141 MFs identified by CARB will cease business in California? Is CARB contemplating solely the loss of the activity or is it considering the loss of the entire business?

3. What other businesses, by type, will cease business in California? What is CARB using to base its assumptions for these losses?

4. How many employees will lose their jobs in California? From MFs? From other business (by type)?

5. What indirect economic impacts have been identified by CARB should the current Draft Chrome ATCM be approved? Has CARB considered the increased emissions generated from transportation due to lack of chromium metal finishing activities in California? Has it considered increased traffic issues?

6. What economic impacts are being considered due to the loss of jobs in the local communities that have also been identified as having Environmental Justice impacts?

7. Has CARB evaluated the cost of the Draft Chrome ATCM per pound of hexavalent chromium reduced? Is that amount presently four pounds? What is the economic value per life saved based upon the amount of hexavalent chromium reduced?

8. How is CARB accounting for the capital improvement losses that will occur for 1469-compliant facilities?

9. Is CARB evaluating the economics of any alternative other than a ban? Does that alternative account for the issues raised in the questions in this section above?

13-14 **G. Rule 1469**

1. SCAQMD approved its latest iteration of Rule 1469 in 2018 and it contains several provisions that differ from the Draft Chrome ATCM but provide significant hexavalent chromium emissions reductions.

2. Has CARB been provided by SCAQMD with the 1469 compliance costs incurred by the regulated MFs?

3. Has CARB done a direct comparison on hexavalent chromium emissions saved between Rule 1469 (if applied statewide) and the Draft Chrome ATCM? Has such a comparison been used as one of the alternatives for the economic analysis?

13-14 4. Can CARB demonstrate that the Draft Chrome ATCM will achieve greater reductions than Rule 1469 applied statewide?

5. Has CARB considered specific measures addressing amp-hours, enclosures, filtration, covers, or other actions to effectively reduce emissions, as alternatives to a total ban?

H. Other

13-15 1. Has CARB considered a lower acceptable emission threshold for source-tested facilities in lieu of a ban?

2. Has CARB considered, in lieu of an outright ban, the allowance of new MF uses of hexavalent chromium if both distance to a sensitive receptor and the exposure threshold meet a specific risk value? What about facilities that can further modify and reduce their emissions in lieu of a ban?

* * *

I trust the MFACA comments and questions provide a starting point for further evaluation and discussion of the Draft Chrome ATCM. Because of the volume of these thoughts, it would be helpful if your responses to any comment or question identify its number (e.g., F.2.) when responding. Rather than receiving a single response, we will be happy to receive information as it is developed by CARB Staff. Please let me know if you have any questions or comments, and please also feel free to contact MFACA Executive Director Bryan Leiker at 818-207-1021, or bleiker@klanodizing.com.

The MFACA will continue to refine and develop further questions and comments as the ATCM process proceeds. We look forward to our ongoing communication.

Sincerely,

CHARLES H. POMEROY
StilesPomeroy LLP

cc: Robert Krieger, CARB (via email)

MFANC
METAL FINISHING ASSOCIATION OF NORTHERN CALIFORNIA, INC.

MFASC
METAL FINISHING ASSOCIATION OF SOUTHERN CALIFORNIA, INC.

NATIONAL ASSOCIATION FOR SURFACE FINISHING
NASF

June 9, 2021

Via email to Eugene.Rubin@arb.ca.gov

Eugene Rubin
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Additional Comments—Update to Airborne Toxic Control Measure for Hexavalent Chromium [CrVI ATCM]

Mr. Rubin —

Our associations write today to provide additional comments on the proposed regulatory language for the update to the Airborne Toxic Control Measure for Hexavalent Chromium [CrVI ATCM]. These are in addition to our previously filed comments, and there may also be additional submittals.

As written, the update will ban functional chrome plating on July 1, 2024, hard chrome plating on July 1, 2028, and chromic acid anodizing on July 1, 2033.

13-2 These bans will shift hexavalent chrome plating to other states and countries where there are less if any controls and
13-3 will increase emissions. Bans will leak significant jobs and businesses away from California.

13-1 We continue to request that, rather than these outright bans, the update contains measures that will be effective in further reducing the negligible amount of air emissions of hexavalent chromium from metal finishing facilities, recognize the extremely negative consequences of these bans, and provide a reasoned, science-based approach moving forward.

13-6 We specifically reiterate one of the alternative pathways to these bans that we have previously discussed. This is compliance with the extensive, recently-adopted South Coast Air Quality Management District [SCAQMD] Rule 1469 to further reduce emissions.

This rule is at: http://www.aqmd.gov/docs/default-source/rule-book/reg-xiv/rule-1469.pdf?sfvrsn=4

13-1 There are other alternative pathways that are worth exploring, including specific measures addressing amp-hours, enclosures, filtration, covers, or other actions to effectively reduce emissions, as alternatives to a total ban.

We urge the California Air Resources Board to ensure that the updated CrVI ATCM does not ban chrome plating, ig-

13-1 nore the available alternatives and technologies, strand assets, export plating and their jobs to other states and countries, and significantly increase air emissions leakage.

We remain committed to working with the board as we have in each of the previous rulemakings addressing hexavalent chromium, to develop an updated rule that protects public health.

Sincerely,

Bobbi Burns

Bobbi Burns, MFANC President
510-659-8764

Justin Guzman

Justin Guzman, MFASC President
323-587-4141

Bryan Leiker

Bryan Leiker, MFANC & MFASC Executive Director
818-207-1021

Jeff Brassard

Jeff Brassard, NASF President
202-457-8404

MFASC
METAL FINISHING ASSOCIATION OF SOUTHERN CALIFORNIA, INC.

MFANC
METAL FINISHING ASSOCIATION OF NORTHERN CALIFORNIA, INC.

February 3, 2022

Via email to Evan.Kersnar@arb.ca.gov

Liane Randolph, Chair
California Air Resources Board
1001 I Street
Sacramento, CA 95814

via email to Richard.Corey@arb.ca.gov

Richard Corey, Executive Officer
California Air Resource Board
1001 I Street
Sacramento, CA 95814

RE: Proposed CARB Chromium Air Toxics Control Measure

Dear Chair Randolph and Executive Officer Corey –

The Metal Finishing Association of Southern California [MFASC] and the Metal Finishing Association of Northern California [MFANC] urgently request that the California Air Resources Board refrain from promulgating a new draft of proposed regulatory language for the update to the Air Toxic Control Measure for Hexavalent Chromium [CrVI ATCM] that was presented in the Technical Working Group Meeting on January 20 until the framework is revised to avoid establishing specific, draconian, precedent-setting ban dates for decorative chrome plating, chromic acid anodizing and hard chrome plating that will have an immediate impact on the economy with our customers taking their business and these operations out of California to other state and countries, exporting emissions and jobs.

13-2
13-3

MFASC and MFANC continue to be engaged in the development of this update, and we believe further consideration can lead to a better rule that will accomplish the objective of minimizing emissions of toxic air contaminants to protect public health and the environment. Following is an overview of the issues, our concerns, and reasonable alternatives that we suggest for consideration.

The plan for the ATCM update that was announced on January 20 would:

- Beginning two years after the effective date of the Amendments, that all decorative plating facilities must convert to the use of trivalent chromium or cleaner alternative or stop using hexavalent chromium [CrVI].
- Beginning after two years after the effective date of the Amendments, no person shall install or operate any new functional hard hexavalent chromium electroplating facility in the state.
- Beginning after 15 years after the effective date of the Amendments, all functional hard hexavalent chromium electroplating facilities must transition to trivalent chromium or another cleaner hexavalent chromium-free alternative, or stop using hexavalent chromium.

These proposed dates are bans, they are not "phase outs."

13-2 These bans will shift hexavalent chrome plating to other states and countries where there are less if any controls and will increase emissions.

Bans will not further development of important technology changes, they will put pressure on industries to move out of state, thereby increasing transportation-related emissions and leaking skilled jobs to other jurisdictions.

California metal finishing facilities have worked over the past decades to significantly reduce their emissions.

No other state has protections that are even close to the current ATCM.

13-7 California should acknowledge that protection of the environment is best achieved here in this state, with industry. Emissions have been significantly reduced over the years to the extent that chrome metal finishing comprises significantly less than 1% of total CrVI emissions for the entire state.

The draft MATES V report shows a significant decline in CrVI emissions.

13-6 This is prior to the adoption of SCAQMD's Rule 1469. Adoption of this rule and its controls (HEPA/fume suppressant) by facilities not located within the district would reduce emissions statewide by a projected 94%.

The timing for this new rule is quite problematic.

13-16 The resurgent COVID pandemic is further constraining metal finishing operations. Resources are again redirected to protecting the health of our workers. The available workforce has been diminished, presenting another obstacle to our efforts to eventually return to normal operations.

13-4 **Repairs using hexavalent chromium plating and chromic acid anodizing are necessary for safety of flight on nearly all major aircraft and there is no alternative.**

The use of hexavalent chromium in "hard chrome" plating processes is fundamentally necessary to maintain and repair the currently flying fleets of the DOD, commercial airlines, emergency government responders (police, fire, and medical), and business/private aviation.

Hexavalent chrome plating and chromic acid anodizing is used to maintain flight and safety critical components including:

Flight control servos and actuation (rudders, elevators, flaps, steering, engine power, propeller pitch), thrust reversers, landing gear, as well as hydraulic and pneumatic systems (engine bleed air, cabin environment).

Trivalent chrome plating processes are not approved as alternatives to the major hexavalent chrome plating processes.

They are not approved by the FAA, by EASA (European Safety Regulator), the OEMs (Boeing, Airbus, Sikorsky, Bell, Lockheed) or Systems manufacturers (Collins, Parker, Honeywell, Moog, and others).

13-17 **The timeline for change in decorative [functional] chrome plating is much longer than the proposed 2 years.**

13-17 Decorative hex chrome plating is utilized for key segments of the consumer marketplace. The marketplace requires hex chrome plating — our customers require decorative hex chrome plating for the consumer marketplace.

Without a significant change in customer acceptance, these customers will take their business to other states or countries which have less if any emission control requirements.

13-4 **The timeline for change in hard chrome plating is much longer than the proposed 15 years.**

Most aircraft have lifespans of 30+ years. There are tens of thousands of aircraft already designed, manufactured, and currently flying.

The parts on those aircraft contain hex chrome and/or must be repaired with hex chrome based upon the FAA's approval of the aircraft design, the aircraft's manufacture, and the aircraft's maintenance regime.

This is not easily or economically changeable due to the high quantities of parts, designers, manufacturers, and aviation regulators. With respect to the current fleet, change is not practically possible.

13-18 **CARB lacks the authority to regulate interstate commerce.**

California relies on the federal air transportation framework for support of every major economic driver in the state, including tourism, agriculture, aerospace, government, and technology.

California delivers 15% of United States GDP by relying on the air transportation infrastructure. The air transportation system relies on and includes repair and maintenance of that system.

Hexavalent "Hard" Chrome plating is the only acceptable, technologically feasible, FAA approved method by which flight and safety critical elements of the air transportation can be maintained.

The air transportation system is interstate commerce. Even if CARB believes that it has the legal authority to regulate the performance of a necessary element of safe air travel within California, how can CARB argue that it has the authority to ban a critical element of the system from which every person in California benefits?

13-1 **Rather than these outright bans, the update contains measures that will:**

Be effective in further reducing the negligible amount of air emissions of hexavalent chromium from metal finishing facilities,

Recognize the extremely negative consequences of these bans, and

Provide a reasoned, science-based approach moving forward.

13-6 **One of the alternative pathways to these bans is adoption of the extensive, recently-adopted South Coast Air Quality Management District [SCAQMD] Rule 1469 on a statewide basis.**

13-5 Many metal finishing facilities are investing significant resources to comply with the new requirements of Rule 1469.

Those investments will become stranded assets, will export plating and their jobs to other states and countries, and will significantly increase air emissions leakage.

13-6 CARB adopted Rule 1469 after several years of investigation and work with stakeholders, including extensive air monitoring for toxic metals and source apportionment studies, community monitoring, and source testing at metal finishers. The approach taken by the SCAQMD is strongly health protective while still allowing compliant businesses to remain in California.

13-19 **CARB should work with researchers, metal finishers, other industry, and fellow federal and regional agencies** to develop and test viable alternatives for hard plating, and work in a coordinated fashion to update requirements as alternatives can be proven to be safe and effective across different applications.

For example, after considering a similar ban on chrome plating, the European Union took a very different approach under its REACH program and now leads the way in pushing alternatives while at the same time tightly regulating specific uses where no short-term solutions exist.

Periodic technology reviews are an appropriate approach to determining whether there are alternatives to CrVI plating that are compliant with the requirements of the defense and aerospace industries, are acceptable to our customers, and that do not present new threats to the environment.

13-1 **There are alternative pathways to bans that are worth exploring**, that have not yet been the subject of dialogue, including:

Emissions – based Rule – an alternative to specific ban dates can be to establish an emissions limitation for each facility with periodic testing, which would enable a compliant facility to continue to operate.

13-6 *Rule 1469 Plus* – an alternative to specific ban dates can be to adopt SCAQMD's Rule 1469 with an added requirement such as the installation of HEPA filters.

13-19 *Technology Review followed by Action* – yet another alternative to specific ban dates is to establish specific dates for periodic technology reviews with a ban triggered by the determination in that review that an alternative to CrVI meets the requirements for a specific application [such as MILSPEC] or customer.

We remain committed to working with the board as we have in each of the previous rulemakings addressing hexavalent chromium, to develop an updated rule that protects public health.

Sincerely,

Bobbi Burns

Bobbi Burns, MFANC President 510-659-8764

Vince Noonan

Vince Noonan CEF, MFASC President 858-775-9349

Bryan Leiker

Bryan Leiker, MFANC & MFASC Executive Director 818-207-1021

C: Members, California Air Board

MFASC
METAL FINISHING ASSOCIATION OF SOUTHERN CALIFORNIA, INC.

MFANC
METAL FINISHING ASSOCIATION OF NORTHERN CALIFORNIA, INC.

May 11, 2022

Via email to Evan.Kersnar@arb.ca.gov

Liane Randolph, Chair
California Air Resources Board
1001 I Street
Sacramento, CA 95814

via email to Richard.Corey@arb.ca.gov

Richard Corey, Executive Officer
California Air Resource Board
1001 I Street
Sacramento, CA 95814

RE: Updated Draft Language - CARB Chromium Air Toxics Control Measure Update

Dear Chair Randolph, Executive Officer Corey and Board Members –

The Metal Finishing Association of Southern California [MFASC] and the Metal Finishing Association of Northern California [MFANC] have serious concerns with the new draft of proposed regulatory language for the update to the Air Toxic Control Measure for Hexavalent Chromium [CrVI ATCM] that the California Air Resources Board [CARB] released on April 15.

13-1 We urge CARB to revise the update to prevent specific, draconian, precedent-setting ban dates for decorative chrome plating, chromic acid anodizing and hard chrome plating that will have an immediate impact on the economy with our customers taking their business and these operations out of California to other state and countries, exporting emissions and jobs.

13-7 California should acknowledge that protection of the environment is best achieved here in this state by working with industry. This has worked with our industry. Emissions have been significantly reduced over the years to the extent that chrome metal finishing comprises significantly less than one percent of total annual CrVI emissions for the entire state.

Most significantly, the April 15 language for the updated ATCM will ban decorative chrome plating on January 1, 2026. The proposal imposes significant new investments and operational requirements prior to the ban date and prohibits new or increased operations.

We have several continuing and new concerns:

1. **The proposed ATCM update is not an emissions-based rule**. 13-20 Our facilities have worked effectively over the past decades to invest in the technology and operate in a manner that has lowered our CrVI emissions and protects our workers and communities. This includes the efforts many facilities continue to make to comply with Rule 1469 established by the South Coast Air Quality Management District [SCAQMD] in 2018 and updated in 2021.

The proposed ATCM update does not acknowledge the emissions reductions this rule has achieved to-date and will achieve in the upcoming years. It also fails to specify a target for reduced emissions from decorative CrVI plating and to identify alternative compliance pathways that would enable facilities to continue to operate. Further, the ban fails to acknowledge the impact the proposed update with its pre-ban investments and operational requirements will have in significantly reducing emissions, and assessing those impacts, prior to a ban.

13-21

2. **The proposed ATCM update fails to recognize that alternatives are not accepted in the marketplace.** Our customers require decorative CrVI plating for their products. The finish and durability are important, and they are not yet accepting alternatives such as trivalent chromium. This is confirmed in the correspondence submitted to CARB by the American Motorcyclist Association, Rod Shows, the Specialty Equipment Market Association, and others.

13-17

3. **The ban will not change customer demands**. The ban will apply specifically to CrVI metal plating operations. Nothing in the record supports an assertion that the ban will cause customers to accept trivalent chromium or any other alternative. The draft provides no incentive to do so.

4. **The ban will leak skilled jobs to other states and countries.** Our customers have many options with hundreds of CrVI plating facilities located in nearby states, across the country, and in neighboring nations. They will be pleased to serve our customers.

13-3

5. **The ban will negatively impact operations immediately.** The ban will present decorative CrVI plating facilities with an unreasonable choice: [a] close their operations immediately; or [b] invest significant dollars over two years to comply with new CARB emission rules, then close their operations on the January 1, 2026 ban date.

6. **The ban will negatively impact small businesses and their communities.** With an average workforce of 40 employees, the ban will lead to a loss of jobs in the communities in which metal finishing facilities are located. There will also be significant and negative impacts to other sectors up through the supply chain.

7. **The ban will not further development of mutually beneficial approaches.** The ban ends decorative CrVI plating in the state. A more reasoned endeavor would be to work together with industry, communities and other stakeholders to educate our customers to the value propositions presented by alternatives to CrVI and increase customer acceptance of a transition.

13-22

8. **The ban will increase emissions of toxic air contaminants**. No other state or country has CrVI emission limits anywhere near the level of protections established by SCAQMD's Rule 1469. In addition, the transport of products out-of-state for plating will increase emissions from commercial trucks transporting the products and components for plating.

13-2

9. **The ban will strand assets.** Metal finishing facilities located in the jurisdiction of the South Coast Air Quality Management District [SCAQMD] are investing tens of thousands of dollars to comply with the district's significant Rule 1469 that was adopted in 2018 and updated in 2021. Those investments will be worthless on January 1, 2026.

13-5

Rule 1469 requires the installation and operation of add-on air pollution control devices for sodium dichromate seal tanks and other tanks with similar operating properties that were not previously known to be sources of CrVI emissions. The rule also establishes new periodic source testing, enhanced parameter monitoring, new building enclosure requirements, as well as enhanced housekeeping and best management practices.

10. **The two-year deadline for facilities to transition to trivalent chrome plating does not work** [even if our customers were to accept trivalent chromium plating]. Each facility will be required to obtain funding, purchase, install and calibrate new tanks and lines, and obtain the necessary permits. Local permits alone can take up to five years.

13-23

As confirmed through our active participation in each Working Group meeting, facility tours, briefings, and previous comment letters MFASC and MFANC continue to be engaged in the development of this update, and we believe further consideration can lead to a better rule that will accomplish the objective of minimizing emissions of toxic air contaminants to protect public health and the environment. This new draft is a significant step backward.

Sincerely,

Bobbi Burns

Bobbi Burns, MFANC President 510-659-8764

Vince Noonan

Vince Noonan CEF, MFASC President 858-775-9349

Bryan Leiker

Bryan Leiker, MFANC & MFASC Executive Director 818-207-1021

C: Members, California Air Board

GROVEMAN | HIETE LLP

Ryan Hiete
rhiete@grovemanhiete.com
Direct: (310) 926-3693

July 18, 2022

VIA FEDERAL EXPRESS AND E-MAIL

Liane Randolph, Chair
CALIFORNIA AIR RESOURCES BOARD
1001 I Street
Sacramento, CA 95814
liane.randolph@arb.ca.gov

Executive Officer and/or Interim Executive Officer
CALIFORNIA AIR RESOURCES BOARD
1001 I Street
Sacramento, CA 95814
helpline@arb.ca.gov

Ellen M. Peter, Chief Counsel
CALIFORNIA AIR RESOURCES BOARD
1001 I Street
Sacramento, CA 95814
ellen.peter@arb.ca.gov

Re: NOTICE OF POTENTIAL LITIGATION;
DEMAND FOR NOTICE AND OPPORTUNITY TO BE HEARD;
DEMAND FOR LITIGATION HOLD;
PUBLIC RECORDS ACT REQUEST

Ms. Randolph, Mr. Corey and Ms. Peter:

Please be advised regarding the Metal Finishing Associations of California ("MFACA") correspondence below.

INTRODUCTION

The MFACA has attempted to provide serious and well documented evidence in connection with the California Air Resources Board's ("CARB") proposed regulatory language

relating to Airborne Toxic Control Measure for Hexavalent Chromium [CrVI ATCM]. These efforts have been in writing, and through a series of zoom meetings that CARB has contended are "public meetings."[1] The MFACA's data and documents provided to CARB regarding the proposed rule change are based on decades of experience in the field, including technical input from well-trained experts who understand the issues at hand as well as or better than any other professionals in the industry. However, despite extensive written and verbal comments to CARB, all of the MFACA's data has been completely ignored. There is, in fact, no indication that CARB considered any of the data provided by MFACA. Moreover, MFACA representatives have not been afforded the opportunity to have direct in person meetings with CARB rulemaking staff. Rather, they have been limited to watching zoom meetings that are controlled by CARB and do not provide the historical opportunity for the public to gather and provide important technical and economic data to the public agency.

Now, after this completely inadequate public rulemaking process, CARB has proposed an update to the rule that will: (1) prohibit new facility permits on January 1, 2024; (2) ban decorative chrome plating on January 1, 2026; and, (3) ban hard chrome plating and chromic acid anodizing on January 1, 2039.

CARB's conduct throughout this entire rulemaking process has been based on inaccurate data, false conclusions, and a complete disregard for the public's right to provide significant and important information to CARB staff.

For these and other reasons, the MFACA is left with no choice but to take steps to protect its members (and their employees and families) from the potential devastating effects if the currently proposed rule is implemented.

CARB HAS VIOLATED THE ADMINISTRATIVE PROCEDURES ACT - DEMAND FOR NOTICE AND OPPORTUNITY TO BE HEARD

13-24 California's Administrative Procedure Act ("APA"), like its federal counterpart, provides the formal procedures by which the executive branch agencies must conduct their rulemaking activities. There are essentially two main purposes of the APA. The first is to give notice to persons affected by a regulation. The second is to give them a voice in its creation. *Missionary Guadalupanas of Holy Spirit, Inc. v. Rouillard* (2019) 251 Cal.Rptr. 3rd 1, review denied; *Morning Start Company v. State Board of Equalization* (2006) 38 Cal. 4th 324; *Reilly v. Superior Court* (2013) 57 Cal. 4th 641.

[1] The MFACA and its individual members, as well as other impacted corporations and organizations, have sent substantial written comments to CARB on the proposed rule. It is not the purpose of this letter to reiterate all the technical, economic, and other data provided to CARB. That information should be easily accessed by each of your separate staffs. However, if there is any information that any of your offices should need when reviewing this letter, our office will work to provide extra copies or supplemental information as requested and needed.

13-24 In this case, CARB has effectively ignored the persons who will be most affected by the proposed rule for hexavalent chromium emissions. Substantial written comment has been submitted to CARB, **with zero substantive response**. CARB has conducted zoom meetings in place of traditional in person public meetings on the proposed rule. The zoom meetings have allowed CARB staff to control what information is discussed, limit the time and number of persons able to participate, and generally run "roughshod" over the entire public comment process. In short, CARB has violated, and continues to violate, California's APA.

MFACA demands that CARB establish a new rulemaking schedule for the proposed rule at issue, to ensure that the persons most affected by the rule have legitimate and real discussions with CARB staff, receive substantive feedback on relevant technical and economic data, and have proper in person public meetings to discuss all of this critical information.

If CARB refuses to implement a new process, it will lead to substantial litigation involving CARB 's failed public rulemaking and cast significant doubt on the legitimacy of the basis for any new rule passed by CARB.

NOTICE OF INTENT TO FILE TEMPORARY RESTRAINING ORDER / COMPLAINT - REQUEST FOR MEET AND CONFER

As stated above, after review of significant amount of documentation and information relating to CARBs rule making process for CrVI ATCM, MFACA believes CARB is in violation of the APA. MFACA believes that CARB may be subject to liability under several other applicable causes of action. Unless immediate corrective action steps are taken by CARB, the MFACA intends to pursue all of its legal rights and remedies associated with the flawed public rulemaking process, including filing a temporary restraining order against CARB to prevent the implementation of the proposed rule.

MFACA requests that CARB contact this office to arrange a meet and confer discussion about these topics, so that the parties can work towards an acceptable solution. It is MFACA's assessment that any Superior Court or Federal District Court overseeing this matter will want to see that the public agency took every effort and opportunity to resolve this dispute and not to encourage litigation, which is an extreme waste of California taxpayer money, and a waste of the agency's and court's time and resources.

MFACA looks forward to CARB contacting its legal counsel promptly to arrange for this meet and confer discussion.

13-25 ## FLAWED STANDARDIZED REGULATORY IMPACT ASSESSMENT ANALYSIS

CARB is required to prepare a Standardized Regulatory Impact Assessment ("SRIA") analysis that complies with the requirements set forth in Government Code Sections 11340 et seq. and Division 3, Chapter 1, Division 3, Chapter 1, Section 2002 of the California Code of Regulations.

13-25 On June 24, 2022, the California Department of Finance ("CDOF") issued a letter to CARB. (See **Attachment A**.) The CDOF's letter to CARB documents that CARB, even at this late date, has failed to address key concerns the MFACA has consistently and repeatedly emphasized. For example, the CDOF letter provides, in part:

"First, the SRIA does not expect any business closures in response to the proposed regulations, ***nor does it discuss any potential competitive disadvantages to California's chrome facilities***, despite acknowledging stakeholder concerns regarding the availability of alternatives. However, unavailable or inferior alternatives may reduce the demand for in-state chrome services and instead incentivize consumers to switch to out-of-state businesses who would still able to utilize hexavalent chromium processes."

The CDOF letter goes on to state that CARB's SRIA ***must include a comprehensive assessment of the potential business and employment impacts***, including a discussion of these potential behavioral responses to the proposed regulation, or further justify why it is reasonable to assume these adverse impacts would be unlikely to occur.

The MFACA concurs in the CDOF's assessment of CARB's SRIA, and demands that CARB move expeditiously ***in an open, public and transparent process to respond to the CDOF letter with fact-based information on the issues it has raised***. We will be contacting the CDOF separately to ensure that these actions are taken by CARB.

LITIGATION HOLD

Based on the foregoing dispute, and depending on CARB's corrective measures to address APA violations, litigation could be imminent. If a lawsuit is filed, MFACA anticipates serving some initial discovery. This initial discovery would include form interrogatories, special interrogatories, request for production of documents, request for admissions, and other discovery that will also include including electronically stored information ("ESI"). As such, at this time, MFACA hereby demands that CARB take action to preserve all potentially relevant ESI and to prevent the deletion or spoilation of any evidence. MFACA's discovery and records requests likely would cover the period January 1, 2020 to the present.

The topics that will be covered in such discovery will relate to CARB rulemaking to amend the Hexavalent Chromium Airborne Toxic Control Measure for Chrome Plating and Chromic Acid Anodizing Operations (Chrome Plating ATCM).

MFACA will be making discovery requests which may involve ESI stored on any and all devices used by CARB staff that worked on the rulemaking process, as defined above.

These individuals are believed to have or hold relevant information pertinent to the case and are deemed to be under the control of CARB and therefore the litigation hold for all ESI shall apply to CARB, as well as these CARB employees. These persons are required to maintain and preserve evidence and ESI on all computers, tablets, flash drives, CD Rom discs, handheld devices, smartphones, and any other media, whether digital or non-digital.

The ESI to be preserved includes, but is not limited to, all "WRITINGS" as defined by California Evidence Code section 250, which states:

> *"Writing" means handwriting, typewriting, printing, photostating, photographing, photocopying, transmitting by electronic mail or facsimile, and every other means of recording upon any tangible thing, any form of communication or representation, including letters, words, pictures, sounds, or symbols, or combinations thereof, and any record thereby created, regardless of the manner in which the record has been stored."*

This demand shall include all digital messages, emails, text messages, video tapes, "tweets," Facebook posts, and other online communications and voicemail messages. We request that this demand to preserve all evidence take place immediately, and that all individuals set forth above be further informed of this request, of which you are now on notice. Failure to respond to this request could result in our client seeking sanctions, costs, attorney fees, and adverse inference jury instructions and any other remedies that may be available under the law.

Any action to destroy relevant and response information is prohibited.

PUBLIC RECORDS REQUEST PURSUANT TO GOVERNMENT CODE SECTION 6250, ET SEQ.

This is a public records act request submitted to CARB pursuant to California Government Code Section 6250, et seq.

For purposes of this records act request, a "WRITING" and "WRITINGS" means: handwriting, typewriting, printing, photostating, photographing, photocopying, transmitting by ***electronic mail*** or facsimile, and every other means of recording upon any tangible thing, any form of communication or representation, including letters, memos, calendar events, words, pictures, sounds, or symbols, or combinations thereof, and any record thereby created, regardless of the manner in which the record has been stored. See California Evidence Code Section 250.

All WRITING and WRITINGS also must include any emails, text messages or other electronic communications that are made on public and private electronic devices, if the communications were made in the course of CARB and, *specifically*, its employees, doing business. City of San José v. Superior Court (2017) 2 Cal.5th 608. In City of San Jose, the Court held that "when a city employee uses a personal account to communicate about the conduct of public business, the writings may be subject to disclosure under the California Public Records Act."

We must reiterate that all of CARB (and employees and Boardmembers) business conducted on emails, text messages and other electronic data stored on private devices and accounts (e.g., cell phones, private email accounts) are public documents and must be made part of the response to this Government Code request. We hope that the CARB understands the implications of not conducting a proper and thorough search of all responsive records, so that we are not forced to pursue other legal remedies.

Furthermore, this request must be responded to by individuals that are not associated in any way with the subject matter of this request (as defined below). Specifically, those that are the subject of this records act request must have **no role** in determining what records are relevant and responsive to this request. The review of records and response to this request must be conducted in a manner that is independent and unbiased, and should not be influenced by anyone that is the subject of this request. We request that you provide this office with CARB's procedure to properly ensure that those subject to this request are properly walled off and recused from any decisions as to what materials are subject to and responsive to this request.

We hereby request all public records maintained by CARB as described below:

(1) All WRITINGS regarding CARB's rulemaking process related to the proposed regulatory language relating to Airborne Toxic Control Measure for Hexavalent Chromium [CrVI ATCM].

This public records act request is for all relevant and responsive WRITINGS from January 1, 2020, to the present.

Please respond to this public records act request within the 10-day required period. Also, MFACA will meet and confer with CARB to discuss methods to ensure this request is completed within a reasonable timeframe, including working on a rolling production of responsive materials.

CONCLUSION

We trust that CARB's takes this notice seriously and provides written responses promptly to this law firm. Thank you.

Very truly yours,

Ryan Hiete

K. Ryan Hiete
GROVEMAN | HIETE LLP

cc: Barry C. Groveman
Bryan Lieker, Executive Director, MFACA

Attachment A

DEPARTMENT OF FINANCE
GAVIN NEWSOM • GOVERNOR
915 L STREET ■ SACRAMENTO CA ■ 95814-3706 ■ WWW.DOF.CA.GOV

William Leung
California Air Resources Board
1001 I Street
Sacramento, CA 95814

June 24, 2022

Dear Mr. Leung:

Thank you for submitting the standardized regulatory impact assessment (SRIA) and summary (Form DF-131) for proposed amendments to the hexavalent chromium airborne toxic control measure regulations, as required in the California Code of Regulations, title 1, section 200(a)(1) for major regulations. Proposed text of the regulations were not submitted, therefore comments are based solely upon the SRIA and other publicly available information.

The proposed regulations phase out the use of hexavalent chromium for chrome plating operations by 2026 for decorative plating facilities and by 2039 for functional plating facilities. All facilities will be required to transition to other technologies or use control devices to limit exposure to the airborne toxin. While alternative technology exists for decorative plating facilities, ARB acknowledges that there are currently no alternatives available or in development for functional plating facilities (chrome acid anodizing facilities). There are about 113 decorative chrome plating facilities, hard chrome plating facilities, and chromic acid anodizing facilities that will be impacted. Decorative chrome plating facilities are expected to incur a one-time conversion cost of $16.5 million in 2025 and ongoing annual costs of around $1.3 million. Direct costs to functional chrome plating facilities include a one-time conversion cost of between $104 million and $144 million in 2038, and ongoing costs between $1.3 million and $60.1 million, depending on the facility type. Benefits consist of improved health outcomes and reduced cancer risk from exposure to hexavalent chromium emissions for workers and local communities, and are not quantified. State and local governments are expected to gain annual sales tax revenue of $2.7 million and $3.2 million, respectively, beginning in 2038 after all facilities convert to alternative technologies.

Finance generally concurs with the methodology used to estimate impacts of the proposed regulations, with the following exceptions. First, the SRIA does not expect any business closures in response to the proposed regulations, nor does it discuss any potential competitive disadvantages to California's chrome facilities, despite

acknowledging stakeholder concerns regarding the availability of alternatives. However, unavailable or inferior alternatives may reduce the demand for in-state chrome services and instead incentivize consumers to switch to out-of-state businesses who would still able to utilize hexavalent chromium processes. The SRIA must include a comprehensive assessment of the potential business and employment impacts, including a discussion of these potential behavioral responses to the proposed regulation, or further justify why it is reasonable to assume these adverse impacts would be unlikely to occur.

Second, the SRIA does not clearly disclose how inflation is incorporated into the analysis, however, costs may be different under higher assumed inflation rates. The brief qualitative discussion of the implications of higher inflation that is currently included in the SRIA should be expanded to clearly illustrate how costs are impacted by incorporating Finance's most recent inflation projections at the time of the analysis, as required.

These comments are intended to provide sufficient guidance outlining revisions to the impact assessment if a SRIA is required. The SRIA, a summary of Finance's comments, and any responses must be included in the rulemaking file that is available for public comment. Finance understands that the proposed regulations may change during the rulemaking process. If any significant changes to the proposed regulations result in economic impacts not discussed in the SRIA, please note that the revised economic impacts must be reflected on the Standard Form 399 for the rulemaking file submittal to the Office of Administrative Law. Please let us know if you have any questions regarding our comments.

Sincerely,

[Signature on File]

Somjita Mitra
Chief Economist

cc: Ms. Dee Dee Myers, Director, Governor's Office of Business and Economic Development
Mr. Kenneth Pogue, Director, Office of Administrative Law
Mr. Richard Corey, Executive Director, California Air Resources Board

Comment 14 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jason
Last Name: Wenig
Email Address: jpw@thecreativeworkshop.com
Affiliation: Owner/President - The Creative Workshop

Subject: Comments regarding the Hexavalent Chromium Airborne Toxic Control Measure (ATCM)
Comment:

To whom it may concern:
My name is Jason Wenig and I am the owner of The Creative Workshop. The Creative Workshop is a nationally recognized, highly specialized car workshop business – noted for the forensic restoration of rare, exotic and unique, historically significant automobiles.

14-1 I am writing this letter as a representative of a billion dollar industry that works hand and hand with the decorative chrome industry – an integral and critical part of the highly specialized work we conduct.
Specifically, it seems California is looking to ban all use of Hexavalent Chrome. The subject of this initiative through CARB is “Hexavalent Chromium Airborne Toxic Control Measure (ATCM) for Chrome Plating and Chromic Acid Anodizing Operations”.
I have been deeply involved in the automotive world for over two decades and have worked with countless suppliers, craftsmen and supporting industries. My company was named a “Top 20 Restoration Company” in the country in 2018 by one of the industry’s leading publications and I was awarded “Master Craftsmen of the year” in 2019 by the America’s Automotive Trust. My biography is attached for further reference.
The vehicles entrusted to my company are some of the rarest and most valuable in the world, and require a diverse set of skills and supporting infrastructure to work on them. Akin to rare
14-1 artwork or historic building restoration, the vehicles we work on are meticulously and authentically rebuilt – using historical archives, original factory drawings and documents and numerous other, sometimes rather arcane methods. In addition, the materials, supplies and technology utilized to restore and maintain these historic artifacts are equally obscure.
Vintage cars touch all walks of life – and have become something much more than a niche hobby. To further reinforce this reality and the nature of these vehicles, we work with the Historic Vehicle Association, which is working in collaboration with the U.S.

Department of the Interior in developing a National Historic Vehicle Register to carefully and accurately document and recognize America’s most historically significant automobiles, motorcycles, trucks and commercial vehicles. This project is the
14-1 first of its type to create a permanent archive of significant historic automobiles within the Library of Congress. As you can imagine, working with historically significant vehicles – and in turn, our collective history – details matter. As historians entrusted with this responsibility, when considering these details, “close enough” is not good enough. There is “correct” and “incorrect”, “right” and “wrong”. We work incredibly hard to ensure that restorative work is done correctly and right. Along these lines, the coatings used throughout the history of the automobile is very much a part of our responsibility to get right, and quite simply put – there is no substitute for proper, Hexavalent Chrome. Historians, collectors, aficionados, curators – we all know the difference between “proper decorative chrome” vs alternatives. Alternatives cannot be used and should not be used on these incredibly valuable and coveted assets. Said another way, house paint would not be used to restore a Picasso just as plywood would not be used to restore a Tall Ship. To the untrained or uneducated eye, paint is paint and wood is wood – but for the integrity of our history, there is obviously a rather large difference when it comes to “correct” and “right”. How we protect our history comes down to the front lines of the craftsmen that are entrusted to restore and maintain it – and the “tool kit” we have available to us, simply cannot be diminished. What further complicates this situation is that the number of businesses
14-2 dedicated to automotive decorative chrome continues to shrink – with a troubling few businesses left that are capable of doing this kind of work. The few that do remain, simply must be protected - we can’t afford to lose any more plating companies – wherever they may be located. For instance, we work with Sherm’s Custom Plating in Sacramento, California (www.shermsplating.com). It took us years to find them. We performed tests with numerous companies located around the country, and only Sherm’s had the skills, capabilities and understanding of how to deliver correct, authentic chrome for historic cars. An
14-2 outright ban on this industry in California will cause irreparable repercussions that will ripple throughout the industry – not just for the plating companies located in California, but to and through all of the companies that rely on their services to “get the job done right” across the Country. Massive events around the world celebrate the automobile – including the most prestigious car event in the world - the Pebble Beach Concours d’Elegance located in Monterrey, California. Cars
14-1 invited to and displayed at Pebble, set the standard for the history books. The wealthiest individuals in the world attend, and the most valuable vehicles in the world are on display. Hundreds of millions of dollars of automotive history are on display every August – and simply put, chrome alternatives would never be

accepted during the judging process – whereby the best and correctly restored vehicles are awarded. This reality would repeat itself at events the world over.

What’s interesting and salient is that the volume of materials and supplies used for this critical work is small compared to its importance, and pales in comparison to the volumes
14-3 used in general industry, where chrome alternatives could readily be accepted. Penalizing small boutique businesses (and the low volume of supplies they use) to solve a problem that is fundamentally not caused by this group - that is already tightly regulated - is both near-sighted and counter-intuitive. The benefit to result ratio is completely off by targeting the decorative or even specifically, the automotive show chrome industry.

The decorative chrome industry, as well as other supporting disciplines to the automotive world, are used to operating under regulations and controls – including proper hazardous waste disposal,
14-4 limitations on volume, specialty filtration and particulate control, etc. We understand this is done so a partnership between business and protecting our environment can establish itself. This balance and partnership is in place and evolves as necessary. An
14-5 all out ban, of the entire industry in California – combining low-volume automotive businesses along with larger commercial or industrial platers, again, seems counter-intuitive.

For the record, I am particularly sensitive to this subject matter and debate. I am originally from New York, where my Father, the late Dr. Jeffrey Wenig, was director of Environmental Protection during the 1970’s. I grew up with the environment and our care of it, as an integral part of our lives. I take these matters very seriously and I am not writing this letter and voicing my opinion arbitrarily. I am hoping that healthy debate and logical terms can be established for the benefit of all parties involved.

14-6 All said, I implore you to understand the true nature of our industry and its reliance on a small portion of the Hexavalent Chrome that we use – and to engage with the vested community, so that we can continue forward in collaboration and partnership – considering all implications to our industry, our history, jobs and of course the environment.

I am available to provide any additional information or discuss in any way to help further this process along.

Thank you,

Jason Wenig
Owner and President
The Creative Workshop
118 Hill Street
Dania Beach, FL 33004
954-920-3303
jpw@TheCreativeWorkshop.com

Attachment: 'www.arb.ca.gov/lists/com-attach/20-chromeatcm2023-WzoHdVAyBDpRCFR5.docx'

Original File Name: ATCM - Concerns.docx

Date and Time Comment Was Submitted: 2022-12-13 16:41:17

No Duplicates.

THE CREATIVE WORKSHOP
118 Hill Street · Dania Beach, FL 33004
954-920-3303 · Info@TheCreativeWorkshop.com
www.TheCreativeWorkshop.com

April 29, 2021

To whom it may concern:

My name is Jason Wenig and I am the owner of The Creative Workshop. The Creative Workshop is a nationally recognized, highly specialized car workshop business – noted for the forensic restoration of rare, exotic and unique, historically significant automobiles.

I am writing this letter as a representative of a billion dollar industry that works hand and hand with the decorative chrome industry – an integral and critical part of the highly specialized work we conduct.

Specifically, it seems California is looking to ban all use of Hexavalent Chrome. The subject of this initiative through CARB is "Hexavalent Chromium Airborne Toxic Control Measure (ATCM) for Chrome Plating and Chromic Acid Anodizing Operations".

I have been deeply involved in the automotive world for over two decades and have worked with countless suppliers, craftsmen and supporting industries. My company was named a "Top 20 Restoration Company" in the country in 2018 by one of the industry's leading publications and I was awarded "Master Craftsmen of the year" in 2019 by the America's Automotive Trust. My biography is attached for further reference.

The vehicles entrusted to my company are some of the rarest and most valuable in the world, and require a diverse set of skills and supporting infrastructure to work on them. Akin to rare artwork or historic building restoration, the vehicles we work on are meticulously and authentically rebuilt – using historical archives, original factory drawings and documents and numerous other, sometimes rather arcane methods. In addition, the materials, supplies and technology utilized to restore and maintain these historic artifacts are equally obscure.

Vintage cars touch all walks of life – and have become something much more than a niche hobby. To further reinforce this reality and the nature of these vehicles, we work with the Historic Vehicle Association, which is working in collaboration with the U.S. Department of the Interior in developing a National Historic Vehicle Register to carefully and accurately document and recognize America's most historically significant automobiles, motorcycles, trucks and commercial vehicles. This project is the first of its type to create a permanent archive of significant historic automobiles within the Library of Congress.

As you can imagine, working with historically significant vehicles – and in turn, our collective history – details matter. As historians entrusted with this responsibility, when considering these details, "close enough" is not good enough. There is "correct" and "incorrect", "right" and "wrong". We work incredibly hard to ensure that restorative work is done correctly and right. Along these lines, the coatings used throughout the history of the automobile is very much a part of our responsibility to get right, and quite simply put – there is no substitute for proper, Hexavalent Chrome. Historians, collectors, aficionados, curators – we all know the difference between "proper decorative chrome" vs alternatives. Alternatives cannot be used and should not be used on these incredibly valuable and coveted assets.

Said another way, house paint would not be used to restore a Picasso just as plywood would not be used to restore a Tall Ship. To the untrained or uneducated eye, paint is paint and wood is wood – but for the integrity of our history, there is obviously a rather large difference when it comes to "correct" and "right".

How we protect our history comes down to the front lines of the craftsmen that are entrusted to restore and maintain it – and the "tool kit" we have available to us, simply cannot be diminished.

What further complicates this situation is that the number of businesses dedicated to automotive decorative chrome continues to shrink – with a troubling few businesses left that are capable of doing this kind of work. The few that do remain, simply must be protected - we can't afford to lose any more plating companies – wherever they may be located. For instance, we work with Sherm's Custom Plating in Sacramento, California (www.shermsplating.com). It took us years to find them. We performed tests with numerous companies located around the country, and only Sherm's had the skills, capabilities and understanding of how to deliver correct, authentic chrome for historic cars.

An outright ban on this industry in California will cause irreparable repercussions that will ripple throughout the industry – not just for the plating companies located in California, but to and through all of the companies that rely on their services to "get the job done right" across the Country.

Massive events around the world celebrate the automobile – including the most prestigious car event in the world - the Pebble Beach Concours d'Elegance located in Monterrey, California. Cars invited to and displayed at Pebble, set the standard for the history books. The wealthiest individuals in the world attend, and the most valuable vehicles in the world are on display. Hundreds of millions of dollars of automotive history are on display every August – and simply put, chrome alternatives would never be accepted during the judging process – whereby the best and correctly restored vehicles are awarded. This reality would repeat itself at events the world over.

What's interesting and salient is that the volume of materials and supplies used for this critical work is small compared to its importance, and pales in comparison to the volumes used in general industry, where chrome alternatives could readily be accepted. Penalizing small boutique businesses (and the low volume of supplies they use) to solve a problem that is fundamentally not caused by this group - that is already tightly regulated - is both near-sighted and counter-intuitive. The benefit to result ratio is completely off by targeting the decorative or even specifically, the automotive show chrome industry.

The decorative chrome industry, as well as other supporting disciplines to the automotive world, are used to operating under regulations and controls – including proper hazardous waste disposal, limitations on volume, specialty filtration and particulate control, etc. We understand this is done so a partnership between business and protecting our environment can establish itself. This balance and partnership is in place and evolves as necessary. An all out ban, of the entire industry in California – combining low-volume automotive businesses along with larger commercial or industrial platers, again, seems counter-intuitive.

For the record, I am particularly sensitive to this subject matter and debate. I am originally from New York, where my Father, the late Dr. Jeffrey Wenig, was director of Environmental Protection during the 1970's. I grew up with the environment and our care of it, as an integral part of our lives. I take these matters very seriously and I am not writing this letter and voicing my opinion arbitrarily. I am hoping that healthy debate and logical terms can be established for the benefit of all parties involved.

All said, I implore you to understand the true nature of our industry and its reliance on a small portion of the Hexavalent Chrome that we use – and to engage with the vested community, so that we can continue forward in collaboration and partnership – considering all implications to our industry, our history, jobs and of course the environment.

I am available to provide any additional information or discuss in any way to help further this process along.

Thank you,

Jason Wenig
Owner and President
The Creative Workshop
118 Hill Street
Dania Beach, FL 33004
954-920-3303
jpw@TheCreativeWorkshop.com

Jason Wenig
Owner, The Creative Workshop

Jason Wenig is owner of The Creative Workshop, one of the top restorers of classic cars and builder of coachbuilt specials.

Wenig is a lifelong, passionate car aficionado who began his professional car career in an executive position at a car-specific internet start-up company in the 1990's. He eventually left the e-commerce company to fulfill a lifelong dream of working with cars. In 2002, he purchased an old, historic barn (built in the 1930's) in Dania Beach, Florida and began formal operations of The Creative Workshop.

Creative is known for and regularly entrusted with the restoration and care of rare, exotic and prototype vehicles. In addition to restoration of historically significant cars, Creative also wears the hat of coachbuilder – having designed and built several bespoke cars or completely rebodied cars for clients.

True to the name of his company – Creativity reigns supreme – with a diverse group of cars entrusted to them as well as eclectic projects, such as the coachbuilt, Brass-Era inspired *eCarriage* - the first fully electric, lithium-Ion powered antique tour vehicle for New York City.

Cars restored and coachbuilt by Creative have been invited to and have won awards at the most prestigious Concours events in the world - such as *Pebble Beach*, *Amelia Island*, *Concorso d'Eleganza* V*illa d'Este, Cavallino, Mille Miglia* and many more.

Wenig and his company are regularly featured in magazines and on TV and radio – and have garnered critical coverage from publications such as: *Sports Car Market, Autoweek, Octane, Hemmings, Vintage Motorsport, Forbes, Jalopnik, Car Collector, BusinessWeek, Car & Driver, Wall Street Journal, Autoblog, Miami Herald, Sports & Exotic, Ocean Drive, Men's Journal* and many more. On TV and radio, coverage has come from: *Chasing Classic Cars, My Classic Car, Discovery Daily Planet, Motor Trend Radio, NBC News, Fox News, el Garage, Yahoo! Autos and blogs worldwide,* to name just a few.

In 2018, Motortrend TV (Discovery Channel) embedded a film crew with Wenig and company – following the forensic restoration of the last 1921 Kissel Gold Bug extant – providing an inside perspective of top Concours level restoration as well as the showing of the car "on the lawn" at the most prestigious car event in the world, the Pebble Beach Concours d'Elegance – with the car ultimately taking a "Best in Class" award. The feature, *Long Road to Monterey,* aired as both a 2 hour and 1 hour special on Motortrend in 2018.

Wenig is a member of many automotive associations, clubs and groups, including the Society of Automotive Historians (SAH), Antique Automobile Club of America (AACA), the Classic Car Club of America (CCCA), the Specialty Equipment Manufacturers Association (SEMA) and the Automotive Restoration Market Association (ARMO), as well as numerous marque-specific clubs and affiliations.

He was also an invited speaker at, and honorary member of, the famed *Madison Avenue Sports Car Driving and Chowder* Society and is a passionate contributor to the RPM Foundation – helping further the development of future automotive craftsmen.

Wenig is a contributing writer in the books "Guide to British Sports Cars" and "Mercedes W113, The Complete Story", and has spoken at schools, hosted educational tours for school children, sponsors and supports the Florida International University Formula SAE team and has been a judge and consultant for Concours and car related events over the years.

Wenig was awarded a "Top 20 Auto Restorers" recognition by Sports Car Market Magazine in 2018 and the "Master Craftsman Award", by the America's Automotive Trust, LeMay Museum, for outstanding contributions to preserving America's rich automotive heritage in 2019.

Wenig, born and raised in New York, has an undergraduate degree in psychology from Syracuse University and a Master's degree in marketing from Baruch College, Zicklin School of Business in New York City. He is married with two children and lives in Ft. Lauderdale, Fla. Besides his passionate car career, he is an accomplished sailor, having raced for nearly a decade in the America's Cup classic league. In August of 2001, he was part of the team that won the world championships in Cowes, Isle of Wight (UK), aboard the 1980 America's Cup-winning boat *Freedom*.

Comment 15 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: SRIA analysis is flawed and does not agree with CARB data
Comment:

15-1 I submitted the text below addressed to the CARB Board, CARB Staff, and the California Department of Finance on June 26, 2022. In the email, I refer to actual emissions of 2.2 pounds which is the amount of actual emissions referenced in the SRIA. However, the latest CARB document (Appendix B) on this website now shows that actual emissions are 0.9 pounds annually. CARB's numbers don't match. Hmmm. Actual emissions have dropped by more than half since June? I guess this just weakens CARB's case all the more. An analysis based on actual experience would show even less emission reduction. Is this SRIA even a viable document anymore? At what point in this regulatory process does the State stop the presses to validate the basic data from which economic assessments are made?

TEXT FROM EMAIL OF JUNE 26, 2022
FOLLOWS....

15-1 The most important number in the Chrome ATCM SRIA is 2.2 pounds. You can find it in Table 2.1 on page 21 of the SRIA. Go look at it. It is important. The total pre-pandemic hexavalent chrome emissions from chrome platers in California is 2.2 pounds annually. A fact – 2.2 pounds annually.

The most revealing number in the Chrome ATCM SRIA is 132 pounds. You can find this number on the top of page 2. It is the purpose for the rule. According to the SRIA, rule adoption will eliminate 132 pounds over 20 years. That is an average of 6.6 pounds per year. From a starting point of 2.2 pounds. It bears repeating. The new rule will eliminate 6.6 pounds per year from the currently emitted total of 2.2 pounds per year.

There would be no chrome platers after 2039 so emissions will be 0.0 pounds. Sacramento math is exposed. Specifically (2.2 - 6.6 = 0.0). Remember, the Chrome ATCM SRIA is a combined product of the California Air Resources Board and the California Department of Finance and yet it implicates the California Department of Education.

It is not a co-incidence that CARB and the California Department of Finance separate these two numbers, the big flashy benefit savings on page 2 and the actual emissions on page 21. The key to big savings results are big baseline

assumptions. Section 1.6 and the footnotes in Table 2.1 describe the method and assumptions for establishing the baseline. The inflated baseline is justified in the following ways:

They create the concept of “potential” emissions. These are emissions that facilities could make, at the discretion of the facility, which are not currently prohibited by permit throughput limits. You are led to believe chrome emissions will, or could, go up to this level, but that is not a good assumption. Experience shows us that chrome plating emissions have done nothing but decline in California for decades.
They assume that pollution control equipment operates at no better than the permit efficiency level or lacking pollution control equipment, that facilities are emitting the maximum.

They created a magnification factor to account for data they did not collect from all facilities, and they chose the highest “at limit” assumption about that data.

Finally, they added a disclaimer, ”Using emission limits may overestimate actual emissions at some facilities.” A more accurate statement could have been “Using emission limits does overestimate actual emissions at facilities in aggregate” and they did do exactly that.

The result of this creativity is a baseline of 10.19 pounds per year if you read page 15 and 10.15 pounds per year if you look at Table 21. We could question the discrepancy between 10.19 and 10.15 but we will move on because there is something more important that you should be aware of. At the beginning of this email, we talked about 6.6 pounds per year of savings. That number is derived because the rule doesn’t eliminate hex chrome until 2039 so it is an average over 20 years. Beginning in 2039, at elimination, the benefit is 10.15/10.19 pounds per year. So, the Sacramento math is even worse (2.20 – 10.19 = 0.00).

Let’s get back to discussing the baseline assumptions - the “potential” emissions and “(in)efficiency” of pollution control devices. Chrome platers deserve some credit. They do currently operate within limits and are choosing to operate with a margin of safety below the limit. They do this to assure complete compliance. “Potential” emissions are foregone in order to assure compliance and are already achieved. Additionally, many chrome platers have invested in expensive pollution control equipment which operates at a higher efficiency than required by rule limits. Assuming inefficiency equal to the rule limit is not valid – especially in view of source test data in the possession of regulators that is referenced in the SRIA. So, the baseline is arbitrarily high. It assumes both these factors do not already exist. But they do. Emissions have already been reduced by the chrome plating industry. As a result of improvements in Rule 1469, there is not a need for additional regulation. This is plainly evident and explains the nearly 5 to 1 ratio between the baseline and actual experience. These concepts should not be used to inflate a baseline or to justify the costs proposed in this ATCM. The costs the rule would impose on plating firms and the California economy should not be justified by phantom elimination of emissions that have already been eliminated.

15-2 It is also important to understand that the

15-2 assumed baseline does not include fugitive emissions and that none of the quantified benefit is from fugitive emissions. Additionally,
15-3 there is no quantified benefit from PFAS elimination. Despite the lack of data and specificity on either fugitives or PFAS, the benefits of eliminating them are discussed. This is unfortunate and
15-2/ misleading. The discussion attempts to provide a basis for the
15-3 board to support (and perhaps vote for) this rule proposal in the absence of data. Do not be misled. Fugitives and PFAS evoke fear. Without quantification or estimation, they should not be discussed. If they can be quantified, CARB should present the data so that it can be discussed effectively. Note, there are already rules in
15-3 place and in development against use of PFAS. Additionally, AQMD Rule 1469 already has significant controls against fugitive emissions.

15-4 Hexavalent chrome in ambient California air is at record low levels, see https://www.arb.ca.gov/adam/toxics/statepages/cr6state.html. The 2.2 pounds which would be eliminated by the proposed rule are a factor of 10X less than at least one other non-mobile hexavalent chromium source known to the CARB and to SC AQMD. Effective regulation of hexavalent chromium in California demands that regulatory resources are directed at the most fertile opportunities for improvement. The chrome plating industry has been highly regulated in California. Industry emissions improved before the adoption of SC AQMD rule 1469 and should be expected to continue to improve following its’ update in 2019. It should be noted that 2019 is the basis for many of the datapoints in the SRIA and 2.2 pounds is likely a high estimate of current emissions. There is
15-5 not a need for a new CARB rule. Application of the current SC AQMD Rule 1469 to the entire State of California is a much more effective path.

Thanks for your time. The Hex Chrome ATCM
15-1 referenced repeatedly in this email can be found here. https://dof.ca.gov/wp-content/uploads/Forecasting/Economics/Documents/SRIA-Chrome.pdf

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2022-12-14 08:54:26

No Duplicates.

Comment 16 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Brett
Last Name: Cowan
Email Address: bmcowan@msn.com
Affiliation:

Subject: Ban on Hex Chrome in California
Comment:

My name is Brett Cowan an I've been an automotive mechanic and classic car enthusiast for over 30 years. I'm writing today to oppose the ban on Hex chrome in California. Not only will this do
16-1 nothing to diminish any pollution in the state of California it
16-2 will merely drive out more small businesses that barely got by during your Draconian measures put into place during the great Covid 19 debacle. This seems to be a witch hunt against the automotive industry that seems to be one of Gavin Newsome's favorite past times. It doesn't appear the science behind
16-3 this decision really has any merit. Once again the State of California is attacking the freedoms and rights of working class citizens with false accusations and unproven science. Quit focusing on the small Mom and Pop shops that make this country and this State what it is and focus on the real issues (homelessness,
16-4 crime, political insider trading, illegal immigration, fentanyl) just to name a few.
Thank you....Brett Cowan

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2022-12-14 17:22:12

No Duplicates.

Comment 17 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Eric
Last Name: Svenson, Jr
Email Address: ericjr@plating.com
Affiliation: Plating Resources, Inc.

Subject: Hexavalent Chrome
Comment:

17-1 Hexavelent chrome platers produce approximately 1% of the hexavalent chrome emissions in the State of California. How does the air quality improve by closing these facilities? CARB should by focusing on restricting the sources that make up the other 99% of hexavalent chrome emissions to improve California's air quality.

17-2 There is no suitable replacement for hexavalent chrome. The market rejects trivalent "decorative" chrome; and no process comes

17-3 close to the funcitionality and benefits of hard chrome, which is a requirement for specifications such as Boeing BAC5709, MIL-STD-150F and many others. A ban on hexavalent chrome would negatively impact

17-4 the defense and aerospace industry in California.
Please submit the attachement to the Public Record.

Attachment: 'www.arb.ca.gov/lists/com-attach/23-chromeatcm2023-UDhXNFcuUmBVJVQ1.pdf'

Original File Name: Hexavalent Chrome.pdf

Date and Time Comment Was Submitted: 2022-12-19 07:38:08

No Duplicates.

From: Eric Svenson Jr
To: Eugene Rubin (eugene.rubin@arb.ca.gov)
Subject: Hexavalent Chrome
Date: Tuesday, November 15, 2022 1:43:00 PM
Attachments: image001.png

Dear Eugene,

We understand that CARB is considering a ban on hexavalent chrome in the state of California and ask that this policy be reconsidered.

Elected and unelected government officials have a responsibility to protect people, their livelihoods, the economy, and our environment. Naturally, there is a balance that must be found between these responsibilities and the industries that are necessary for our national defense. Finding common ground is tantamount to our vary survival as a free society.

The hexavalent chrome is one such item that is used in a multitude of industries. Unfortunately, it is under attack by forces that use past events, outdated and / or questionable reports, and extreme emotions to eliminate it. Today, there are technologies and methods that have been demonstrated
17-5 to greatly reduce the inherent risks of hexavalent chrome when they are properly implemented. These strategies should be the basis for finding the solutions to balance the need to protect people's health, the environment, and the industries that require hexavalent chrome.

17-3 Aerospace and defense companies like Boeing rely on hexavalent chrome plating, which is called for in many of their specifications such as BAC5709 and MIL-STD-150F, to produce quality parts that protect human life and our nation. Critical parts used in aircraft landing gear assemblies and propulsion systems require hexavalent chrome to properly function. There is no suitable replacement for hexavalent hard chrome. The process to amend a MIL-SPEC is no simple task
17-6 requiring years of rigorous testing. No competent person or group would sign off on an unproven technology when so much is at stake.

17-4 If CARB implements the proposed ban on hexavalent chrome, the work that Boeing and other aerospace and defense companies require will be sent out of the state of California. There is also a real possibility that the current hexavalent chrome shops will relocate to neighboring states. California would lose additional citizens and further erode its tax revenue. An additional
17-7 consequence would be the added cost and emissions due to additional transportation mileage. It
17-5 seems that the negative impact to banning hexavalent chrome in the state of California far out ways any perceived benefit when current technologies are available to mitigate its inherent risks.

We appeal to your civic duty and kindly request that the proposed ban on hexavalent chrome be pulled from consideration.

Sincerely,
Best regards,

Eric Svenson, Jr

Technical Director

Plating Resources, Inc.
2845 West King St – Unit 108
Cocoa, FL 32926, USA

Office: +1.321.632.2435
Mobile: +1.216.978.4113
Email: ericjr@plating.com
Skype: Eric.Svenson
Web: www.plating.com, www.microtuff.com; www.platingsystems.info

Comment 18 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Appendix B (The Emissions Inventory) is not correct
Comment:

18 Appendix B contains data errors, spreadsheet errors, calculation errors, and assumption errors. To the extentt it is the source of any allegations, conclusions, statements, or any logic basis in support of the ISOR, SRIA, or the rule formulation, it should be corrected.
The data shown for our facility shows incorrect emissions, incorrect emission permit limits, and incorrect source test emission rates. It is difficult to find any row of data in the appendix that correctly represents any facility.
If CARB is able to identify the correct data and calculations to support the rule making, we request a new 45 day comment period following the release of a new appendix B. It is only fair.
A rule making like this, in which there is an opportunity to decrease overall hexavalent chrome emissions in the state by 0.2% and will eliminate thousands of jobs, damage the state economy, and disrupt several industries deserves to be based on correct data.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2022-12-19 14:26:35

No Duplicates.

Comment 19 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Toward Rule Improvement
Comment:

19-1 As stated previously, the rule language itself could improve by... 1) Recognizing that some chrome platers who do not use PFAS/PFOS, are not located near schools, are not located near sensitive receptors, have fully compliant HEPA systems and 1469 compliance, are located in CalEnviroScore areas with no population and therefore no CalEnviroScore, but perform vital work that supports the national commercial aviation and DOD infrastructure (e.g...us) should have a right to exist until a substitute technology can be identified. Don't ban us before the replacing technology is identified, ban us after the replacing technology is identified. For us, the substitute technology won't be trivalent plating. Take out the ban language associated with hard chrome platers - no one can raise capital with that in there.

19-2 2) Implementing AQMD 1469 statewide. That's it. No need for anything else.

19-3 3) Reducing the source test requirement to a frequency of five years.

19-4 4) Allowing currently permitted facilities to add/change permits so long as compliant to emissions regulations (i.e..1469).

19-5 5) Allowing decorative platers a way to comply rather than a hard ban.

Thank you for your consideration.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2022-12-19 16:13:06

No Duplicates.

Comment 20 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Computing the Cancer Risk for my facility
Comment:

20 Let's look at the risk from our facility using the data that CARB provides on pages 173 to 175 of the ISOR. CARB breaks the risk up into two pieces, the risk to residents, and the risk to off-site workers in the area.

We are located in an industrial zone in the 90813 zip code area. There are no residential buildings within 500 meters. According to figure V.1 that means that our cancer risk to residents is ZERO.

Yes, zero risk to residents. But, let's go on and look at offsite worker risks. At the bottom of page 175, CARB states, and I quote,

"For the 2019 baseline, the estimated potential cancer risks range approximately from less than one in a million to 17 chances per million, depending on the level of plating operations at the facility."
So, we can use this to compute the cancer risk. Even though 17 in a million is the worst case, and even though it would be better for my illustration to use one in a million, we will use the higher number; even though we are a smaller facility. How many offsite workers are there around us? We don't know for sure but we can make a useful estimate.
The 90813 zip code is one of the densest in the state (#31 as a matter of fact) and has a density of 18,175 people per square mile. If we draw a circle around our facility at a radius of 500 meters, the area is 0.3 square miles. Applying a little arithmetic, we can compute an estimate of 5,452 workers within that circle if the work force is dispersed at a similar density to residents. But maybe it is not, so let's make an extreme assumption about the number of workers within 500 meters of us and say it is 25,000. Our assumption is between 5,000 and 25,000 people work within 500 meters of us. Using the highest figure, we can compute that 0.425 offsite workers (25,000 X 0.000017 = 0.425) might get cancer. Let me repeat that number 0.425.

And looking at a previous sentence CARB states that, and I quote:
"The guidelines assume that a worker at a nearby worksite is exposed to the emissions for 25 years, 250 days per year, and 8 hours per day."
So, in order to get 0.425 cases of cancer, we need 25,000 people to stay within 500 meters of this facility for 8 hours a day, 250 days per year, for 25 years!

There it is, for my facility, using CARB's numbers and conservative assumptions, we get less than 1/2 of one cancer case. I hope you get the point.

So why after more than three years of engagement in this ATCM process with CARB and the preceding rule 1469 process with AQMD and CARB is this small business dealing with the existential threat of a ban? Who is in charge? Is anyone at CARB capable of making a decision to stop this madness? Is this what AB 617 hath wrought? We are being damaged.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2022-12-21 15:23:31

No Duplicates.

Comment 21 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Enjoy your Holiday Air Travel
Comment:

21-1 Metal finishing disciplines support commercial aircraft. Decorative chrome is mostly used on interiors. Functional anodize is used all over the aircraft to protect parts from corrosion. Hard Chrome is used to assure the correct function of thrust reversers, landing gear, rudder and aileron actuators, propulsion systems, and other flight and landing critical components.

If any members of the CARB board are traveling over the holidays, you are only able to do so because the aviation industry has used hexavalent chromium in California to keep you safe.

21-1 Hard chrome platers support manufacturing, processing, repair and maintenance of critical aircraft components. We follow the explicit direction of engineers within the OEMs and the airlines, and use federal and internationally recognized standards to perform the work. In the United States, the design, production, and maintenance of all aircraft are under the jurisdiction of the FAA who audit and enforce the strict adherence to the requirements. Those requirements dictate the use of hexavalent chrome. People go to
21-2 jail and/or are fined if regulations are not followed.

The United States aviation infrastructure is interstate commerce. Aircraft repair and maintenance is a necessary part of that infrastructure. The CARB does not have authority to regulate interstate commerce.

21-1 Despite formal efforts by the US government and the aviation community to identify a hard chrome alternative in the late 90's, the industry has not yet found suitable alternatives. This ATCM is not going to change the realities of physics, materials, etc.. Your flight is only able to occur because hexavalent chromium makes it safe and possible.

21-2 Even the newest Boeing 787 aircraft which will be manufactured for the foreseeable future and will fly for decades are designed to be made and maintained with hexavalent chrome. Every aircraft in the world contains a part that was hexavalent chrome plated in California. Aircraft have usable lives spanning decades and will persist beyond 2039. The California economy depends on tourism. A hard chrome ban is misguided hypocrisy.

Enjoy your flight.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2022-12-22 08:56:05

No Duplicates.

Comment 22 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jerry
Last Name: Redding
Email Address: jerryredding55@yahoo.com
Affiliation: Sherman custom plating

Subject: Hexavalent chrome
Comment:

Hexavalent chrome I work at Sherms custom plating in Sacramento California my dad started this company 50 years ago we have always abided by the rules and put in all of the safety equipment air scrubbers etc. by eliminating hexavalent chrome all of our or most
22-1 of our client base will just simply go out of state to get their work done we are a small shop in Sacramento California I don't
22-2 think it's fair that the hard chroming industry gets 10 years allowance to go about business in a normal manner whereas decorative chrome players only have four years before rulings are made I don't think that's fair our emissions are zero detectable
22-3 because we use air scrubbers on the chromium bath please reconsider these unfair rulings on the Hexavalent chrome.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2022-12-22 19:40:32

No Duplicates.

Comment 23 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Changes / Comment Period
Comment:

23 I have provided input that there are discrepancies and errors in and between the ISOR, the SRIA, and the proposed rule. I request that those documents be updated to correct the discrepancies and logic failures (e.g... annual emission reduction being greater than annual emissions, rule motivation attributed to environmental justice concerns but unsupported by documented AB 617 CERPs in the EJ communities, and more...). To the extent the rule might be changed to address the comments of myself and others, I request that the public be given 45 days to analyze the changes and provide comment. This is reasonable considering that individual members of the public and owner/managers of small businesses do not have sufficient time and resources as do large corporations and the State of California to devote to analyzing the rule.

This rule making is an excellent example of the difficulty that small businesses have in working with California regulators.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2022-12-28 13:45:42

No Duplicates.

Comment 24 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Bobbi
Last Name: Burns
Email Address: bobbiburns@sbcglobal.net
Affiliation:

Subject: Amendment to Chrome ATCM
Comment:

For those reading public comments that may not be aware, Hexavalent Chromium can be found in many places in our everyday lives. Besides nature and plating shops, Hexavalent Chromium is found within industries of aerospace, ground transportation, concrete, welding, 24-1 leather tanning, wood preserving, fireworks (there goes Disneyland), cosmetics, cleaning agents and tobacco. Some everyday items include products in our home like electronics, fixtures, hardware, furniture and keys. The Chromium finishes are essential to automobiles including electric cars, aerospace, industrial machinery, dies and molds; metal finishing adds a variety of protection, wear resistance, and in some cases restoration.

24-2 Permits, inspections, testing and fees are the standard for any Chromium plating facility in California. Regulations here in California are the most stringent in the USA. California sets the standard and is the leader of environmental innovations in the Country. The proposed ban on Decorative Chrome in the upcoming amendment to the ATCM simply doesn't make sense.
Banning the Decorative Chrome process here does not make the demand for the finish go away. There are countless manufacturing and 24-3 restoration companies here in this State that will have to close or ship parts to other States, other States that have little to no control on the process, creating a new wave of problems. The 24-2 technology used today to prevent pollution is superior to what was used decades ago.

"In 2007, to further protect the public, CARB adopted additional amendments to the Chrome Plating ATCM, resulting in the most stringent and health protective emission standards applicable to chrome plating operations in the nation." This sentence was plucked straight from CARB's website.

24-1 Since 2007 there has been a significant reduction in CrVI emissions from plating facilities. We account for less than 1% of the total CrVI emissions in the entire State. My point is that we are not a failed regulated industry. The proposed amendment should create an 24-4 emission base rule for all covered process equally. The Decorative, 24-5 Functional and Chromic Acid Anodize have the same chemistry so why ban just one? The amendment should be an emission based rule for 24-4 any hexavalent chromium process. The Decorative Chrome process averages 10k to 40K amp-hrs annually but the Hard or Functional 24-5 Chrome and Chromic Acid Anodize process can run-up to and over a million amp-hrs annually. It is discrimination.

24-6 Proposing alternatives such as Tri-Chrome for decorative finishes should be an alternative, not the only choice. If a Decorative
24-4 Chrome facility is meeting the emission standard, under the threshold or non-detect for CrVI emissions then why shut it down?
24-7 The ATCM Amendment should be based on science and data, not emotions. Imposing a discriminatory ban on this process sets a bad precedent for California.

I strongly urge CARB to stand by the side of California businesses
24-4 that have maintained compliance and continue to invest in better technologies so that we can continue our craft and be of service to not only the large manufacturers but the hobbyist and enthusiasts that rely on our finishes. The stationary source of this hexavalent chromium is under control of not only the Operators, who are certified by CARB's program but also by the local Air Districts.
24-2 I am a second generation metal finisher for over thirty years. I am in good health. My long-time employees are in good health. If I thought I was endangering my family or community we wouldn't be in business. Thank you for reading my comments.

24-8 Biological fun facts: Ingested Cr(VI) is efficiently reduced to the Cr(III) by the gastric juices [De Flora, Badolati et al. 1987].
Cr(VI) can also be reduced to the Cr(III) in the epithelial lining fluid of the lungs by ascorbate and glutathione (Petrilli, Rossi et al. 1986; Suzuki and Fukuda 1990).
Once absorbed into the bloodstream, Cr(VI) is rapidly taken up by erythrocytes after absorption and reduced to Cr(III) inside the red blood cells. In contrast, Cr(III) does not readily cross red blood cell membranes, but binds directly to transferrin , an iron-transporting protein in the plasma (made by the liver) EPA 1998; ATSDR 2000; Dayan and Paine 2001].

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2022-12-29 13:13:44

No Duplicates.

Comment 25 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Art
Last Name: Holman
Email Address: art@shermsplating.com
Affiliation: Sherm's Custom Plating

Subject: 2022 Chrome emissions
Comment:

I would like for the board to look at decorative platers emissions
25-1 and clearly state why we are being targeted for elimination in
California when we are already highly regulated and have zero
25-2 threat to public safety when operating under current ATCM.

I will publicly post my emissions for the 2022 year with data to prove that shops like mine are not the problem and should not be required to transition to trivalent or close down operations.

2022 I used 31,322 amp/hrs at a source test rating of 0.00032
The math is 31,322 x 0.00032 = 10.02304 milligrams for all of 2022.
To put this in perspective a paperclip = 1 gram.

It would take my facility 100 years at these rates to produce 1
25-1 gram of chrome, a paperclip worth! Can you see how ridiculous this is? you have the ability to look at true data on emissions in the industry and the facts speak for themselves.

Before any decision on a new ATCM is reached the board really needs to look at facts, the overwhelming majority of platers all have amp/hr meters and source test documentation that proves the chrome plating industry as a whole is not the problem with hexavalent chrome emissions.

25-3 Ships, Rail, Concrete, and mobile sources are huge contributors,
and this new rule will do nothing to change that it will only drive
25-4 chrome platers out of state where they are not regulated as tightly as here in California.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2022-12-30 07:03:25

No Duplicates.

Comment 26 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Paramount (Dichromate Seal Tanks)
Comment:

26 Air monitoring in Paramount revealed that dichromate seal tanks were a source of hex chrome and that CARB and AQMD had NO RULE to control dichromate seal tanks! The tanks were unregulated. An uproar ensued. CARB and AQMD came under fire. How could they let this happen? Blame had to be assessed. Round up the usual suspects...chrome platers! A new rule was made. Media headlines blamed platers but the firms with dichromate seal tanks were NOT decorative chrome platers and were NOT hard chrome platers. CARB's allegations about fugitive plating emissions from "uncontrolled tanks" are based on this situation in Paramount and on another in Newport Beach. But, again, the Newport Beach firm is NOT a decorative chrome and NOT a hard chrome plater either. So why does this rule target decorative and hard chrome plating? Why does it justify action based on "fugitive plating emissions from uncontrolled tanks" when hard and decorative platers don't have dichromate seal tanks? How did CARB draw a line from Dichromate seal tanks to hard chrome and decorative chrome platers?

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2022-12-30 12:22:49

No Duplicates.

Comment 27 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Rich
Last Name: Roberson
Email Address: richroberson@outlook.com
Affiliation:

Subject: CARB Chrome Plating ATCM
Comment:

Re: CARB Chrome Plating ATCM

Eugene,
I would like to express concern of a complete ban of Hexavalent Hard Chrome plating on behalf of our Team members here at Roll Technology West (RTW).
Our Team members invested time into their profession and have made it not just a job, but a career.
27-1 Our team members are puzzled why the career they chose, is being targeted for a complete ban. They are bewildered why an industry that makes up less than 1% of hex chromium emissions nationally, is being targeted for elimination.
27-2 RTW's Team members have always done the right thing and followed all the rules, procedures, and permits.
"And we must recognize that communities of color have a range of views and concerns. "-CARB Chair Randolph
27-3 RTW's team members have children and grandchildren who are all are part of a community of color. They work in this community. They have homes in this community.
"We cannot fail in our efforts to listen, engage, and work towards equitable solutions as best we can. "-Chair Randolph
The complete ban of Hexavalent chrome plating is the exact opposite of equitable solution. There is no alternative for the Hexavalent
27-4 Hard chrome plating of Work rolls.
Our team members would be laid off and because their career is banned, the skills, which they have worked so hard to hone, would
27-3 be worthless.
This would be traumatic for our Team members, families, and community.

I understand CARB's quest to look for an alternative to Hexavalent Hard chrome plating. However, there is no viable alternative for
27-4 the Hexavalent Chrome plating of Work rolls.
Therefore, I ask CARB not to institute a complete ban on Hexavalent Hard chrome but rather, consider a more equitable solution and
27-5 adopt the European model and grant conditional exemptions until a viable and proven alternative is found.
If granted, a conditional exemption would give RTW the ability to remain in operation until a viable and proven alternative is found.

Sincerely,

Richard Roberson

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-04 14:48:12

No Duplicates.

Comment 28 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: JIM
Last Name: MEYER
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Atmospheric Rivers and Hex Chrome
Comment:

We are currently experiencing an "atmospheric river" event (as the press likes to call it) that is predicted to result in downed trees and power lines, flooding, and mudslides throughout the state. I don't know if that prediction will hold, as weather can be unpredictable, but I do know this...

28 The hydraulic actuation mechanisms on the bulldozers, earthmovers, and backhoes that will clear the roads, restore your power, repair the dams, and reinforce the hillsides are MANUFACTURED AND REPAIRED with HEXAVALENT CHROME by hard chrome platers. Your decision will have consequences. Please don't be naive about what protects you, your property, and the citizens of California and allows the taxpayers to pay your salaries.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-05 06:47:36

No Duplicates.

Comment 29 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Kelly
Last Name: Wiley
Email Address: Kcwiley5@gmail.com
Affiliation: Sherm's Custom Plating

Subject: Chrome Ban in California
Comment:

29-1 My name is Kelly Wiley. I have worked for Sherm's Custom Plating in Sacramento, Ca for 16 years. That is a majority of my working life. I am a single women, who owns her own home (thanks in part to my employment at Sherm's), and is on track to be a part of the ownership group at Sherm's. I would be a female owner in a male driven industry. This has been the goal for the last 10 years. If Sherm's is forced to stop doing hex chrome plating we will loose our customer base, thereby shutting us down. I would be a middle aged women looking for employment whose skills and knowledge base lay mostly in the chrome plating industry.

29-2 Sherm's has always maintained a clean facility and followed all of the guidelines set in place by different regulatory groups. Please

29-3 give us the opportunity to adhere to guidelines rather then banning chrome all together. My future and that of the people I work with,

29-1 are depending on you. Thank you for your time.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-05 09:00:59

No Duplicates.

Comment 30 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Technology Reviews are undefined and vaguely timed
Comment:

30 The proposed rule establishes the timing of two "technology reviews" which will be used to determine when and whether functional and hard chrome platers should be eliminated earlier than 2039.

The rule includes no definition of "technology review". It should be obvious this is a problem.

The rule states only that the first technology review must be "complete...by January 1, 2032." Therefore, the first technology review could occur in 2023 and the rule would be met. Hard chrome platers and anodize facilities could be eliminated before decorative per this rule.

There is no basis for any business to invest capital (or stay) in California if CARB can eliminate them by performing an undefined process, maybe tomorrow, or maybe sometime in the next ten years. What is a reasonable person (and business, and concerned citizen, and etc.) to conclude? Is this how CARB writes rules now? After more than three years of effort?

The only thing we can know about CARB's intended "technology review" is what we see has occurred with respect to the decorative chrome platers and the review of trivalent chrome plating technology. What was the venue in which this occurred? Who organized and conducted the review? Who was asked to participate in the review? How much diversity of opinion was allowed in the process and how was it dealt with to reach conclusions? How did CARB assess the needs of customers in the marketplace? Were decorative platers involved in the review? Who advocated that trivalent chrome was an acceptable substitute? When, how, and who made the decision that "trivalent chrome" could substitute? Do CARB, CARB staff, CARB board members have any economic interest in research or firms associated with trivalent chrome technology? So many unanswered questions.

The proposed undefined and vaguely timed "technology reviews" are unacceptable.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-06 07:29:57

No Duplicates.

Comment 31 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: John
Last Name: Romero
Email Address: chromer9@sbcglobal.net
Affiliation: west coast chrome

Subject: the myth
Comment:

There are over 500 substances that are probable carcinogens
31-1 including auto exhaust, cigarettes, processed meats etc.basically
what they are saying is that hex chrome causes cancer along with
all those other items,this really is a myth,has it been proven to
be a carcinogen, a carcinogen is a substance that causes cancer, I
have been in business or 30 years. All those years I have never
heard of anyone dying or even becoming ill from chrome. I have been
doing all my chrome plating myself and yet I am still here and in
good health. I am small 2 man shop not a threat to human health in
any way and have proof of it.recently the epa conducted a site
investigation on my shop. I spent an enormouse amount of money on
lawyer fees geologist fees etc.They took soil samples septic tank
samples cameras through the plumbing. In the end the test results
came back (nd) non detected for chrome, nickel, copper or any oher
hazardous material. Therefore my shop is not a threat to public
health, furthermore I am one of the smallest shops in California, I
am only allowed 66 amp hrs per day, but only do about 20 per day,
mostly small parts. With that being said how can my shop be a
threat to anyone. If they do pass this law, I can't see how these
31-2 businesses will survive.The sad thing is probably about 90 percent
workers and/ or owners are hispanic such as myself.that have been
doing this for a very long time.thak you for your time

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-07 21:12:46

No Duplicates.

Comment 32 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Why has CARB stopped updating Hex Chrome Statistics?
Comment:

32 Any discussion about hex chrome rules should be based on data and that data should be made available to the public in a transparent and accurate manner.

CARB has posted data about Hex Chrome at their own website here: (https://www.arb.ca.gov/adam/toxics/statepages/cr6state.html). Thank you CARB. The data include helpful computations for MEAN levels of hex chrome and ESTIMATED RISK of hex chrome statewide since 1991. Please note the improvements made over that time. For reasons which are not clear to this reader, CARB has stopped supplying the MEANS and the ESTIMATED RISKS since the beginning of this rulemaking. I could guess that this is because some months do not contain data but this is curious given the higher number of observations shown. Even more baffling is the lack of data observations shown in the second half of 2022. Why would CARB stop sharing data with the public concurrent with this rule making and leading up to a CARB board decision? Coincidence? It is hard to see this as coincidence and it is especially troubling when we have also learned from CARB that the data in appendix B is not correct. Why is data about hex chrome emissions less available and less reliable just as the CARB board and the public and the impacted parties are approaching decision?

Um... We deserve answers.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-09 15:13:52

No Duplicates.

Comment 33 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Less than 2 Hex Chrome Cancer Cases in California (Annually)
Comment:

33 It would be nice if there were a reliable source of data from which to perform these calculations. See my previous comment(s).

But using the data we have...

The California population is around 40 million. So using the most recent CARB data that show a cancer case rate attributable to hex chrome of 16 per million, that computes to 640 cancer cases from hex chrome annually statewide. See my source here - https://www.arb.ca.gov/adam/toxics/statepages/cr6state.html

How many of those are from chrome platers?

CARB's Appendix B states chrome platers emit 0.90 pounds of hex chrome annually. SC AQMD states that there are 0.8 pounds per day of Hex chrome emissions in the South Coast basin (see data in SC AQMD MATES V Table 3-4) from all sources. That computes to 292 pounds annually (0.8 X 365 = 292). So in the South Coast area chrome platers make up 0.3% (0.9 / 292 = 0.0031) of the hex chrome emissions in the area that everyone would agree contains the highest percentage of chrome platers in the state.

So, since chrome platers make up 0.3% of emissions we can compute the cancer cases attributable to chrome platers as 1.98 cases per year.

1.98 CANCER CASES PER YEAR IN CALIFORNIA FROM HEX CHROME ATTRIBUTABLE TO THE ENTIRE CHROME PLATING INDUSTRY!!

Who is in control of CARB? What is the agenda? Setting priorities is one of the most basic functions of management. CARB has spent three years on this rule making.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-09 16:04:38

No Duplicates.

Comment 34 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Thomas
Last Name: Mulhall
Email Address: bayareashopsol@gmail.com
Affiliation: Bay Area Shop Solutions

Subject: Killing Chrome=Killing Jobs
Comment:

Another attack on the automotive restoration and repair industry is your latest brain child: Going after the hex chrome platers.
34-1 That industry represents less than 1% of the total Chrome VI emissions for the entire State of Ca. This industry is absolutely
34-2 vital tot he automotive manufacturing, repair, and restoration industries. The last thing that Ca needs is more job killing
34-3 bureaucrats who worship the almighty carbon lie. Attached is a chart that clearly shows the carbon levels being significantly higher throughout history, BEFORE the advent of the automobile!
To kill off another industry like chrome plating is utter madness. There is no reason, other than self-perpetuating legislation, and the vindictive nature twords automobiles that CARB has demonstrated, to kill off the chrome plating industry. We haven't forgotten about the killing off of good paint and brake cleaner that you pencil pushers did to use!
San Francisco used to have 3 marvelous platers. One in particular, B&M, was so good that chrome parts that were plated in 1965 are still on some show vehicles today! Now, everyone in the Bay Area has to travel to Sacramento to get good chrome plating. How many
34-4 useless miles are traveled, and time, fuel, bridge tolls, etc expended all because CARB shut down the platers in SF? Not very environmentally conscious, is that?
34-5 Cut it out and go after the real polluters, like the thousands of illegal aliens who litter our state with filth.
Thank you

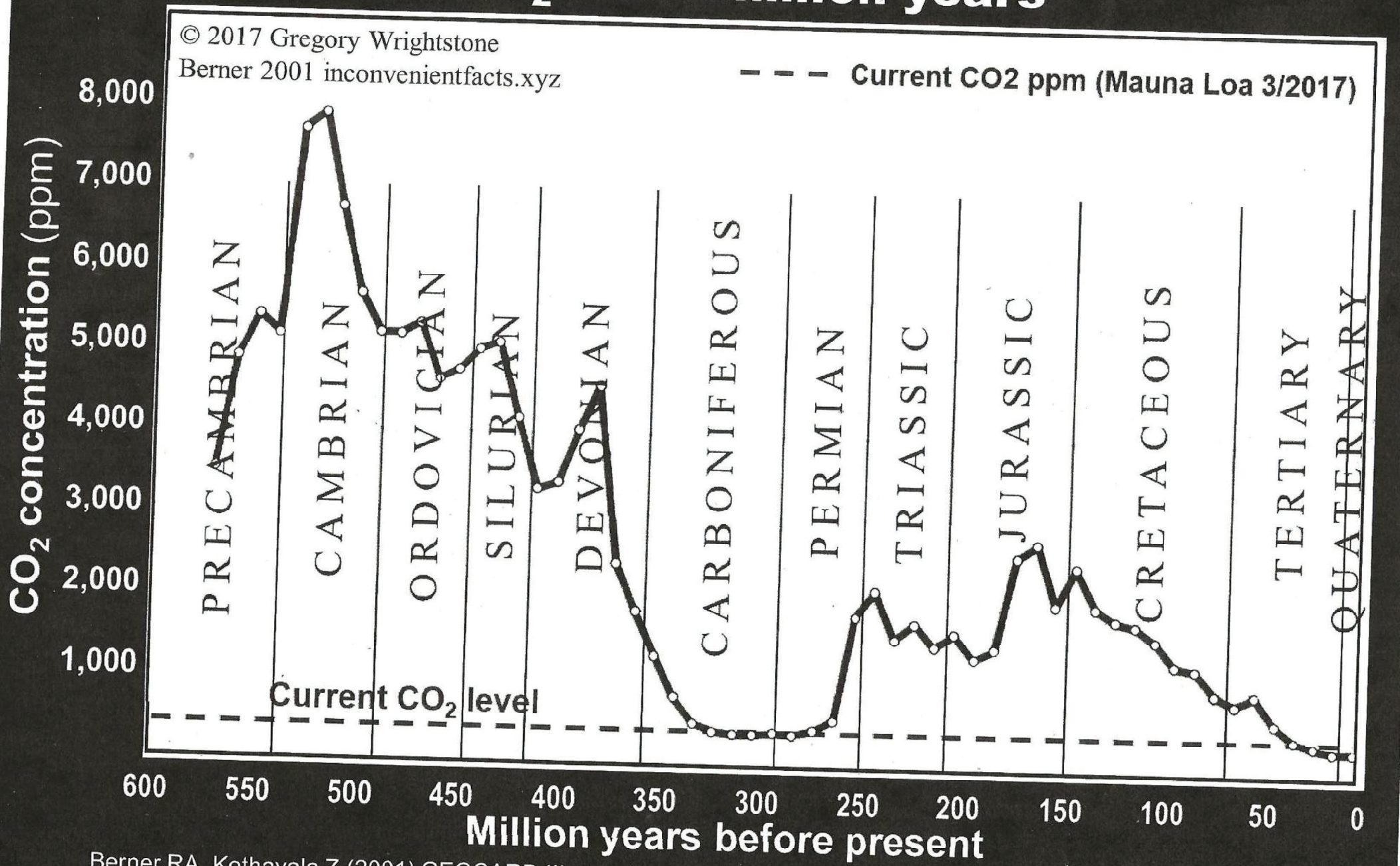
Attachment: 'www.arb.ca.gov/lists/com-attach/41-chromeatcm2023-VDcFYgBzBTRSO1A+.jpg'

Original File Name: carbon1jpg.jpg

Date and Time Comment Was Submitted: 2023-01-09 23:22:33

No Duplicates.

CO_2 – 600 million years



Berner RA, Kothavala Z (2001) GEOCARB III: A revised model of atmospheric CO2 over Phanerozoic time, IGBP PAGES and World Data Center for Paleoclimatology, Data Contribution Series # 2002-051. NOAA/NGDC Paleoclimatology Program, Boulder CO, USA.

Comment 35 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Zain
Last Name: Yahya
Email Address: zainyahya@gmail.com
Affiliation:

Subject: ATCM for hex chrome
Comment:

I am still trying to understand the basis for this ruling. If the
35-1 goal is protect the public health then why are we instituting a ban on this process as opposed to regulating it. The industry accounts
35-2 for less than 1% of hex chrome emissions in the state. Why not target a larger chunk of the pie. Also, when the industry welcomes
35-1 regulation and says we can get that number down even further. Why would CARB choose a ban rather than working with industry and helping to reduce those emissions.

Businesses will be forced to close, thousands of jobs will be lost,
35-3 supply chains and consumers will have to find sources outside of the State of California(this impact cannot be overstated). Other
35-4 States that do not have the regulations and controls that California shops have in place.

The three finishes of Decorative, Functional Chrome Metal Finishing and
35-2 Chromic Acid Anodizing represent less than 1% of total ChromeVI Emissions for the entire State of California. Why does this warrant a ban?

Fun Fact: Based on the reported annual emissions CARB provided
35-2 (2018-2019) all of the decorative chrome platers in the state emitted less hexavalent chromium at .00856 lbs per year than the popular theme park resort in Anaheim at 0.106 lbs per year.

Please reconsider this draconian rule that continues to be illogical given the stated goals of CARB.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-11 13:13:07

No Duplicates.

Comment 36 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Aaron
Last Name: Plechaty
Email Address: aplechaty@electro-coatings.com
Affiliation:

Subject: Banning is not the answer...
Comment:

I have worked at/around a chrome plating shop for 26 years, you are looking to take the quick and easy road and just kill off an industry. The industry has stated time, and time again that we are
36-1 willing and able to discuss and work through tighter regulations and rules. This is the ideal way forward.

The complete ban on chrome plating in any time frame is not practical. We as an industry produce less than 1% of all hex chrome
36-2 emissions, who/what/where are the 99%? What are you doing about limiting the excess emissions from all the bigger places and companies and names? By attacking the smallest group, you will be
36-3 shutting down small businesses in the state, and forcing jobs out of state - because people will not suddenly stop wanting chrome,
36-4 they will just have to get it from other places (who most likely have lesser emissions standards and thus affect even more people).

Please consider pushing back any rules or voting, unless all the research is complete, until the actual facts are verified and we can all move forward together and not leave thousands of people without jobs.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-12 08:05:48

No Duplicates.

Comment 37 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: steve
Last Name: Weeks
Email Address: steveweeks900@gmail.com
Affiliation:

Subject: chromeatcm2023
Comment:

37 I have been made aware of this proposed ban. I am not in favor. California is recognized as almost the birthplace of auto customization. Chrome plating is an extremely minor part of our emissions. There must be other options other than a complete ban. This is one more reason to be ridiculed by other states and part of the bigger picture why so many people are leaving this once great state. The elitist attitude that as California goes so should the country is doing us harm in many ways. Please reconsider.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-12 10:00:26

No Duplicates.

Comment 38 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Matthew
Last Name: Pankow
Email Address: mattp@platinginternational.com
Affiliation: Plating Internatioanl Inc.

Subject: Chromium
Comment:

38-1 The current standards in place have dramatically reduced emissions in regard to Chrome Plating and Anodizing and I don't see how an amendment in justified. An amendment would negatively impact the
38-2 industry, local manufacturers and move more business to other countries around the world.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-13 10:38:08

No Duplicates.

Comment 39 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: HEPA Filtration not BACT anymore?
Comment:

39-1 This ATCM imposes a ban on hex chrome use for hard chrome plating even though there is not an alternative. Since the ban is imposed even though hard chrome platers do use state of the art HEPA filtration systems, CARB is establishing a precedent that HEPA filtration systems are inadequate for management of carcinogens. This has major implications for not only hex chrome, but for nearly all the other air toxics in California. CARB would be saying that HEPA filtration is no longer the Best Available Control Technology. A ban would now be the best available control technology.

But HEPA filters are effective for control of hex chrome as evidenced by all the other CARB and district rules which require use of HEPA enclosures and booths and which have not been proposed to be revised. There is a long list.

Is it CARB's strategy to start with platers to eliminate HEPA filtration as a control method? Are they using us as some sort of Machiavellian example to everyone else. Cull out all the small business platers, win a key case, and then move on to the bigger polluters that make up 99% of the hex chrome problem. Hmmm, very shrewd.

39-2 It would be false for CARB to state that the ban is necessary due to fugitive (non-HEPA) emissions since CARB has not measured fugitives (or admitted to doing so) at hard chrome platers. Fugitive emissions observed in Paramount and Newport Beach were not from hard chrome plating.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-13 10:36:22

No Duplicates.

Comment 40 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: James
Last Name: Goehring
Email Address: jrgjrgus@outlook.com
Affiliation: Manager

Subject: Proposed ATCM amendments
Comment:

Attachment: 'www.arb.ca.gov/lists/com-attach/47-chromeatcm2023-AHNTAHNTNwB4VlAdqM0d.pdf'

Original File Name: ltr for public comment - CARB.pdf

Date and Time Comment Was Submitted: 2023-01-14 12:01:20

No Duplicates.

ROLL TECHNOLOGY WEST
DIVISION OF CHROME DEPOSIT CORP.
P.O. BOX 472, PITTSBURG, CA 94565
(925) 432-4507, FAX (925) 432-8760

January 14, 2023

California Air Resources Board

Re: Chrome ATCM proposal

Dear CARB Board Members

40-1 RTW is a hard chrome plating facility located in Pittsburg, California. We have been in business since 1994 and currently have 6 full-time positions with jobs that provide our employees and their families with good pay and benefits. I am writing to formally voice our opposition to the current recommendations by CARB staff to ban the use of hexavalent chrome. Below are a few facts for your consideration.

40-2 • The currently proposed ATCM for hexavalent chrome is not supported by science or technology.

40-3 • CARB staff knows that their recommendations will have very little impact on overall hexavalent emissions in the state as most of those emissions come from sources other than plating and anodizing.

40-2 • CARB staff has been pressured by the environmental industry in our state to propose these new regulations.

40-4 • Our affiliate companies in the EU obtained a REACH exemption by demonstrating the social economic benefits outweighed the environmental risk in our use of hexavalent chromium.

• The use of Hexavalent chrome has been on the radar for elimination worldwide for more than 25 years.

40-5 • There is no technology available for the replacement of hexavalent chrome in most applications where hard chrome is needed. In my line of work the research started more than 25 years ago and is still ongoing, but no such technology exists.

40-5 • Once a viable alternative is identified, it is expected to take a minimum of 10 years for R&D work to get to commercial viability to completely ensure the alternative meets all the characteristics and positive attributes that hexavalent chrome currently provides. Any deadline date is unsupported from a scientific and technical standpoint.

40-6
- The use of hexavalent chrome provides a hard and durable surface that keeps many machine parts in service longer, thus benefiting the environment by reducing additional manufacturing of new parts.

40-7
- The use of hexavalent chrome provides a durable and appealing finish that cannot be matched by using trivalent chrome.

40-8
- Should hexavalent chrome be banned the consumer demand will not go away. Then the risk is from more products being shipped from out of state or the emergence of an underground industry, both leading to increased air pollution for all Californian's.

40-9
- Throughout the years the plating industry, CARB, and the many districts throughout the state have worked collaboratively to insure clean air in our shops and communities. This should continue.

40-10 A ban on hexavalent chrome makes no sense. The use of hexavalent chrome is well regulated and facilities operating under district rules pose no threat to communities. Unfortunately, the environmental industry will no doubt use some unfortunate individuals claiming their ill health is related to the use of hexavalent chrome to try and persuade you otherwise. This misguided, agenda driven, and despicable effort should be rejected

40-8 outright. The current proposals will in no way improve California's air. The more likely outcome is greater air pollution. Please reject the proposed ATCM's.

Sincerely

James R. Goehring, Manager
Roll Technology West

Comment 41 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Rule Purpose according to the SRIA
Comment:

41-1 The opening paragraph of the SRIA sets forth the purpose for the rulemaking. It is artfully crafted, but misleads the CARB board and the people of California.

It states "The electrolytic processes associated with plating operations cause mists containing hexavalent chromium to be released from plating tanks, which are eventually emitted into outdoor air through building openings and vents. Despite control systems installed at chrome plating facilities, hexavalent chromium emissions continue to be released from facilities into the surrounding environment and communities. Fugitive emissions occur because the control systems do not capture 100 percent of the emissions from these facilities. Many of these facilities are located close to sensitive receptors (e.g., schools, residential care facilities, and homes where children and elderly reside), and are also located in disadvantaged communities."

Let's look at how misleading that paragraph is and how it is being misapplied by CARB.

"The electrolytic processes associated with plating operations cause mists containing hexavalent chromium to be released from plating tanks, which are eventually emitted into outdoor air through building openings and vents". This statement is NOT factually correct at hard chrome plating facilities with emission control systems. At hard chrome plating facilities, 100% of hard chrome plating tank mists are captured by the push pull headers of the emission control systems and directed into HEPA filters which at 99.97% efficiency reduce the pollutants to nearly nothing, This is confirmed by regulatorily required source testing. CARB knows this and SCAQMD knows this. But the writer needs to setup an argument about fugitive emissions and they need the reader to believe that mists are created and flying around in the air. They also want the reader to believe these emissions are coming from plating tanks and not from rinse or other associated tanks (for example, dichromate seal tanks) - which is a VERY important distinction. It takes a stretch of logic to call a dichromate seal tank a "plating tank" but that is what the writer does. Let's look at the next sentence.

"Despite control systems installed at chrome plating facilities, hexavalent chromium emissions continue to be released from facilities into the surrounding environment and communities." CARB

may have reasons for being vague with this statement but it is highly misleading. It is a diplomatic allusion to joint failures of the regulatory community) and the management practices at unnamed facilities in Southern California. CARB may not want to be specific about the facilities but a review of media reports lead to identification of Anaplex in Paramount and Hixson Metal Finishing in Newport Beach. If there are others, CARB has not identified them or the situations to which they allude. So there is no way to comment on them. For the record, it is very important to recognize that Anaplex is NOT a hard chrome plater and Hixson Metal Finishing is NOT a hard chrome plater. Neither of these firms had hard chrome plating tanks with HEPA emission control systems. The sentence is constructed artfully. It wants the reader to believe the facilities had emission controls. The truth? The facilities DID have emission controls, but certain tanks did not. As a result, there were releases into surrounding communities. CARB and SCAQMD should disclose to the public in a straight-forward way that the regulators did not require emission control systems on those dichromate seal tanks. CARB may have other data from which they can support the their contention of fugitive emissions but the lack of specificity and quantification is notable.

"Fugitive emissions occur because the control systems do not capture 100 percent of the emissions from these facilities." This is an artfully worded, factually true statement that implies equality between hard chrome plating tanks with HEPA systems capturing 99.97% of hex chrome, and to un-controlled dichromate tanks which happen to be located in a facility with controls. There is no distinction made about the level of fugitive emissions from the two vastly different facilities. It is used in this purpose paragraph to justify a sledgehammer approach which will be used to eliminate all chrome plating.

"Many of these facilities are located close to sensitive receptors (e.g., schools, residential care facilities, and homes where children and elderly reside), and are also located in disadvantaged communities." This is a true statement. The sentence could have said "Many of these facilities are located close to sensitive receptors and many are NOT located close to sensitive receptors." That is also a true statement but it does not serve the writer's cause to say it that way. The writer continues, "Some...are also located in disadvantaged communities". True. But, unsaid, some are NOT located in disadvantaged communities. Our facility is located in a community that is not scored by CalEnviroScreen because there is no residential population. Hixson Metal Finishing is located in a community with a 65th percentile score on CalEnviroScreen. Most readers will not perceive Newport Beach as a disadvantaged community.

The misleading purpose statement contained in the SRIA creates a decision environment for the CARB board which, in my opinion, creates a potential legal liability for the CARB and the State of California. The purpose as stated in the ISOR does not match the purpose in the SRIA. Further, since the rule would eliminate
41-2 infrastructure that supports the largest industries in the state (Tourism, Agriculture, Automotive, Aerospace) some serious restructuring of this ATCM must be done. It is obviously unfair to
41-3 hard chrome platers who have invested in HEPA systems and are compliant with the SCAQMD rules. It is unfair to California workers
41-2 at impacted facilities and at links in the supply chains which are supported by hexavalent hard chrome platers. Please reconsider your approach to this rule-making.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-15 07:25:31

No Duplicates.

Comment 42 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: ATCM & SRIA Technology Assumptions Invalid
Comment:

42-1 The CARB ATCM SRIA estimates a benefit of 10 pounds of hex chrome per year. 86% of that benefit is derived from the impact of the ATCM on hard chrome platers. Yet, the ATCM does not identify any technology which is capable of replacing hard hex chrome plating. A technology is imagined for the purpose of cost and benefit estimation in the SRIA.

We are able to determine from the SRIA that the attributes of the imagined hard chrome plating technology are as follows:

Emissions - None
Implementation Cost - $4 Million per facility
Method of applying the technology - undefined
On-going operational cost - Same as current technology
On-going operational process time - Same as current technology
Effectiveness of technology attributes - Same as current technology (with no analysis of hardness, lubricity, coefficient of friction, wear resistance, corrosion, porosity, method of application, etc..)
Technology adoption rate - immediate at implementation of the new technology
Technology adoption scope - all applications simultaneously

Technology development as it relates to hard chrome alternatives has been ongoing for more than 25 years and is well understood. The assumptions above are NOT consistent with the most likely technological development path for a hard chrome alternative in the future. The most likely technology development path will not have a binary yes/no ability to change technological attributes (named above) all at once across all applications.

This SRIA completely fails to recognize how technology change occurs and is implemented, yet it allows CARB to take credit for 86% of a benefit without associated recognition of cost.

42-2 There is no analysis of the costs to other supply chain participants (manufacturers, maintainers, etc...) from changing to the imagined technology in the this SRIA.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-15 07:39:23

No Duplicates.

Comment 43 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: US Federal Law is superior to California Law
Comment:

43 Aviation Repair Solutions, Inc. repairs commercial aircraft parts as a participant in interstate commerce and under the purview of the Federal Department of Transportation Federal Aviation Administration. As such, we are legally required by federal law to perform our work in concert with FAA regulation. FAA regulation requires us to repair parts in compliance with FAA approved repairs. FAA approved repairs require us to use hexavalent chrome plating. If we do not use hexavalent chrome plating we are in conflict with federal law.

The proposed CARB ATCM violates the commerce clause and supremacy clauses of the United States Constitution.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-15 09:27:45

No Duplicates.

Comment 44 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Kyle
Last Name: Cassano
Email Address: kylecassano@mac.com
Affiliation:

Subject: Do NOT ban hex chrome plating in CA
Comment:

44-1 California is the most regulated state in the country for chrome plating, which makes it the safest and most responsible state in the country to perform chrome plating.

44-2 This ban is not based on science... it will harm businesses and
44-3 your constituents. Reconsider... do not ban.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-15 16:44:46

No Duplicates.

Comment 45 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Luke
Last Name: Kidd
Email Address: motorsatan@gmail.com
Affiliation:

Subject: ban the mouse
Comment:

45 According to your own CARB reporting for 2018/2019 a single Anaheim theme park produced more hexavalent chromium than all California chrome shops combined. Why are you not passing laws to shut down the monster which is Disney Land? Going after small business all across the state only hurts our citizens, the ones you are elected to serve. Please rethink what you are proposing and do the right thing.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-16 11:59:26

No Duplicates.

Comment 46 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Cathy
Last Name: Ream
Email Address: cream@teikuro.com
Affiliation: Teikuro Corporation

Subject: Chrome Ban
Comment:

46-1 It is not possible to put a timeline on banning hexavalent chromium because there is not a "one size fits all" solution to replacing hexavalent chromium coatings as the function and properties needed can be different for different products. Sometimes, it can even be impossible.

46-2 I have not worked with trivalent chromium but I understand that the color is different than hexavalent chrome, usually a whitish color. Do you think consumers want "white" bumpers and chrome trim on their automobiles and restored automobiles? Do they want a white kitchen faucet?

46-3 Chromium electroplaters and anodizers in California have spent hundreds of thousands of dollars, if not millions of dollars, to meet the current low emmisions regulations for hex chrome. Of these companies, some are large and some are small. Some would survive a hex chrome ban, but many, especially the smaller ones that only work with chromium, would not. What happens to the owners when they have to walk away from the money that they already have invested?

46-4 I have worked in the metal finishing business for over 40 years, chromic anodizing in the past and the majority of my career and most recently with hexavalent chrome industrial electroplating, so I am speaking about electroplating in that it is a unique process and the operators have a unique and special skill. Many have spent the majority of their careers in this business and are facing the possibility of losing their jobs if the ban is enacted. I understand that the industrial chrome ban won't be effective for 17 years, but the decorative chrome ban is much sooner. With these special skills, what kind of employment will they be able to obtain at the ages a lot of them are? Even in 17 years, most probably won't be retirement age yet, so I don't think that you are considering the effect it will have on the workers and their subsequent employement....and the supply chain workers and customers.

46-5 The PFOS/PFAS issue is a whole, separate and different issue. PFOS was and PFAS is being used legally. Getting rid of hex chrome should not have as it's goal to get rid of PFAS.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-16 11:41:56

No Duplicates.

Comment 47 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: matt
Last Name: theobald
Email Address: matt.theobald@gmail.com
Affiliation:

Subject: Chrome and Safe Operation
Comment:

47 Please consider the facts regarding going after the decorate chrome plating industry, the impact of moving the business out of the state is just moving the problem.

I work in industries where challenging chemistry is often a problem, I would rather see the business and processes stay in a state where people are motivated to operate and control them safely, rather than have the shipped outside where others may not operate so safely.

The need for decorative chrome will remain, please keep it in a state where there is motivation to operate it safely.

-Matt Theobald

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-16 12:40:34

No Duplicates.

Comment 48 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Albert
Last Name: Ybarra Jr.
Email Address: 805dicos@gmail.com
Affiliation: Sherms Custom Plating

Subject: Chrome Ban in California
Comment:

My name is Albert Ybarra Jr. I am a second generation polisher at
48-1 Sherm's Custom Plating in Sacramento. I starting working at Sherm's right out of high school. I am now 38 years old. I was able to purchase my home when I was 25 years old due to the steady employment and how hard I have worked in my career. I am now the shops foreman and on track to be apart of the ownership group. By taking away chrome not only will you be taking away my job, but my fathers job as well. I pride myself in what I do for the automotive industry and it shows in the quality product our facility puts out.
48-2 We also take pride in the cleanliness of our facility. Please give
48-3 us an emissions standard that we can meet and don't ban chrome all together.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-16 13:25:29

No Duplicates.

Comment 49 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jerry
Last Name: Desmond
Email Address: jerry@desmondlobbyfirm.com
Affiliation: Desmond & Desmond LLC

Subject: CARB CrVI ATCM Update
Comment:

Comments of the Metal Finishing Association of Northern California, Metal Finishing Association of Southern California, and National Association for Surface Finishing.

Attachment: 'www.arb.ca.gov/lists/com-attach/56-chromeatcm2023-VjUGYQNwBDVXDglq.pdf'

Original File Name: CARB CrVI ATCM Letter 1-16-23.pdf

Date and Time Comment Was Submitted: 2023-01-16 14:56:06

No Duplicates.

January 16, 2023 via comment portal: https://ww2.arb.ca.gov/applications/public-comments

Liane M. Randolph, Chair
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations

Chair Randolph:

49-1 The organizations signing onto this letter together urge the California Air Resources Board [CARB] not to move forward with the current draft of proposed amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations [CrVI ATCM] that was posted on November 29, and to correct the significant deficiencies before moving forward with an update.

We urge the Board to revise the current draft ATCM to provide emission control measures that will be effective in further reducing the negligible amount of air emissions of hexavalent chromium from metal finishing facilities, recognize the extremely negative consequences of these bans, and provide a reasoned, science- based approach and emission-based rule moving forward.

The current draft instead proposes three severe bans on hexavalent chromium plating in California on the following dates:

- January 1, 2024—new or expanded operations
- January 1, 2027—decorative plating
- January 1, 2039—functional plating [hard plating and chromic acid anodizing]

49-2 As documented by numerous verbal and written comments made and submitted throughout the workshops that have been held in the development of the updated ATCM, the bans will not change what the market requires. The bans will simply export these operations to other states and countries where there are less if any controls and will result in an increase in emissions. 49-3 These bans will leak significant businesses and associated jobs away from California.

49-4 The current draft understates the likelihood of this happening, and provides no data to support the assumption that California facilities will explore CrVI alternatives, and invest in the transition to alternatives, without customers. While we appreciate the intention to further the acceptance of alternatives through the appropriation of state funds, any success is speculative. The January 1, 2026 ban is not conditioned on changes in customer acceptance of alternatives. It is not conditioned on the ability of a facility to close down its CrVI plating operations and simultaneously invest in alternative plating operations.

This reality undermines the statements that the update will provide an incentive for the future development of non-hexavalent chromium plating technology, including the following in the Standardized Regulatory Impact Assessment [SRIA]:

> *"Some decorative plating facilities may not wish to convert to trivalent chromium because they believe their customers will not accept the deposition color. Therefore, the Proposed Amendments may create opportunities for design, research, engineering, construction, and project management firms to design and research new technologies for a less toxic or*

49-4 *nontoxic alternative to hexavalent chromium. Some of these innovative technologies may be manufactured in California and, in these cases, would benefit Californian businesses and provide jobs for California."* [SRIA-208]

The California Department of Finance explicitly asserted the lack of data:

"These impacts are the motivation behind the sensitivity analysis presented in Section 5.3.6 of the SRIA, where staff considered the impacts under potential scenarios where the Proposed Amendments would be associated with a 25, 50, and 75 percent decrease in final demand for California's chrome plating industry. This approach was taken due to the lack of specific data quantifying the reduction in demand or the amount of business closures that could result from the Proposed Amendments."

49-3 To the contrary, the comments and testimony submitted by customers confirm that they will respond to the ban on decorative chrome plating by taking their products to other states and/or countries.

It is also of great concern that the proposal to ban CrVI plating fails to acknowledge the importance of this segment of manufacturing in California, the significant emission reductions this industry has achieved to date and can obtain through further emission reduction efforts, and the increase in emissions that will result from plating operations moving to other states and countries with less if any emission requirements. Bans send the wrong message to manufacturers. These bans will increase emissions, remove California as a location for future manufacturing, and permanently drive essential jobs out of our communities.

49-1 This does not have to occur. The associations have provided reasonable approaches for CARB to structure the update to the ATCM so that it will not pose these concerns. This can be accomplished by an emissions-based rule that enables facilities to invest in the necessary technologies and operational improvements to meet specific targets. It will also enable those facilities that are already dedicating resources to comply with the requirements of the South Coast Air Quality Management District's Rule 1469.

49-6 The processes covered by the CrVI ATCM are critical to many industries. Decorative hex chrome plating is utilized for key segments of the consumer marketplace, while the aerospace and defense industries use hard chrome plating and chromic acid anodizing to meet strict OEM and defense [MIL-SPEC] requirements. It is estimated that 30% of contractors for the aerospace and defense sectors are located in California. The ability to meet these specifications is crucial to many supply chains.

49-7 It is important that the updated ATCM meet the goals of the California Health and Safety Code [HSC]. HSC Section 39666[c] requires the ATCM for toxic air contaminants [TACs] with no identified safe level of exposure to reduce emissions to the lowest level achievable through application of the best available control technology or a more effective control method, in consideration of the factors specified in HSC Section 39665[b]. These factors include health risks, availability and technological feasibility, costs, and the availability, suitability, and relative efficacy of less hazardous substitute compounds.

HSC Section 39666[c] requires the ATCM *"to reduce emissions to the lowest level achievable through application of the best available control technology or a more effective control method."* The current draft CrVI ATCM fails to identify or analyze the best available control technology [BACT] or more effective control methods. This is a clear error since the South Coast Air Quality Management District [SCAQMD] recently developed and adopted Rule 1469 with BACT requirements.

Further, HSC Section 39666[c] does not state that the ATCM may include two of the key provisions of the draft update: [i] chemical bans; and [ii] requirements to substitute trivalent and other yet-to-be-determined substitutions for CrVI.

49-8 This is especially troublesome in light of the extensive BACT provisions established by the South Coast Air Quality Management

49-8 District in its recent updates to Rule 1469. The majority of the decorative CrVI platers in California that will be subject to the updated ATCM have invested significant funds to comply with that rule and the additional emission control provisions. Those significant assets will be stranded if an updated ATCM overrides this new rule.

49-5 CARB participated in that rulemaking, yet the draft update ignores the provisions of the rule, the costs of compliance, and its effectiveness in reducing emissions including fugitive emissions. There is no analysis or risk analysis that facilities that are meeting the Rule 1469 requirements are endangering public health. Instead, the draft establishes the rule's provisions as an interim requirements for hard chrome plating until the January 1, 2039 ban date. The one difference, the increase in the frequency of source
49-9 testing, is unnecessary, unsubstantiated, and costly.

49-10 The draft update includes a number of misstatements that provide the foundation for its provisions. For instance, the most recent data on compliance was published over a decade ago, in October 2011. click here. Yet, the Initial Statement of Reasons [ISOR] states that *"CARB's evaluation of the effectiveness of the 2007 ATCM demonstrates the need for further amendments."* The record does not include an evaluation. Instead, the document refers to people living near many of these facilities being concerned about exposure to elevated concentration of hexavalent chromium without reference to elevated concentrations. [ISOR, Page 3].

The SRIA cites two previously-adopted ATCMs in support of the phasing out of the use of TACS for more environmentally friendly alternatives. These are clearly distinguishable from the draft update to the CrVI ATCM. Customers desiring to have products hexavalent chromium-plated can easily take their products to other states or countries for this process.

In contrast, customers face timing and cost barriers if they desire to send their drycleaning to other states or countries to avoid the referenced perchloroethylene ban. Customers of automobile maintenance and repair facilities face similar challenges if they desire to drive to other states or countries to have their brakes cleaned or engines degreased to avoid the referenced ban on methylene chloride, trichloroethylene, and perchloroethylene. [SRIA-13]

49-11 It is also significant that the cited automobile maintenance and repair facilities ATCM includes variances:

> *"The proposed regulation is not expected to cause or result in significant economic hardship to any person or manufacturer. However, to further reduce this possibility, any person who cannot comply with the requirements of the proposed ATCM, due to reasons beyond the person's reasonable control, may apply in writing for a variance. The proposed variance procedures for the ATCM closely mirror other ARB variance procedures specified in ARB regulations."* [SRIA-3]

In contrast, the current draft CrVI ATCM update provides no opportunity to obtain a variance, nor does it provide an off-ramp that would enable facilities to find ways to further lower their emissions [such as to meet an emission limit of 0.00075 mg/amp-hr] and continue to operate.

49-12 The emissions inventory used in the update is a guess, based on estimates and assumptions tied to maximum permitted limits. This is confirmed in Appendix F-22: click here and SRIA 21: click here:

> *F-22: The emission factors used for facility emissions were based on the current ATCM limits and Proposed Amendments limits (see Section I.B). The annual emissions rates were calculated by multiplying the amp-hours by the respective emission factors.*

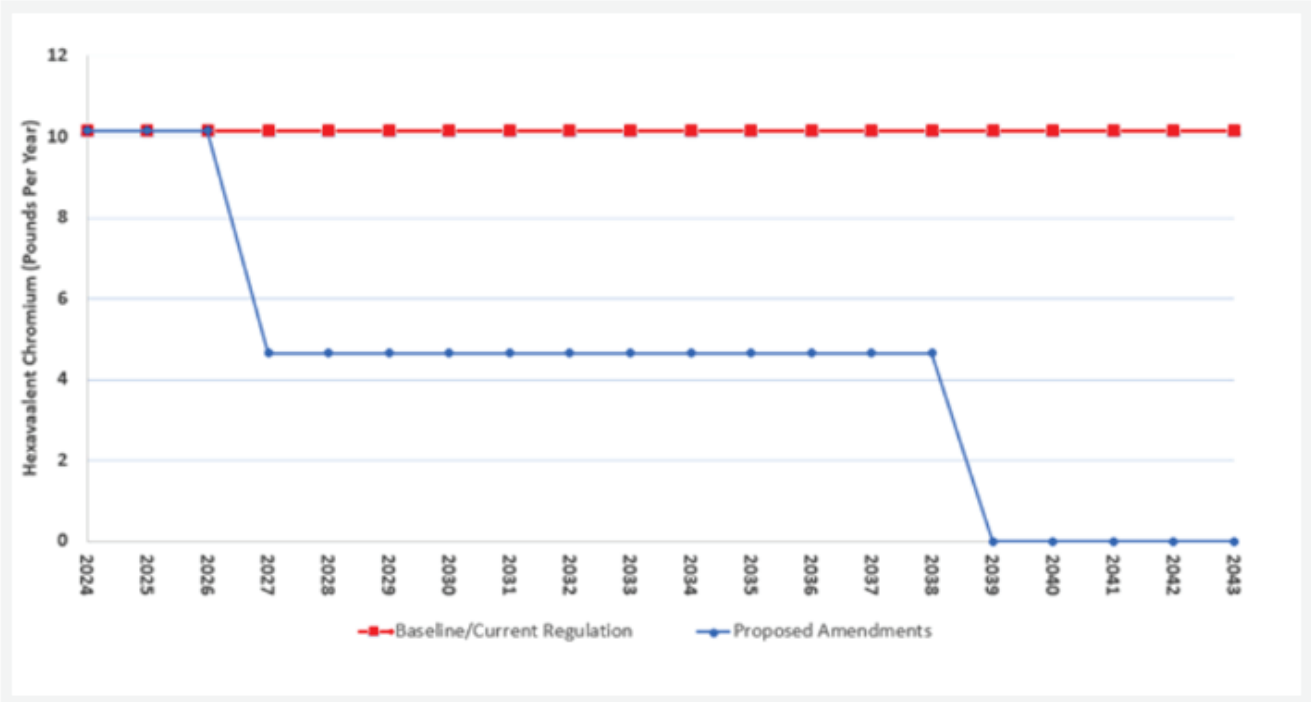
> *SRIA 21: When 2019 facility throughput data is not available, the permitted throughput limit is used to estimate actual emissions. Also, when source testing data is not available, ATCM limits are used to estimate actual emission rates. To estimate the ATCM limit and actual emissions, CARB obtained the annual throughput data for approximately 80 percent of facilities for the calendar year 2019. Using emissions limits may overestimate actual emissions at some facilities. The emission estimates for any given year can be calculated by multiplying the electricity usage (activities or throughput) in ampere-hours, the number of hours used for chrome plating, and any emission factors (see equation below).*

The update is not based upon accurate emissions data. CrVI plating facility emissions have been significantly reduced over the years to the extent that chrome metal finishing comprises significantly less than 1% of total CrVI emissions for the entire state. The draft Multiple Air Toxics Exposure Study [MATES] V report shows a significant decline in CrVI emissions. This is prior to the adoption of SCAQMD's Rule 1469. Adoption of this rule and its controls [HEPA/fume suppressant] by facilities not located within the district would reduce emissions statewide by a projected 94%. In contrast, the SRIA on Page 22 states that:

> *"The resulting permitted emissions (based on maximum permitted throughput and ATCM emission limits) represent a possible maximum emission from all of the chrome plating facilities in California at 10.19 pounds of hexavalent chromium per year. Using the ATCM emission rate and actual reported 32 Paramount Emissions Investigation - Summary of Efforts 33 Paramount – Ongoing Air Monitoring Activities SRIA 22 ampere-hour data, the estimated potential emissions from chrome plating facilities is 3.81 pounds of hexavalent chromium per year. When using available source test data and actual reported ampere-hour data, the estimated actual emissions in 2019 is about 2.3 pounds of hexavalent chromium."*

As clearly shown in the following figure in the SRIA, the document establishes a baseline utilizing allowable rather than real emissions data to overstate the minimal contribution that metal finishers make to total CrVI emissions, ignores the significant impact of Rule 1469 in reducing emissions, and focuses on zero emissions as the target:

Figure 1: Current Regulation/Baseline vs. Proposed Amendments Hexavalent Chromium Emissions



49-5 There is an effective alternative. Metal finishing shops in Southern California are investing significant capital to install and operate new measures as required by the recently-enacted South Coast Air Quality Management District Rule 1469 to further reduce emissions of hexavalent chromium.

CARB should adopt this rule on a statewide basis. The draft update fails to consider this reasonable and effective alternative. Instead, the SRIA identifies and analyzes just the two alternatives of a short phase-out and no phase-out.

We can accomplish more by working together to protect our communities, further reduce emissions, and enable essential jobs to remain in California. We urge your timely engagement and leadership to ensure that the updated CrVI ATCM is based on currently available and proven technologies that significantly decrease emissions and does not lead to a ban of these critical processes, strand assets, export plating and their jobs to other states and countries, and significantly increase air emissions.

We remain committed to working with the Board as we have in each of the previous rulemakings addressing hexavalent chromium, to develop an updated rule that protects public health.

Sincerely —

Bobbi Burns

Bobbi Burns, MFANC President, 510-659-8764

Vince Noonan

Vince Noonan, MFASC President, 800-227-9242

Bryan Leiker

Bryan Leiker, MFANC & MFASC Executive Director, 818-207-1021

Jeff Brassard

Jeff Brassard, NASF President, 202-457-8404

C: Members, California Air Resources Board
Executive Officer Hon. Steven S. Cliff, Ph.D.

Comment 50 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: CARLO
Last Name: SPARTANO
Email Address: CSPARTANO@COMPLETECOACH.COM
Affiliation: complete coach works

Subject: WE NEED CHROME PLATING
Comment:

50 THE AMOUNT OF ACTUAL HEX CHROME USED ON OUR PRODUCT LINE IS MINIMAL BUT NECARRY .THE SMALL AMOUNT OF CHROME IS NOT CAUSING HARM TO OUR ENVIRRONMENT LIKE DIESEL FUEL AIRCRAFT FUEL CONCRETE GRINDING AND CUTTING --WE NNEED CHROME PLATING

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-16 15:28:21

No Duplicates.

Comment 51 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Cathy
Last Name: Atterman
Email Address: la_design@sbcglobal.net
Affiliation:

Subject: CARB
Comment:

We have been in the promotional marketing industry as a supplier and manufacturer for more than 25 yrs. We have made plenty of jewelry and other small promotional items doing business with General/Brite Plating in LA County.

51-1 The amount of Chrome/Hexavalent Chrome use on these products does not represent enough of a percentage to cause any harm airborne or in contact to skin to warrant a ban. There have been enough props and other guidelines placed in this industry that are being

51-2 followed to protect the people. I have never had a complaint from a client regarding this type of plating. There are very few plating

51-3 companies left for manufacturers to source out for plating processes, please don't take away more jobs and more small business. There are other more important airborne causing illness

51-1 like aircraft fuel, diesel fuel to name a couple.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-16 15:29:35

No Duplicates.

Comment 52 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Janice
Last Name: Stewart
Email Address: janice@henrispecialties.com
Affiliation:

Subject: ALLOW Chromium Electroplating and Acid Anodizing Operations
Comment:

52 This will kill a lot of our business as many hotels want special finishes and this is the only way to give them what they designed and want. We will have to go to China to get this done so there goes more work oversees instead of our own state! SMALL BUSINESS WILL LOSE OUT!!!

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-16 15:47:52

No Duplicates.

Comment 53 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Angelica
Last Name: Vargas
Email Address: Angelicavrda@gmail.com
Affiliation:

Subject: Keep Chrome in California
Comment:

53 Hello my name is Angelica Vargas,
I'm writing this petition to aid in the support to keep the chrome Industry. My husband has been an employee of Sherms Custom Plating for 20 plus years along with 12 others who are Fathers, Husbands, Grandfathers and the main household providers for their families. My husband has been able to give it his all, working long hours in something that not only makes a living doing but also is his passion. This career has given us a future to continue to own our own home, send our children to college and continue to live in the state of California. Thank you

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-16 17:22:07

No Duplicates.

Comment 54 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: David
Last Name: Martinez
Email Address: Davidamartinez77@gmail.com
Affiliation:

Subject: Chrome plating
Comment:

54-1 I have never seen a more regulated industry than that of the plating industry. And it's not just for the automotive industry. It's also for the art industry and home decor industry.
54-2 Baning this type of industry is just going to drive out more of the fleeing citizens out of California. And another historical industry gone.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-16 18:03:26

No Duplicates.

Comment 55 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Randall
Last Name: Eldridge
Email Address: randy@ldlgc.com
Affiliation: General Contracting

Subject: User of Chrome Plated Products- Do Not Ban
Comment:

55 Please sirs, I urge you to consider how much actual base materials are used for this type of plating--not much. I would ask that you turn to look and spend more time and resources on larger use products/particulates that are harmful but in large scale such are diesel fuel waste, spills and mishandling and also dust particulate in out air from concrete cutting etc.

Thank you in advance,
Randall Eldridge

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-16 18:17:02

No Duplicates.

Comment 56 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Chris
Last Name: Scarano
Email Address: chris@leferforge.com
Affiliation:

Subject: Please
Comment:

56 Please consider that the amount of actual Hex chrome used on our product line is minimal but necessary. The small amount of chrome is not causing harm to our environment like diesel fuel, aircraft fuel and Concrete cutting and grinding. Thank you!

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-16 19:32:01

No Duplicates.

Comment 57 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Source Test Frequency
Comment:

57 The requirement to source test pollution control systems very two years is unnecessary and extremely costly. It is unnecessary because ongoing compliance with Rule 1469 requires ongoing monitoring of control system parameters such as pressure drops and slot velocities and documented maintenance practices. District enforcement of these rule elements assures there is not a need for source testing frequency greater than every ten years. CARB's requirement to test every two years is unreasonable.

If there is data that supports the need for testing frequency less than 10 years, CARB should present it. Even the current SC AQMD requirement is too frequent.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-17 07:52:12

No Duplicates.

Comment 58 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Rebecca
Last Name: Overmyer-Velazquez
Email Address: rebecca@cleanaircoalition.org
Affiliation: Clean Air Coalition of North Whittier an

Subject: Switch to trivalent chromium!
Comment:

58 I ask that you finally take action to end the practice of boiling highly toxic metals near the places our children attend school, near our churches, near our local business, and next to the neighborhoods where we live, work, play, and pray. Over half the chrome platers in California are near a school, church, or neighborhood.

Switching to trivalent chromium has the benefit of not only significantly reducing the toxic emissions of one of the most dangerous chemicals known into our communities, but facilities using trivalent chromium avoid having to use toxic PFAS-based fume suppressants as well.

Please take this important action in the Chrome Plating ATCM now, to gain early reductions in the many communities affected by the decorative chrome platers, and to commit to early action to switch both the anodizer and hard chrome platers away from hexavalent chromium as soon as feasible alternatives can be identified.

Thank you for your commitment to protecting the health and well-being of our most impacted communities and your continued public service.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-17 08:32:29

No Duplicates.

Comment 59 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: James
Last Name: Simonelli
Email Address: james@metalscoalition.com
Affiliation: California Metals Coalition

Subject: Comments on ATCM (California Metals Coalition)
Comment:

Thank you for allowing us to provide comments. James

Attachment: 'www.arb.ca.gov/lists/com-attach/66-chromeatcm2023-R3VdKwNwBDhWMm0D.pdf'

Original File Name: CMC_Comments_Jan2023_CARB_ATCM_Cr6.pdf

Date and Time Comment Was Submitted: 2023-01-17 11:36:14

No Duplicates.

CALIFORNIA METALS COALITION

Main Office and Mailing Address: 2971 Warren Lane, El Dorado Hills, CA 95762
Lobbying Office: 1215 K Street, 17th Floor, Sacramento, CA 95762
P. 916.933.3075 | F. 916.933-3072 | http://www.metalscoalition.com

January 17, 2023

Liane M. Randolph, Chair
California Air Resources Board (CARB)
1001 I Street
Sacramento, CA 95814

cc: Eugene Rubin, Staff Air Pollution Specialist, Toxics Control Section (eugene.rubin@arb.ca.gov)
Submitted Electronically: https://ww2.arb.ca.gov/applications/public-comments

RE: Comments on Public Hearing to Consider the Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations

Dear Chair Randolph:

The California Metals Coalition ("CMC") appreciates the opportunity to comment on the *Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations,* and working groups, led by the California Air Resources Board ("CARB").

SUMMARY

This comment letter addresses the upcoming January 26, 2023 workshop for "Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations." It may also reference previous public workshops on this topic.

ABOUT ADVANCED METALS INDUSTRY IN CALIFORNIA:

California metal manufacturers utilize recycled metal (ex: aluminum, brass, iron, steel) to manufacture new metal parts installed in clean energy technologies, electric cars, medical devices, agriculture, infrastructure, aerospace, defense, food processing, movement of water, and millions of other products demanded by Californians.

Statistics about the state's metal sector[1]:

- Metalworking jobs in California pay $80,000/year, on average, in wages and benefits.
- Metalworking jobs benefit working class communities and continue to be the only path to the middle-class for many disadvantaged Californians.

[1] www.metalscoalition.com/metals-industry.html

- The metals industry in California is comprised of approximately 4,000 businesses, most of which are family-owned small businesses.
- The metals industry in California generates over 350,000 total jobs.
- The metals industry in California accounts for $87 billion in total annual economic activity.
- The metals industry in California generates $28 billion in total annual wages.
- The metals industry in California accounts for $8.6 billion in total annual state and federal taxes.

ENVIRONMENTAL BENEFITS OF MANUFACTURING METAL PRODUCTS IN CALIFORNIA:

Californians discard more metal than any other state in the US. In fact, Californians generate enough aluminum scrap each day to build 5 commercial aircrafts. Fortunately, recycled metal is the choice material consumed by California's metals industry.

As metal can be recycled and reused indefinitely without losing its physical properties, metal recycling allows us to preserve the finite resources we have on earth. The Institute of Scrap Recycling Industries (ISRI) reports that recycling one ton of aluminium saves up to 8 tons of bauxite; and recycling one ton of steel conserves 1,115 kg of iron ore, 625kg of coal and 25kg of limestone. In addition, using scrap metal instead of virgin ore generates 97 percent less mining waste and reduces 40% water pollution. In total, the process of recycling discarded metal and manufacturing new metal parts can cut greenhouse gas emissions by 300 million to 500 million tons.

A healthy metals sector also has a big impact on energy conservation. Recycling discarded metal into new metal parts requires drastically less energy than manufacturing new metal parts from virgin material. The estimated yield in energy saving by using recycled metals is: 95% for aluminum; 85% for copper and 75% for iron and steel.

Finally, the environmental footprint of the metal products we all consume starts with manufacturing. Local metal recycling and manufacturing reduces overall emissions as California's metals industry adheres to the world's most stringent environmental standards. Shipping metals out of California—only to have the finished product shipped back into the state—can result in significant localized transportation emissions, as well as increased global greenhouse gas emissions.

COMMENTS ON JANUARY 26, 2023 PUBLIC WORKSHOP

59-1 **Item #1: Concepts increase California's warehouse construction and congestion.**

The California Metals Coalition (CMC) has members that manufacture parts which require them to utilize chromium electroplating and chromic acid anodizing to satisfy customer specifications. Regardless of whether the finish is required to be decorative, or functional, the metal parts must meet the stated testing, engineering and product specs approved by the customer.

Eliminating local sources of chromium electroplating and/or acid anodizing in California will break a link in California's manufacturing chain.

Currently, parts are manufactured and kept at the same facilities prior to finishing. Without a local source of plating in California, keeping up with customer demand may lead to increased use of warehousing as the parts wait for interstate, or international, metal finishing.

California has seen a boom in warehouses, and trucks that carry the products to and from warehouses. This has resulted in an increase in pollution and rulemaking[2] related to warehouse activities. In December 2021, SupplyChainDive published *7 charts show Southern California's warehousing crunch*[3]. According to the article, the increase in warehousing has resulted in "Stakeholders are attempting to provide relief in several ways, such as filling parking lots with drop trailers, (and) securing warehouse space outside port markets."

CMC questions whether CARB staff has considered the overall increase in congested warehousing, or even the increase in trucking/transportation based on its proposals. This analysis should quantify the pollution from localized warehousing, trucks, trains, planes, or ports—which includes hexavalent chromium.

59-2

Item #2: Concepts further congest statewide truck transportation and truck pollution.

The maximum total vehicle weight for a commercial truck in California is 80,000 lbs. Of all the different products shipped across the state, metal parts are heavy and can quickly hit the capacity limit of trucks on California's roads. Rules that further the distance of trucks traveling on our roads is a concern to CMC as it impacts local, regional and statewide health.

A metal part that is manufactured in California will see an increased travel route if the part must be shipped out of state for chromium electroplating and chromic acid anodizing—and then back into the state. CMC questions whether CARB staff has considered the overall increase in transportation routes (ex: trucks, train, ships, plans) to get the product out of California—and back into California—rather than utilizing in-state commerce. This comparative analysis should quantify the increased pollution—which includes hexavalent chromium.

It should also be noted that the relationship between a local manufacturer of metal parts, and the local finisher of metal parts, occurs because very often individual parts must first be tested and accepted prior to placing a full order.

Without a local chromium electroplating and/or acid anodizing facility, even 1 or 2 parts that are being cleared for initial approval must travel much longer distances out of California—and then back into California.

59-3

Item #3: Exhaustive analysis of pollution control technologies.

The CARB website on "chrome plating ATCM" includes several references to local and national rules. More specifically, the local California air agency South Coast Air Quality Management District (SCAQMD) has completed several rounds of rulemaking in recent years specific to chromium electroplating or acid anodizing.

---

[2] Fighting Toxic Pollution: The Indirect Sources Rule – California Green Zones (calgreenzones.org)
[3] 7 charts show Southern California's warehousing crunch | Supply Chain Dive

Since SCAQMD is authorized and monitored by CARB it is unclear why SCAQMD rules for chromium electroplating or acid anodizing are not acceptable to CARB and has sparked this rulemaking.

SCAQMD's health agents, air experts, legal, staff and board are heralded as the best local air district team in the United States. CARB staff has not commented on where is disagrees with SCAQMD rulemaking; and if it does disagree with SCAQMD, why it didn't make comments while local rulemaking was being debated by industry, communities, and local government?

CARB staff should specifically analyze the control measures in SCAQMD rules and provide data, analysis, and testing that shows SCAQMD's rules are not effective in protecting public health.

59-4 **Item #4: Object to technology reviews to potentially adjust phase out dates.**

Future technology reviews should only occur if the rulemaking does not include the elimination of a process.

It is confusing why CARB would propose a rule that would include the following phase outs: (1) phase out use of hexavalent chromium in decorative plating by 1/1/2027; and (2) phase out use of hexavalent chromium in functional plating (hard plating and chromic acid anodizing) by 1/1/2039—and then concurrently propose further reviews that would question its conclusions.

The regulated community, and its employees/families, rely on rulemaking agencies to make thorough and informed decisions. Any loss in the livelihood of our small businesses and workforce is not acceptable if the agency already plans to go back and alter its decisions.

Lastly, if CARB staff is relying on California to accelerate innovation and technology changes through this rulemaking, it has not accepted that California is no longer the driver of decision making for metal manufacturing. Over that last 20 years, worldwide commerce, international competition, and the ability to share technology has allowed metal manufacturing to thrive faster in neighboring states and far away continents.

59-5 Please take the time to work with local metal manufacturing and local metal platers to find local solutions that allow us to survive locally, address public health concerns, limit warehousing and truck pollution, and find a balance between productivity and innovation.

CONCLUSION

Thank you for your time, and for allowing CMC to participate and comment on CARB's *Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations*. Please do not hesitate to contact me with questions: *james@metalscoalition.com*.

Sincerely,

James Simonelli
Executive Director

Comment 60 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Evette
Last Name: Holman
Email Address: evettebeckwith@yahoo.com
Affiliation:

Subject: Chrome
Comment:

60-1 I am married to a decorative chrome plater here in California and I don't understand why CARB is unwilling to work with this industry.
60-2 The regulations are stricter here than any other state. My husband runs a very clean operation in Sacramento, and it is monitored from multiple agencies to protect workers and public health.
60-3 How are we going to support ourselves not to mention his employees? You can't just move a Chrome plating shop, it takes lots of assets which quite frankly are not available. I would also question if what you are proposing is even legal? how you can ban the smallest
60-5 users of chrome while allowing larger companies to operate seems unfair. Please reevaluate this rule before it does more damage to
60-3 jobs in California.
Thank you

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-16 14:01:45

No Duplicates.

Comment 61 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: James
Last Name: Pessy
Email Address: artdecod@aol.com
Affiliation: Art Deco Decor inc

Subject: Chrome Plating
Comment:

61 Please Note ; We need Chrome plating for a lot of the Lighting Fixtures that we manufacture now and in the future . I understand that there is very little of Chrome actually used . There are lots of other chemicals other companies that are much worse for the environment .
By James Pessy

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-17 11:59:56

No Duplicates.

Comment 62 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Carl
Last Name: Troncale
Email Address: carl@caltronplating.com
Affiliation:

Subject: hex chrome
Comment:

To: CARB

I'm writing to share my opinion regarding the hexavalent chrome ban. Trivalent chrome does not have all the same properties as hex 62-1 chrome. Color is one. The sulfate process has a better color, but you don't get the corrosion protection. the chloride process can resemble stainless steel in color. It is very important to our customer base that the color is right. We will lose customers. They 62-2 will go to Az, Texas and Mexico first. I've already had the conversation with several of them.
I too wanting to protect the environment like everyone else, but 62-3 this doesn't make sense to me. It seems to me that all were doing is exporting the process to another state or country. We have spent 62-4 over $100,00 dollars to control our emissions here and were a small company. I did not mind doing that and it really made a difference. 62-5 Our Chrome emissions with the use of a Hepa filter are extremely low. I truly believe we will lose half if not more of our 62-2 customers if this happens. We have been in business 62 years with many employees that have been here 35 to 50 years. Everyone has 62-6 been health too.

Thank you for your consideration.

Carl Troncale, President

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-17 12:29:44

No Duplicates.

Comment 63 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Ray
Last Name: Lucas
Email Address: ray@valleychrome.com
Affiliation: MFANC

Subject: Hex Chrome Ban
Comment:

Ladies and gentlemen,

63-1 There is no good reason to destroy an industry when you have the alternative in rule 1469. I have already switched to Trivalent
63-2 Chromium for my processes but it took years and hundreds of thousands of dollars. It does work in my case but anyone doing
63-3 custom restoration work cannot use it. Since our industry
63-4 contributes far less than 1 % of the emissions in California this
63-5 rule makes no sense. I think you are kowtowing to the environmental coalitions for no good reason other than it is politically correct.
63-1 Please do the right thing and change this from a ban to a rule that mirrors Southern Cal rule 1469. Don't kill off this vital industry for no good reason.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-17 13:11:36

No Duplicates.

Comment 64 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Albert
Last Name: Ybarra Sr.
Email Address: aychrome66@yahoo.com
Affiliation: Sherms Custom Plating

Subject: Ban on Hex Chrome
Comment:

My name is Albert Ybarra. I work for Sherm's Custom Plating in Sacramento. I have been in the chrome plating field for 38 years. I love my job. I have a family and grand kids who depending on me. If you decided to close the plating industry down you will be taking a lot of peoples jobs. Please do a little bit more study and research before you try to close down the industry.
Sincerely,
Albert Ybarra Sr.

64-1
64-2

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-17 13:24:49

No Duplicates.

Comment 65 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Dustin
Last Name: Berry
Email Address: dberry@teikuro.com
Affiliation: Teikuro Corp.

Subject: Chrome plating
Comment:

65 Chrome plating is an essential part of manufacturing. Without the benefits of chrome plating and many other "toxic" surface coatings there are a multitude of products whose life would be significantly reduced. The impact of which would have an unmeasurable effect on the environment. The production of raw materials used in the manufacturing of everyday items and the tooling used to make these items would increase dramatically. The idea of banning chrome plating to improve on air quality or for other environmental reasons is completely backwards. Before making such drastic decisions we should look at the direct and indirect consequences they will have. There are far too many industries that rely on surface coatings like chrome plating.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-17 12:53:36

No Duplicates.

Comment 66 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Cynthia
Last Name: Babich
Email Address: delamoactioncommittee@gmail.com
Affiliation: Del Amo Action Committee

Subject: Hex Chrome Rule
Comment:

Attachment: 'www.arb.ca.gov/lists/com-attach/73-chromeatcm2023-WzhWMVUmADELZVcy.pdf'

Original File Name: CARBHexChromeRule12023.pdf

Date and Time Comment Was Submitted: 2023-01-17 14:03:52

No Duplicates.

January 17, 2023

Electronic Submittal: https://www.arb.ca.gov/lispub/comm/bclist.php

Clerks' Office, California Air Resources Board
1001 I Street, Sacramento, California 95814

66-1 The Del Amo Action Committee (DAAC) supports the Air Resources Board Approval of the ARB rule regarding the use of Hexavalent Chromium at metal plating facilities. The Air Board's commitment to prioritizing environmental justice in everything the Board does will be clearly realized in the passage of this important rule. According to the ARB data ninety percent of California's Hexalvelant Chrome Platers are in disadvanage communities. Dozens are near schools and daycare centers. Rulemaking, frequent inspections, and effective enforcement will do much to reduce community exposure to this clearly dangerous chemical.

DAAC worked with other organizations and Paramount residents to demand badly needed work to identify hexavalent chromium emissions at metal plating shops in Paramount. Gaining the attention of regulatory agencies was difficult. The South Coast Air Quality Management District did outstanding work in measurement of Hex chrome levels in the air in Paramount that disclosed alarmingly high levels of in the community. Needed enforcement demanding the plating shops significantly lower air emissions resulted in dramatic reductions.

Technology Reviews

66-2 The rule calls for CARB to conduct two technology reviews that evaluate the development of technologies to replace Hexavalent Chromium in Hard Chrome Plating and Chromic Acid Anodizing operations. Discontinuation of chemical fume suppressants must be included in these reviews. Each technology review will include a summary of the status of the development and availability of alternative technologies.

CARB staff will complete first technology review by January 1, 2032, and the second technology review by January 1, 2036. Often regulatory agencies fail to seek new technologies that could enhance environmental programs. New technologies may contribute significantly to finding better solutions.

66-2 DAAC recommends the continuation of dialogue with environmental justice organizations, community members and technical experts. A work group is needed to facilitate this dialog. The work done through the Technology Reviews should not result in the extensions of the dates to eliminate the use of Hexavalent Chromium.

P. O. Box 549, Rosamond, California 93560
Office: 661-256-7144

Enforcement

When the SCAQMD was considering rule 1469 Plating Facility representatives were standing together talking about the rule. DAAC Board Chair, Florence Gharibian, was there too. She heard one representative say that all the enforcement was removed from the rule.

If requirements in a rule cannot be enforced, compliance with those requirements is seriously undermined. Sometimes conditions in a rule that are vague hamper enforcement. An essential step in development of a rule is the evaluation of the rule by the staff that does inspections and enforcement to ensure enforceability. The enforceability of the conditions in the following paragraph in the rule may be difficult to enforce.

66-3 *"All Building Enclosure Openings that are open to the Exterior and on opposite ends of the Building Enclosure from each other shall be equipped with a Protected Opening Method and shall not be simultaneously open except during the passage of vehicles, equipment, or people though the Building Enclosure Opening. All Building Enclosure Openings that directly face any Sensitive Receptor that is located within 1,000 feet, as measured from the property line of the Sensitive Receptor to the Building Enclosure Opening shall be equipped with a Protected Opening Method and remain closed except during the passage of vehicles, equipment, or people."*

Would it be necessary for ARB inspectors to observe compliance with these requirements? Does the ARB or the SCAQMD know which facilities will require a Protected Opening Method? Why was 1,000 feet chosen as the distance in the rule? This distance is about three blocks. An Inventory of the facilities to determine those that will have to comply with the Protected Opening requirement might be useful.

Training

The rule requires:

66-4 *"Compliance Assistance Training Course pertaining to chromium plating and chromic acid anodizing on Chrome Plating every two years. On or after October 24, 2023, Environmental compliance and recordkeeping required by this ATCM shall be conducted only by the supervision of persons who completed an ARB Compliance Assistance Training Course on Chrome Plating and who are onsite. "*

It may be possible for the ARB to develop an online training course that requires participants to register in order to record their participation.

All employees at a Chrome facility should have adequate training; Records of this training must be recorded.

Compliance with Department of Toxic Substances Requirements

66-5 Store, dispose of, recover, or recycle Hexavalent Chromium or Hexavalent Chromium-containing wastes generated from the housekeeping activities would almost certainly be regulated as hazardous waste. Hazardous waste generators are required to take several steps to ensure safe handling and disposal of the waste. These include meeting hazardous waste storage and labeling requirements and training requirements. It is possible that the DTSC and ARB requirements could be mutually beneficial.

Additional Comments

The California Air Resources Board, Los Angeles City Attorney's Office, California Environmental Protection Agency, South Coast Air Quality Management District, Los Angeles County Department of Public Health, and Del Amo Action Committee began working together in late 2021 to better understand and address community concerns. This is a fine example of real community engagement and it is difficult to express how meaningful the work is to us, but wanted you to know of our appreciation.

Thank you,

Cynthia Babich and Florence Gharibian
Del Amo Action Committee

Comment 67 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Unemployment is unhealthy and is a Social Justice issue
Comment:

67

Closing chrome facilities to move them out of state will cause worse health outcomes due to unemployment than chrome plating causes.

See:

Centers for Disease Control. NIOSH Study Examines Relationship between Employment Status, Healthcare Access, and Health Outcomes https://www.cdc.gov/niosh/updates/upd-11-18-21.html#:~:text=%E2%80%9CEmployment%20is%20a%20social%20determinant,health%20outcomes%2C%E2%80%9D%20said%20Silver.

National Institute of Health. Job Loss and Health in the U.S. Labor Market
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2831278/

There is a link between job loss, alcoholism, drug abuse, and homelessness. It impacts people in every community but particularly social justice communities. This CARB rulemaking will worsen conditions in the communities CARB is trying to help.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-17 14:03:19

No Duplicates.

Comment 68 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Melissa
Last Name: Lopez
Email Address: melissal@royalcustomdesigns.com
Affiliation: ROYAL CUSTOM DESIGNS

Subject: Chrome Plating
Comment:

68 CARB please consider that the amount of actual Hex chrome used on your product line is minimal but necessary. Mention that the small amount of chrome is not causing harm to our environment like diesel fuel, aircraft fuel and Concrete cutting and grinding.
We need Chrome Plating

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-17 14:22:45

No Duplicates.

Comment 69 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Restriction of Permits
Comment:

My public comments about "ban"s should also be read in the context that any restriction of new and/or changes to permits is equivalent to a "ban".

69 Changes to hex chrome plating processes made by authorities in the context of FAA approved repairs (e.g...DER, CMM, OHM, AMS, SOPM, etc..) which require the establishment of new tanks, or changes to existing tank chemistries, temperatures, and methods should not be dis-allowed by CARB when the facility has the appropriate controls in place or agrees to put them in place concurrent with the new or changed process. This is an Air Safety issue under the purview of the US Department of Transportation.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-17 15:24:08

No Duplicates.

Comment 70 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jimena
Last Name: Diaz Leiva
Email Address: jimena@ceh.org
Affiliation: Center for Environmental Health

Subject: re. Proposed Amendments to ATCM for Chromium Plating
Comment:

Attachment: 'www.arb.ca.gov/lists/com-attach/77-chromeatcm2023-BWZcO1UmBzYGXwZl.pdf'

Original File Name: CARB Comment Letter Hex Chrome 01_17.pdf

Date and Time Comment Was Submitted: 2023-01-17 16:22:40

No Duplicates.

January 17, 2023

Dear California Air Resources Board,

The Center for Environmental Health (CEH) appreciates the opportunity to provide comments regarding the Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations. We commend the California Air
70-1 Resources Board (CARB) for taking a decisive step to phase out the use of hexavalent chromium (hex chrome) in decorative and functional plating facilities and for proposing interim measures to reduce fugitive emissions of hex chrome from these facilities. For more than five years, CEH has been working together with residents in Paramount, CA to reduce hex chrome exposures. CEH brought public interest litigation against industrial emitters of hex chrome, including chromium electroplating and chromic anodizing facilities, requiring the facilities to disseminate warnings and information about their emissions of cancer-causing hex chrome to residents, and perform routine audits of their pollution reduction controls and efficacy in reducing emissions. Since the conclusion of the legal cases, we have set-up a community-led air monitoring project to measure hex chrome levels in Paramount.

While there have been substantial reductions in ambient air concentrations of hex chrome in Paramount since 2016, it is clear from current ambient air monitoring data that emissions remain dangerously high for residents[1]. Paramount is only one of many environmental justice communities throughout the state facing exposures to hex chrome from plating facilities. The Biden Administration has committed to taking a "whole-of-government approach" to achieving environmental justice. Our experience in Paramount as well as this mandate underscore the need for an accelerated timeline and more aggressive monitoring and enforcement actions to reduce human health exposures to hex chrome. Below, we detail our specific recommendations and justification for modifications to the Proposed Amendment.

Phase-out of Hex Chrome in Functional Plating Facilities Must Occur Before 2039

As CARB staff repeatedly make clear in the Initial Statement of Reasons (ISOR) supporting the Proposed Amendments to the ATCM, there is no safe level of exposure to hex chrome. Over a lifetime, chronic exposure to even very low concentrations of hex chrome in the air can result in the development of lung and nasal cancer[2]. Given what is known about the toxicity of hex chrome and concerns surrounding elevated concentrations of hex chrome in environmental
70-2 justice communities like Paramount, the proposed timeline for the phaseout of the use of hex chrome in functional chrome plating facilities by 2039 is simply too long for residents to continue being exposed.

[1] https://tbsysclient.com/paramount/paramounthexchrometbsys.pdf
[2] https://oehha.ca.gov/media/downloads/faqs/hexchromiumairfact111616.pdf

70-2 We strongly suggest that CARB consider adopting the phaseout timeline proposed in Alternative 1 (p. 222, ISOR). CARB's reasoning for rejecting this alternative timeline cites the higher costs to chrome plating facilities and the absence of suitable alternatives to hex chrome in functional plating industries. Absent in this cost analysis are the historic and ongoing costs borne by residents exposed to hex chrome pollution from the chromium plating industry. As CARB states,

> Nearly 30 percent of chrome plating facilities have residential receptors located within 100 meters. Approximately 10 percent of chrome plating facilities have receptors located within 20 meters. Many chrome plating facilities are located in disadvantaged communities and other populated areas near sensitive receptors, such as schools (p.187, ISOR).

70-2 The material and symbolic costs of hex chrome pollution borne by these communities include medical expenses incurred to treat health impacts like asthma and lung cancer, the costs of environmental cleanup and monitoring, and the intangible costs in the reduction of quality of life from breathing contaminated air. We urge CARB to also weigh these burdens against the costs to industry in any analysis of the financial impact of proposed phaseout timelines.

70-2 We also understand that technological advancements are currently limiting the replacement of hex chrome in functional plating industries. If technology is the limiting factor in implementing an accelerated phaseout, we strongly suggest that CARB include a provision in the Proposed Amendments that states that should a replacement technology become available before the initial technological review in 2032, the agency will revise the timeline for phaseout of the use of hex chrome in functional plating industries.

70-2 The CalEnviroScreen 4.0 tool points to high levels of air pollution in Paramount, indicating that it should be considered a "nonattainment area" under Section 172 (a)(2)(c) of the Clean Air Act (CAA). In October of last year, EPA interpreted this section to mean that this section promotes the "expeditious attainment of National Ambient Air Quality Standards to protect human health and the environment."[3] A high concentration of air pollutants that carry the "hazardous" designation such as hex chrome can further cause EPA to reclassify the area as "severe", for which the attainment timelines are even more stringent.[4] Whether CalEPA considers Paramount to be "nonattainment" or "severe nonattainment" according to the latest available data, CARB's phaseout timeline for hex chrome will be out of step with the CAA's mandate.

[3] 87 Fed. Reg. 60, 897 (Oct 7, 2022)
[4] As detailed in CAA Section 112(e)

Monitoring and Enforcement is Needed to Ensure Compliance with Fugitive Emissions Reduction Measures

Since June 2022, CEH together with a group of Paramount residents, have been collecting data on ambient air concentrations of hex chrome downwind of metal-processing facilities in Paramount[5]. The data from our monitoring as well as the City of Paramount's monitoring consistently show high levels of ambient air hex chrome pollution from metal-related processing facilities including chromium plating facilities. Despite regulatory measures aimed at reducing fugitive hex chrome emissions under South Coast Air Quality Management District's (SCAQMD) Rule 1469, ambient air concentrations of hex chrome still pose a chronic health risk for residents. In SCAQMD's 2016 hex chrome investigation, vents and open doorways were found to be contributing to fugitive emissions and near-source ambient air hex chrome concentrations.

While we agree with CARB that short-term mitigation measures such as building enclosures and enhanced best management practices are necessary to reduce fugitive emissions at chrome plating facilities, we believe facilities will not comply with these added measures without consistent monitoring and compliance structures. It should be noted that under CAA Section 505(e), the presence of fugitive emissions mandates that any and all Title V operating permits for hex chrome facilities in Paramount be reopened.

We understand CARB likely does not have the administrative capacity to reopen these permits but maintain that preventative measures to reduce fugitive emissions like those proposed in the ISOR can only be effective if enforcement activities are also carried out. Enforcement and
70-3 compliance cannot occur without baseline data and we strongly urge CARB to work with the appropriate agencies to collect additional data on hex chrome emissions from functional and decorative chrome plating facilities. The best indicator of compliance is data from before and after implementation of the proposed amendments. Relying on facilities to self-report opens the door for facilities to stray further from the requirements of the CAA through more lackadaisical data collection and "greenwashing."

Given our success in implementing community-led monitoring in Paramount, we would also encourage CARB to explore ways to further incorporate community participation into monitoring and oversight of compliance. We encourage CARB and all other relevant divisions of CalEPA to use the authority under the Title V Permitting Rule[6] to consider modifying the Title V operating permits of hex chrome plating facilities and bringing affected communities such as Paramount into that process.

[5] https://4m622z-eliza-butterfield.shinyapps.io/ParamountNewApp003/
[6] 40 CFR Section 70.7(g)

Monitoring and Enforcement is Needed to Ensure Compliance with the Whole of Government Approach to Environmental Justice

The State of California is slated to receive billions of dollars over the next decade from the historic investments in climate, clean energy, and environmental justice made by the Biden Administration. In accordance with Executive Order 14008, which established the Justice40 Initiative, at least 40% of these investments must flow to disadvantaged communities in California. The high pollution burden and low socioeconomic attainment scores for nearly all census tracts in the Climate and Economic Justice Screening Tool indicate that Paramount is one such community from a Federal perspective. "Direct Awards to Air Agencies for Continuous Monitoring of PM2.5 and Other Common Air Pollutants" is considered a Justice40 "covered program" at EPA. Comprehensive and consistent monitoring and an expeditious timeline for
70-3 phasing out hex chrome emissions will ensure CARB's rulemaking is in alignment with Federal efforts to reduce emissions of air pollutants in disadvantaged communities.

Once again, we would like to thank you for the opportunity to comment on the Proposed Amendments to the ATCM on Chromium Electroplating and Chromic Acid Anodizing Operations. We look forward to discussing your response.

Sincerely,

Jimena Diaz Leiva

Jimena Diaz Leiva, PhD
Science Director, Center for Environmental Health

Comment 71 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Anna
Last Name: Byrd
Email Address: anna.osr@gmail.com
Affiliation:

Subject: Support chrome plating
Comment:

All,
Recently, the California Air Resources Board proposed new regulations regarding the use of chromium plating in the metal finishing industry. In addition to their already strict environmental ordinances, these new guidelines will phase out hard chrome and chromic acid anodizing in the state of California.

According to the President of the Metal Finishing Associations of Southern California, these regulations will likely cause a severe
71-1 decline in the California metal finishing industry. They will also require industrial producers to seek chrome plating services out of state. Aerospace and defense, the industrial, medical, automotive, and many other essential industries rely on the chromium plating
71-2 process. We cant afford to lose industry in California and necessary chrome plating processes cant be replaced. I ask CARB to
71-3 find the middle ground with the industry

In late April, the California Air Resources Board (CARB) proposed the following deadlines for the implementation of new regulations regarding hexavalent chromium plating:

Dec. 21, 2021 - A halt on the development of any new chromic acid anodizing or hexavalent hard or decorative chromium electroplating facilities
Jan. 1, 2023 - Final date for all existing decorative hexavalent chromium electroplating to transition to trivalent chromium
Jan. 1, 2027 - Final date for all existing hard hexavalent chromium to transition to trivalent chromium plating
Jan. 1, 2032 - Effective date for the ban of all existing chromic acid anodizing
In order to better understand hexavalent chromium emission sources, the CARB will be conducting site visits, facility-specific surveys, emissions source testing, and ambient monitoring in and around existing plating facilities. This data collection will then serve to prioritize emissions reduction strategies.

While decorative applications will be the first affected by the new
71-4 regulations, functional applications are next. Many customers will not be open to the use of alternative methods. As of now, there is no indication that hard chrome and chromic acid anodizing are replaceable processes.
71-2

Chrome plating is a process used in aerospace, defense, and many

71-2 other industries to improve metal parts. It offers many beneficial properties that are valuable to these industries. For example, aviation manufacturers use chrome plating to improve the atmospheric corrosion resistance of metal parts and prevent dangerous, mid-op failures of critical equipment. Chrome plating also:
Reduces friction, Improves durability, Reduces seizing & Resists oxidation and corrosion. In addition, chrome plating can be used as bulking material to restore the original dimensions of metal components without compromising their integrity. Please consider this in your decisions. Thanks

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-17 16:45:36

No Duplicates.

Comment 72 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Wesley
Last Name: Turnbow
Email Address: wturnbow@emeplating.com
Affiliation: EME, Inc.

Subject: Pollution Controls Work! They stop hexavalent chrome in its tracks.
Comment:

Hello CARB Members:

I wanted to send you proof of the effectiveness of source controls when it comes to hexavalent chromium emissions. I have attached the Excel version to make it easy for your team to check formulas.

The South Coast AQMD monitored our facility fence line to fence line for 9 months. The attached data was pulled from their website. The fence line monitors where within 20 feet of our buildings, and
72 our chromic acid anodize tank and spray booths were directly in between, as the prevailing winds blow. And the winds off of the ocean are fairly predictable. EME, Inc. was one of the first, if not the first, to place pollution controls on our chromic acid tank. That tank and the paint booths are fitted with HEPA filtration.

Note that the difference between the monitors is 0.00 nanograms when the one significantly test result is thrown out (it is less than a quarter of a nanogram even with that anomaly). The fact that there are low amounts of hexavalent chromium in the monitors at most times is because the Alameda Train Corridor and Alameda Ave (a large thoroughfare) are just downwind from our facility.

Bans are not the way to go! When it comes to hexavalent chromium, source controls have done the job effectively for years.

Best regards,

Wesley Turnbow
E. M. E., Inc.
431 E. Oaks Street
Compton, CA 90221
(323) 717-7871 mobile

Attachment: 'www.arb.ca.gov/lists/com-attach/79-chromeatcm2023-AGVROgdjWVUFa1cy.pdf'

Original File Name: EME Hexavalent Chromium Monitoring 2017-2018.pdf

Date and Time Comment Was Submitted: 2023-01-17 16:57:35

No Duplicates.

AQMD Monitoring - EME in Compton

Sites 4C and 5C

Date	Upwind	Downwind	Difference	Notes
Monday, June 12, 2017	0.10	-	-	
Thursday, June 15, 2017	0.17	0.24	0.07	
Sunday, June 18, 2017	0.28	0.04	-0.24	
Wednesday, June 21, 2017	0.48	0.11	-0.37	
Saturday, June 24, 2017	0.11	0.14	0.03	
Tuesday, June 27, 2017	0.23	0.26	0.03	
Friday, June 30, 2017	0.09	0.14	0.05	
Monday, July 3, 2017	0.86	0.49	-0.37	
Thursday, July 6, 2017	0.78	0.33	-0.45	
Sunday, July 9, 2017	1.37	1.32	-0.05	
Tuesday, July 11, 2017	0.72	1.09	0.37	
Saturday, July 15, 2017	0.18	0.27	0.09	
Tuesday, July 18, 2017	0.58	0.18	-0.40	
Friday, July 21, 2017	0.88	0.17	-0.71	
Monday, July 24, 2017	0.08	0.22	0.14	
Thursday, July 27, 2017	0.87	1.13	0.26	
Sunday, July 30, 2017	0.06	0.71	0.65	Sunday - no work done
Wednesday, August 2, 2017	0.11	0.14	0.03	
Saturday, August 5, 2017	0.04	0.06	0.02	
Tuesday, August 8, 2017	0.11	0.27	0.16	
Friday, August 11, 2017	0.24	0.20	-0.04	
Monday, August 14, 2017	0.14	0.15	0.01	
Thursday, August 17, 2017	0.34	0.38	0.04	
Sunday, August 20, 2017	0.19	0.27	0.08	
Wednesday, August 23, 2017	0.10	0.55	0.45	Welding of Fence Across the Street
Saturday, August 26, 2017	0.17	0.16	-0.01	
Tuesday, August 29, 2017	0.11	0.09	-0.02	
Friday, September 1, 2017	0.74	0.29	-0.45	
Monday, September 4, 2017	0.09	0.06	-0.03	
Thursday, September 7, 2017	0.20	0.23	0.03	
Sunday, September 10, 2017	0.06	0.06	0.00	
Wednesday, September 13, 2017	0.11	0.29	0.18	
Saturday, September 16, 2017	0.13	0.16	0.03	
Tuesday, September 19, 2017	0.13	0.09	-0.04	
Friday, September 22, 2017	0.20	0.14	-0.06	
Monday, September 25, 2017	0.44	0.44	0.00	
Thursday, September 28, 2017	0.19	0.29	0.10	
Sunday, October 1, 2017	0.03	0.04	0.01	
Wednesday, October 4, 2017	0.36	0.31	-0.05	
Saturday, October 7, 2017	0.17	0.27	0.10	
Tuesday, October 10, 2017	7.18	-	-	Sampling Filter Tore
Friday, October 13, 2017	0.23	0.22	-0.01	
Monday, October 16, 2017	0.61	0.64	0.03	
Thursday, October 19, 2017	0.11	0.20	0.09	
Sunday, October 22, 2017	0.11	0.31	0.20	
Wednesday, October 25, 2017	4.69	**23.64**	18.95	ANOMALY ??? 103° Day
Saturday, October 28, 2017	0.07	0.09	0.02	
Tuesday, October 31, 2017	0.14	0.09	-0.05	

Friday, November 3, 2017	0.12	0.33	0.21	
Monday, November 6, 2017	0.12	0.95	0.83	
Thursday, November 9, 2017	1.62	1.11	-0.51	
Sunday, November 12, 2017	0.14	0.17	0.03	
Wednesday, November 15, 2017	1.68	0.68	-1.00	
Saturday, November 18, 2017	1.46	1.08	-0.38	
Tuesday, November 21, 2017	1.42	1.20	-0.22	
Friday, November 24, 2017	0.13	0.10	-0.03	
Monday, November 27, 2017	0.64	0.23	-0.41	
Thursday, November 30, 2017	0.45	0.64	0.19	
Sunday, December 3, 2017	0.08	0.06	-0.02	
Wednesday, December 6, 2017	1.84	1.42	-0.42	
Saturday, December 9, 2017	0.85	0.69	-0.16	
Tuesday, December 12, 2017	3.57	3.05	-0.52	
Friday, December 15, 2017	1.33	1.32	-0.01	
Monday, December 18, 2017	0.50	0.45	-0.05	
Thursday, December 21, 2017	0.37	0.58	0.21	
Wednesday, December 27, 2017	1.19	0.28	-0.91	
Saturday, December 30, 2017	0.07	0.14	0.07	
Tuesday, January 2, 2018	0.21	0.35	0.14	
Friday, January 5, 2018	0.25	0.47	0.22	
Monday, January 8, 2018	1.12	0.15	-0.97	
Thursday, January 11, 2018	0.32	6.21	5.89	
Sunday, January 14, 2018	0.11	0.09	-0.02	
Wednesday, January 17, 2018	1.77	0.78	-0.99	
Saturday, January 20, 2018	-	3.03	-	Very High Winds
Tuesday, January 23, 2018	-	2.50	-	Upwind of 1.73 Was Later Deleted
Friday, January 26, 2018	-	0.85	-	Mulfunction - 3rd in a Row
Monday, January 29, 2018	0.96	0.81	-0.15	
Thursday, February 1, 2018	0.78	0.21	-0.57	
Sunday, February 4, 2018	0.95	0.67	-0.28	
Wednesday, February 7, 2018	0.62	1.92	1.30	
Saturday, February 10, 2018	0.10	0.06	-0.04	
Tuesday, February 13, 2018	1.28	0.12	-1.16	
Friday, February 16, 2018	1.28	0.65	-0.63	
Monday, February 19, 2018	0.36	1.05	0.69	High Wind Day
Thursday, February 22, 2018	0.31	0.18	-0.13	
Sunday, February 25, 2018	0.15	0.07	-0.08	
Average in Nanograms	0.57	0.81	0.23	
Average without the Anomaly)	0.52	0.52	**0.00**	

Comment 73 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: A question for the CARB Board
Comment:

73

Considering that CARB is expert in pollution control methods and chrome platers are experts in chrome plating, how is it possible for CARB to imagine that a replacement technology for hard hexavalent chrome plating will emerge by 2039 , but CARB is not able to imagine an improvement in hex chrome pollution control methods over the same period? Only a ban will suffice.

By virtue of this non-emission based proposal, CARB has explicitly assumed that they will make no improvements in pollution control methods for the next 16 years. If I was a member of CARB staff focused on improving pollution control methods, I would find this very de-motivating. If I was granting budget to CARB to make improvements in pollution control methods, I would slash the budget. But, what will the CARB Board do?

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-17 19:16:17

No Duplicates.

Comment 74 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Next Up? The 99%
Comment:

74-1 Imagine that the CARB Board approves this non-emission based ATCM. The EJ's can run a victory lap and 1% of the hex chrome problem will be solved in 2039. But what about the 99% of hex chrome emitters still out there. CARB will now be in a position wherein
74-2 they have discredited the best available control technologies for dealing with Hex Chrome. HEPA filtration isn't adequate anymore and since 99% of the problem is still there, the EJ's won't be satisfied (unless this was just an isolated witch hunt). The EJ's will demand action and eventually, CARB will need to acknowledge that hex chrome emission do come from the manufacture, use of, and
74-1 destruction of cement and concrete; that the working of stainless steels including welding and machining cause hex chrome emissions; that even electric vehicles need brakes. What then CARB? You will need a list of imagined replacement technologies to use as excuses for banning cement, stainless steel, and coatings. Is that even achievable? There are practical people and independent thinkers in your organization, they know the reality of the world we live in and while we would all like things to be better, we must focus on the things that are achievable if we are to make progress. We are not going to stop construction of buildings, roads, and vehicles and CARB will not have the political power to ban them. The only
74-3 alternative is to eventually be honest with the EJ's and show them that the numbers and science don't support the fear that has been created. That the politicians who benefit from the fears are manipulators. That other risks are far more powerful in our lives. If CARB can't be honest, you will no longer be a science focused organization. Perceptions of CARB will continue the shift from being science based to being politics based. Is that what CARB wants?

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-17 19:22:25

No Duplicates.

Comment 75 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Local vs Statewide
Comment:

75 According to the health risk data published with this rule proposal, proximity is a major factor in risk. The EJ's say there are local problems in some Southern California communities. They are asking for solutions. CARB's proposal completely misses the local nature of the stated problems and imposes a non-local statewide rule and a statewide ban. Make the whole class stay in for recess when Jeff doesn't get his homework done. This is completely opposite the intent of AB 617 which asks CARB to place emphasis on the needs of local communities. I don't get it.

There is no relief from the ban granted to platers in communities with no residents. There is no relief granted to platers who are not near schools. It is especially curious that there is no provision to allow new permits in areas away from EJ communities and residents so that the platers the EJ community wants out, would have an in-state alternative place to go. A win-win. CARB is not providing a reasonable method for well-intentioned, law-abiding businesses to exist. Why?

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-17 19:35:24

No Duplicates.

Comment 76 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Mark
Last Name: Hyman
Email Address: mark.hyman@alliance-finishing.com
Affiliation: Alliance Finishing & Mfg

Subject: Public Comment
Comment:

Dear Board Members,
Your proposed banning of Hex Chrome by 2025 in ill founded based upon complete ignorance of the sources and the quantities of chrome associated with those sources. Platers have complied many times over with proper science of filtration, wastewater treatment, worker training and PPE to make sure that both the employees and the public are properly protected. The amount of chrome emissions is minor (less than 3 Lbs) compared to vloumes of pollutants emitted by diesel combustion, the cutting of concrete, or chrome emissions associated with aviation fuels. The services that the chrome platers provided, be it decorative or functional coatings allow a multitude of industries to meet their engineering and/or aesthetic requirements at a cost that allow jobs to be maintained in California and provides a standard of living to for those respective industries and their employees. I realize that business do not vote, people do and a polkitical body MUST apply and listen to science rather than hysteria, rhetoric, and biases. If not, we the people would still think that the Earth is fat and the planets revolve around the Earth instead of the sun as the Catholic church promulgated in the face of Copernicus's theories. Please do not make the same mistake in legislating out the minor chrome emissions of plating industry and at the same time by turning a blind political eye away from the larger chrome emitting sources because the political and economic fallout from those sources will be a much longer and arduous legal fight by well funded, politically connected industries. It's much easier to attack the smaller industry because political bodies need a scapegoat to continue to prove to its constituents that they are doing right for them. However, when politics negates the science that shows which industries are the larger polluters in favor of going after the low hanging fruit (e.g. Platers) to "show progress." Let's all be thankful that we all know that the Earth is NOT flat, and that the truth of science continues to prove time and time again that political agenda quite often wants us think otherwise. This is exactly what's going on by NOT legislating significant reductions in the chrome emissions of the larger sources, that would much better protect the health of us all, Going after the plating industry will have no appreciable benefit of improvement in our health and the science continues to prove it over and over. Thank you, Mark Hyman, PhD

76-1
76-2
76-3
76-2
76-1

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-17 18:59:24

No Duplicates.

Comment 77 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Is this really about PFAS/PFOS?
Comment:

77 There are California chrome platers who have never used PFAS/PFOS fume suppressants.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-17 19:40:58

No Duplicates.

Comment 78 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Michael
Last Name: Lanes
Email Address: stayinlanes@gmail.com
Affiliation:

Subject: Necessity for Chromium Playing
Comment:

78-1 Chromium plating is necessary for the defence of the United States of America. There are currently no substitutes for this technology. The best and most responsible place on the planet earth is to plate Chromium is the state of California where the
78-2 regulations are the most strict. Preventing Chromium plating in California will lead to greater pollution and impact on the environment by moving the process to countries and locations that will be subject to less regulation and responsible service providers.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-17 20:05:48

No Duplicates.

Comment 79 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Brad
Last Name: Kerr
Email Address: brad@mileschemical.com
Affiliation:

Subject: Demise of Chromium Electroplating
Comment:

79-1 To whom it concerns....There is no good reason to destroy an industry when you have an alternative in rule 1469. If CARBS
79-2 alternative is implemented the repercussion can affect many jobs in California and the beginning of the end to the aerospace industry in Southern California.

Having been in this industry for nearly forty years I have seen the worst and best of chrome electroplating. Honestly I can say the worst is behind us with restrictions and controls that were warranted, but that change began many years ago. Today our
79-3 industry is tightly regulated, to the point chromic acid omissions have a negligible impact on our air quality or our environment in general. Lack of documentation of detrimental affects of
79-6 hexavalent chromium with the restrictions in place today is really alarming. It is to the point of overkill and the impact can be substantial.

79-4 The demise of decorative hexavalent chrome plating will impact our manufacturing industry and actually create other forms of pollution. Just consider the cost of companies to send parts
79-2 across our border to other States and Mexico. The pollution
79-4 created to transport the parts is likely worse. Consider the cost
79-2 to companies that will have to relocate for surely they won't be able to compete with sending parts out of our state.

Then you attach the Aerospace industry which is the heart of SoCal
79-5 manufacturing. Chromic anodize, hard chrome plating are critical to this industry. It will drive these companies out of our state
79-2 to areas that would welcome our jobs. Even if the technology
79-5 existed the aerospace industry literally takes decades to approve and change process. But again why put our industry through so much
79-6 anxiety when there isn't documentation that todays standards actually are detrimental to our environment. Save jobs and truly understand that ruling against hexavalent chromium electroplating is the beginning of over regulation that will force so many types of manufacturing out of our state or country.

Brad Kerr

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-17 22:33:13

No Duplicates.

Comment 80 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Ed
Last Name: Appleton
Email Address: edd@thechromeplace.com
Affiliation:

Subject: TRIVALENT CHROME IS NOT AN ALTERNATIVE – YET
Comment:

Granted, decorative trivalent chrome has improved over the years and may be suitable for some applications.

HOWEVER...
The motorcycle and automotive industry, in which we serve, is not only decorative but needs to be functional as well. The chrome plated finish needs to have both that beautiful appearance and also
80-1 be able to withstand the effects of the environment.

The two types of trivalent chrome that are available do not provide the characteristics required for both the aesthetic and anti-corrosive properties in comparison to hexavalent chrome.

The trivalent chrome that looks closer to the hexavalent chrome does not have the anti-corrosive properties and durability while the other one that has better anti-corrosive properties but does not have the aesthetic appearance.

Neither one of these "alternatives" will serve our customer's needs...

Banning hexavalent chrome is not the answer !!!

- Customers and revenue will be driven to other states.
80-2 - Businesses, such as ours that strictly serves this clientele, will close and jobs will be lost.
- Banning hexavalent chrome in California will not protect the
80-3 environment, it will actually increase the overall environmental damage due to looser environmental standards in other states.

There needs to be a balance...

The implementation of proven measures throughout California that
80-4 have been established in cooperation between the agencies and industry, such as SCAQMD Rule 1469, would provide responsible stewardship of the environment, health standards and businesses.

Therefore, we do not need to eliminate an entire industry that provides beneficial products and services to many companies and consumers in addition to providing thousands of jobs within the State of California.

Thank you for your consideration in this matter.

Attachment: "

Original File Name:

Date and Time Comment Was Submitted: 2023-01-17 22:44:22

No Duplicates.

Comment 81 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 45 Day.

First Name: Jane
Last Name: Williams
Email Address: Dcapjane@aol.com
Affiliation: California Communities Against Toxics

Subject: Chrome Platers
Comment:

Attachment: 'www.arb.ca.gov/lists/com-attach/13-areades22-WmgGMFJhUzNWfQIy.docx'

Original File Name: 2023-01 CARB Hex Chrome ATCM Letter copy.docx

Date and Time Comment Was Submitted: 2023-01-17 16:39:39

No Duplicates.

Chair Liane Randolph and Members
California Air Resources Board (CARB)
1001 I Street
Sacramento, CA 95814

RE: Comments on the ATCM for Chrome Platers

Dear Chair Randolph and Members of the CARB Board,

For decades, environmental justice groups in Los Angeles have worked with the California Air Resources Board, the USEPA, and the South Coast Air Quality Management District (SCAQMD) to reduce emissions of hexavalent chromium for the chrome plating industry. Over the past three decades some of our organizations have:

- measured hexavalent chromium at the fenceline of these facilities in coordination with regulatory agencies,
- engaged in biomonitoring projects in affected communities,
- initiated enforcement actions against chrome platers,
- participated in the workgroup which published the CARB Land Use Planning Handbook, urging local planning officials to create setbacks from highly toxic facilities in their jurisdictions,
- urged local officials to more rigorously inspect and regulate the dangerous practice of chrome plating in highly impacted communities,
- attended countless public hearings, workgroups, townhall meetings, and engaged with both the regulatory officials and industry.

A few of our organizations have stayed directly and actively engaged in efforts to regulate this dangerous industrial practice for more than three decades now. We have educated, agitated, advocated, gathered data, produced data, mapped data, explored solutions with manufacturers, worked on the identifying solutions to rigid military manufacturing specifications, organized conferences on alternatives to chrome plating, and now we are here in front of you: the California Air Resources Board.

81-1 We are asking you, with all due respect, to finally take action to end this practice of boiling highly toxic metals near the places our children attend school, near our churches, near our local business, and next to the neighborhoods where we live, work, play, and pray. More than half the chrome platers in California are near a school, church, or neighborhood.

81-2 It is with chagrin that we analyzed the data in Appendix B to find that over 20% of the platers in the state appear to have exceed their permitted ampere hour limits, and that more than half of the platers in the inventory are permitted for more than 1 million ampere hours of use. As well, many of these platers are using highly toxic fume suppressants, which are actually more toxic than hexavalent chromium. The State Water Resources Control board has issued orders to 222 chrome platers to test the ground water underneath their facilities for PFAS compounds. The use of these highly toxic fume suppressants has caused enormous damage to California's groundwater resources (estimates for PFAS cleanup are in the billions of dollars).

81-1 Switching to trivalent chromium has the benefit of not only significantly reducing the toxic emissions of one of the most dangerous chemicals known into our communities, but facilities using trivalent

chromium avoid having to use toxic PFAS-based fume suppressants as well. We have worked with the Legislature to establish a fund to help chrome platers that are small business with the cost of switching their plating process. We will continue to work with both the regulatory, and the regulated, community to secure future funding for these important efforts.

81-1 We support the proposed regulation before you and urge the board to take this important action in the Chrome Plating ATCM now, to gain early reductions in the many communities affected by the decorative chrome platers, and to commit to early action to switch both the anodizer and hard chrome platers away from hexavalent chromium as soon as feasible alternatives can be identified. We continue to look forward to working with staff and the Board as this phase out rolls out.

Thank you for your commitment to protecting the health and well-being of our most impacted communities and your continued public service.

Sincerely,

Jane Williams
Executive Director
California Communities Against Toxics
Rosamond, CA

Robina Suwol
Executive Director
California Communities Against Toxics
Toluca Lake, CA

Rebecca Overmyer-Velázquez
Coordinator
Clean Air Coalition of North Whittier and Avocado Heights
Unincorporated LA County

Jesse Marquez
Executive Director
Coalition for a Safe Environment
Wilmington, CA

Joe Lyou
Executive Director
Coalition for Clean Air
Los Angeles, CA

Deborah Bell-Holt
Executive Director
Love and Respect Youth Foundation
Los Angeles, CA

Michael Hayden
Director

Lincoln Heights Community Coalition
Los Angeles, CA

Fe Koons
President
Philippine Action Group for the Environment
Carson, CA

Monica Wilson,
Associate Director
Global Anti Incineration Alliance

Felipe Aguirre
Director
Comite Pro Uno

Moses Huerta
FRM Public Safety Commissioner
Paramount, CA

Mitzi Shapk
Director
Action Now

Ricardo Pulido
Director
Community Dreams
Carson, CA

Laura Cortez
Co-Director
East Yard Communities for Environmental Justice
Los Angeles, CA

Comment 1 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023). (At Hearing)

First Name: Florence
Last Name: Gharibian
Email Address: florencegharibian@yahoo.com
Affiliation: Del Amo Action Committee

Subject: Comments on Hexalvalent Chrome Rule
Comment:

Comment uploaded by CARB Staff on behalf of Florence Gharibian.

Attachment: www.arb.ca.gov/lists/com-attach/91-chromeatcm2023-UzBVMlwvBTQAbgls.pdf

Original File Name: CARBHexChromeRule12023.pdf

Date and Time Comment Was Submitted: 2023-01-26 08:52:03

No Duplicates.

January 17, 2023

Electronic Submittal: https://www.arb.ca.gov/lispub/comm/bclist.php

Clerks' Office, California Air Resources Board
1001 I Street, Sacramento, California 95814

82-1 The Del Amo Action Committee (DAAC) supports the Air Resources Board Approval of the ARB rule regarding the use of Hexavalent Chromium at metal plating facilities. The Air Board's commitment to prioritizing environmental justice in everything the Board does will be clearly realized in the passage of this important rule. According to the ARB data ninety percent of California's Hexalvelant Chrome Platers are in disadvanage communities. Dozens are near schools and daycare centers. Rulemaking, frequent inspections, and effective enforcement will do much to reduce community exposure to this clearly dangerous chemical.

DAAC worked with other organizations and Paramount residents to demand badly needed work to identify hexavalent chromium emissions at metal plating shops in Paramount. Gaining the attention of regulatory agencies was difficult. The South Coast Air Quality Management District did outstanding work in measurement of Hex chrome levels in the air in Paramount that disclosed alarmingly high levels of in the community. Needed enforcement demanding the plating shops significantly lower air emissions resulted in dramatic reductions.

Technology Reviews

82-2 The rule calls for CARB to conduct two technology reviews that evaluate the development of technologies to replace Hexavalent Chromium in Hard Chrome Plating and Chromic Acid Anodizing operations. Discontinuation of chemical fume suppressants must be included in these reviews. Each technology review will include a summary of the status of the development and availability of alternative technologies.

CARB staff will complete first technology review by January 1, 2032, and the second technology review by January 1, 2036. Often regulatory agencies fail to seek new technologies that could enhance environmental programs. New technologies may contribute significantly to finding better solutions.

82-2 DAAC recommends the continuation of dialogue with environmental justice organizations, community members and technical experts. A work group is needed to facilitate this dialog. The work done through the Technology Reviews should not result in the extensions of the dates to eliminate the use of Hexavalent Chromium.

P. O. Box 549, Rosamond, California 93560
Office: 661-256-7144

Enforcement

When the SCAQMD was considering rule 1469 Plating Facility representatives were standing together talking about the rule. DAAC Board Chair, Florence Gharibian, was there too. She heard one representative say that all the enforcement was removed from the rule.

If requirements in a rule cannot be enforced, compliance with those requirements is seriously undermined. Sometimes conditions in a rule that are vague hamper enforcement. An essential step in development of a rule is the evaluation of the rule by the staff that does inspections and enforcement to ensure enforceability. The enforceability of the conditions in the following paragraph in the rule may be difficult to enforce.

82-3 *"All Building Enclosure Openings that are open to the Exterior and on opposite ends of the Building Enclosure from each other shall be equipped with a Protected Opening Method and shall not be simultaneously open except during the passage of vehicles, equipment, or people though the Building Enclosure Opening. All Building Enclosure Openings that directly face any Sensitive Receptor that is located within 1,000 feet, as measured from the property line of the Sensitive Receptor to the Building Enclosure Opening shall be equipped with a Protected Opening Method and remain closed except during the passage of vehicles, equipment, or people."*

Would it be necessary for ARB inspectors to observe compliance with these requirements? Does the ARB or the SCAQMD know which facilities will require a Protected Opening Method? Why was 1,000 feet chosen as the distance in the rule? This distance is about three blocks. An Inventory of the facilities to determine those that will have to comply with the Protected Opening requirement might be useful.

Training

The rule requires:

82-4 *"Compliance Assistance Training Course pertaining to chromium plating and chromic acid anodizing on Chrome Plating every two years. On or after October 24, 2023, Environmental compliance and recordkeeping required by this ATCM shall be conducted only by the supervision of persons who completed an ARB Compliance Assistance Training Course on Chrome Plating and who are onsite. "*

It may be possible for the ARB to develop an online training course that requires participants to register in order to record their participation.

All employees at a Chrome facility should have adequate training; Records of this training must be recorded.

Compliance with Department of Toxic Substances Requirements

82-5 Store, dispose of, recover, or recycle Hexavalent Chromium or Hexavalent Chromium-containing wastes generated from the housekeeping activities would almost certainly be regulated as hazardous waste. Hazardous waste generators are required to take several steps to ensure safe handling and disposal of the waste. These include meeting hazardous waste storage and labeling requirements and training requirements. It is possible that the DTSC and ARB requirements could be mutually beneficial.

Additional Comments

The California Air Resources Board, Los Angeles City Attorney's Office, California Environmental Protection Agency, South Coast Air Quality Management District, Los Angeles County Department of Public Health, and Del Amo Action Committee began working together in late 2021 to better understand and address community concerns. This is a fine example of real community engagement and it is difficult to express how meaningful the work is to us, but wanted you to know of our appreciation.

Thank you,

Cynthia Babich and Florence Gharibian
Del Amo Action Committee

Comment 2 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023). (At Hearing)

First Name: Charles
Last Name: Lozier
Email Address: cclklozier1@att.net
Affiliation:

Subject: Hex chrome
Comment:

Comment uploaded by CARB Staff on behalf of Charles Lozier.

Attachment: www.arb.ca.gov/lists/com-attach/93-chromeatcm2023-Vj4HZFUsBAgLbglh.pdf

Original File Name: Hex chrome.pdf

Date and Time Comment Was Submitted: 2023-01-26 09:53:58

No Duplicates.

From: Rubin, Eugene@ARB
To: charles lozier
Subject: RE: Hex chrome
Date: Monday, December 5, 2022 3:52:00 PM

Hello Charles,

Thank you for your comment. Please note that under the California Public Records Act (Gov. Code, § 6250 et seq.) and the California Administrative Procedure Act (Gov Code §11347.3(b)(6)), your email, written comments, attachments, and associated contact information (e.g., your address, phone, email, etc.) submitted to CARB in connection to a rulemaking must be compiled for this rulemaking file and will become part of the public record and may be subject to disclosure to the public upon request.

To be considered by the Board and addressed in the Final Statement of Reasons, you must submit your comment to the electronic docket for this rulemaking no later than the due date identified in the most recent 45- or 15-day Notice, available on CARB's rulemaking webpage.

CARB's Rulemaking Webpage: https://ww2.arb.ca.gov/rulemaking-activity

Electronic Docket: https://www.arb.ca.gov/lispub/comm/bclist.php

Best Regards,

Eugene Rubin (he/him)
(916) 287-8214

-----Original Message-----
From: charles lozier <cclklozier1@att.net>
Sent: Monday, December 5, 2022 1:36 PM
To: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Subject: Hex chrome

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

83 Dear mr Rubin I am writing to you about the proposed ban on chrome plating. I hope you would reconsider this ban as it would affect my restoration business along with a lot of other small businesses that rely on different kinds of plating for their products. Thank you Charles Lozier.

Sent from my iPhone

Comment 3 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023). (At Hearing)

First Name: Scott
Last Name: Henningsen
Email Address: hms.scotth@gmail.com
Affiliation: Henningsen Machine Shop

Subject: Hexavalent Chromium Airborne Toxic Control Measure (ATCM)
Comment:

Comment uploaded by CARB Staff on behalf of Scott Henningsen.

Attachment: www.arb.ca.gov/lists/com-attach/94-chromeatcm2023-Vj5QM1cuAzFVJQFg.pdf

Original File Name: HexavalentChromiumATCM.pdf

Date and Time Comment Was Submitted: 2023-01-26 11:48:51

No Duplicates.

From: Rubin, Eugene@ARB
To: Scott Henningsen; kelly@shermsplating.com
Cc: Harris, Greg@ARB
Subject: RE: Hexavalent Chromium Airborne Toxic Control Measure (ATCM)
Date: Monday, December 12, 2022 4:03:00 PM
Attachments: image001.png

Dear Mr Henningsen,

Thank you for your comment. Please note that under the California Public Records Act (Gov. Code, § 6250 et seq.) and the California Administrative Procedure Act (Gov Code §11347.3(b)(6)), your email, written comments, attachments, and associated contact information (e.g., your address, phone, email, etc.) submitted to CARB in connection to a rulemaking must be compiled for this rulemaking file and will become part of the public record and may be subject to disclosure to the public upon request.

To be considered by the Board and addressed in the Final Statement of Reasons, you must submit your comment to the electronic docket for this rulemaking no later than the due date identified in the most recent 45- or 15-day Notice, available on CARB's rulemaking webpage.
CARB's Rulemaking Webpage: https://ww2.arb.ca.gov/rulemaking-activity

Electronic Docket: https://www.arb.ca.gov/lispub/comm/bclist.php

Best Regards,

Eugene Rubin (he/him)
Staff Air Pollution Specialist
TTD – Risk Reduction Branch
(916) 287-8214

From: Scott Henningsen <hms.scotth@gmail.com>
Sent: Sunday, December 11, 2022 8:23 AM
To: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>; kelly@shermsplating.com
Subject: Fwd: Hexavalent Chromium Airborne Toxic Control Measure (ATCM)

Dear Mr Rubin,

I am writing to you at this time to voice my opinion of the measure that will ban chrome shops in the state of California. In my 26 years in the automobile restoration
84-1 business, I have watched as chrome shops have been closed one after another due to environmental regulations. Now, they are held to an extreme measure of cleanliness. The shops that have maintained these strict rules are all that we have left. If these businesses close, it will negatively affect many businesses that rely on them.
84-2 Additionally, this will force shops to send there products to other states to have plating completed. The shipping to further distances will burn more fuel and cause unnecessary transportation and a waste of resources. WE SHOULD SUPPORT LOCAL BUSINESSES!!

Also, this will not stop plating activity only move it to another location with lesser regulations that could potentially pollute the environment more. Which, I assume, is the basis for this entire attempt to close down plating shops and hexavalent chrome.
84-1 Furthermore, this will be more jobs and businesses leaving California, which I do not like to see and hope that you do not either. The over regulation of businesses has forced businesses to leave. Please do all you can to stop this measure.

Thank You,

Scott Henningsen
Henningsen Machine Shop
12 Spreckels Lane
Salinas, CA 93908
(831) 455-2377
www.scotthenningsen.com

Comment 4 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023). (At Hearing)

First Name: Jeff
Last Name: Hannapel
Email Address: jhannapel@thepolicygroup.com
Affiliation:

Subject: NASF Comments on Proposed Amendments to ATCM for Chromium Plating and Anodizing
Comment:

Attachment: www.arb.ca.gov/lists/com-attach/95-chromeatcm2023-AmxTNFYkU2YKU1U2.pdf

Original File Name: NASF Comments on CARB Hex Chrome Rule January 2023.pdf

Date and Time Comment Was Submitted: 2023-01-27 08:22:16

No Duplicates.

January 27, 2023

Clerks' Office
California Air Resources Board
1001 I Street
Sacramento, California 95814

Re: California Air Resources Board (CARB) Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations

Dear Sir or Madam:

Enclosed please find comments submitted on behalf of the National Association for Surface Finishing (NASF) regarding the California Air Resources Board (CARB) Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations

If you have any questions, would like additional information, or would like to discuss these comments, please contact me by telephone at 202-257-3756 or by email at jhannapel@thepolicygroup.com.

Respectfully submitted,

Jeffery S. Hannapel
The Policy Group
On Behalf of NASF

January 27, 2023

Comments on the California Air Resources Board (CARB) Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations

These comments are submitted on behalf of the National Association for Surface Finishing (NASF) regarding the California Air Resources Board (CARB) Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations. NASF urges CARB to consider the comments
85-1 below to eliminate the bans on hexavalent chromium plating and anodizing and to implement an emissions-based rule to reduce hexavalent chromium emissions from the surface finishing industry in California.

I. Summary of the Surface Finishing Industry

The NASF has approximately 1,000 members that include surface finishing companies, surface finishing suppliers, and individual and professional members, including our members in California. The NASF represents the business, management, technical, and educational programs, as well as the regulatory and legislative advocacy interests of the surface finishing industry to promote the advancement of the North American surface finishing industry globally.

The surface finishing industry plays a vital role in the lives of consumers and in the nation's economic future. The industry's role in corrosion protection alone provides an estimated $200 billion annual economic benefit to the nation, including significant applications for national defense, and enhances our society's productivity, safety, and quality of life. The many industries that rely on metal finishing include: automotive, aerospace and defense, industrial equipment, computers and electronics, medical equipment, tools and dies, shipbuilding, agriculture, oil and gas, furniture, steel mill products, jewelry, plumbing fixtures, household appliances, and construction.

Approximately 90 percent of surface finishing companies employ fewer than 75 people, while nearly 70 percent employ 20 or fewer people.

II. Specific Comments on CARB Rule

NASF urges CARB to reconsider the bans on decorative hexavalent chromium plating, hard hexavalent chromium plating, and chromic acid anodizing. The bans would provide little, if any, environmental benefits, will not decrease customer demands for hexavalent chromium plating and anodizing, will impose undue economic hardships on California plating shops, and will likely result in a net increase in hexavalent chromium emissions.

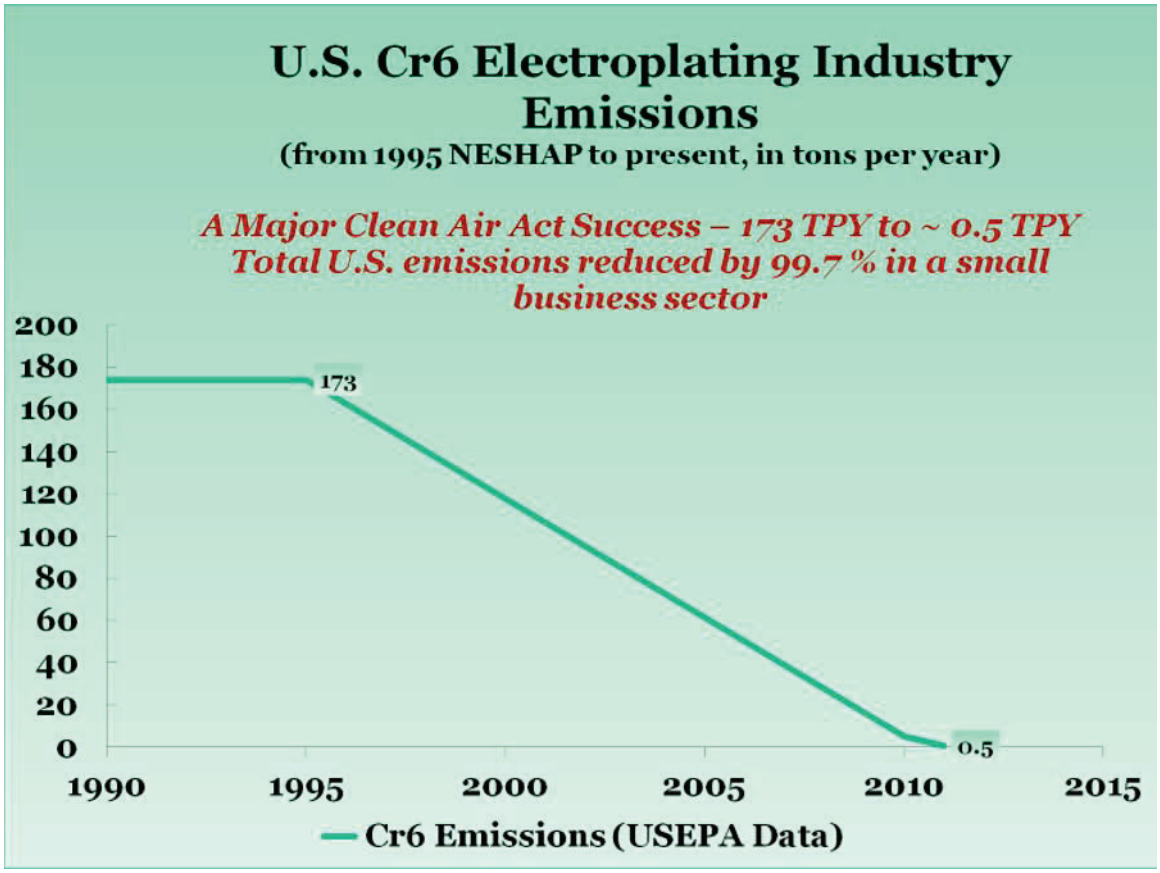
85-1 For the reasons stated below, an emissions-based rule could continue the surface finishing industry's long-standing record to reduce hexavalent chromium emissions without imposing significant economic hardships on California plating companies and the communities that they serve with good paying jobs and financial contributions to local businesses.

Industry Has Significantly Reduced Hexavalent Chromium Emissions

Since 1995 the surface finishing has implemented effective emission control measures and has significantly reduced hexavalent chromium emissions. As part of its 2012

85-1 Hexavalent Chromium Electroplating and Anodizing National Emission Standards for

Hazardous Air Pollutants (NESHAP) rulemaking, the U.S. Environmental Protection Agency (EPA) estimated that the industry had reduced hexavalent chromium emissions by 99.7 percent. After revision of incomplete and inaccurate emissions data, the estimated reduction was corrected to over 99.9 percent.



Due in part to the stringent emissions requirements in California, the reductions of hexavalent chromium emissions for the surface finishing industry has been even greater in California. This risk reduction and management success for hexavalent chromium emissions should be extended with further reductions through an emissions-based rule supported by reasonable and appropriate control measures. Such successful risk reduction measures have not, and will not, result from bans on hexavalent chromium plating and anodizing in California.

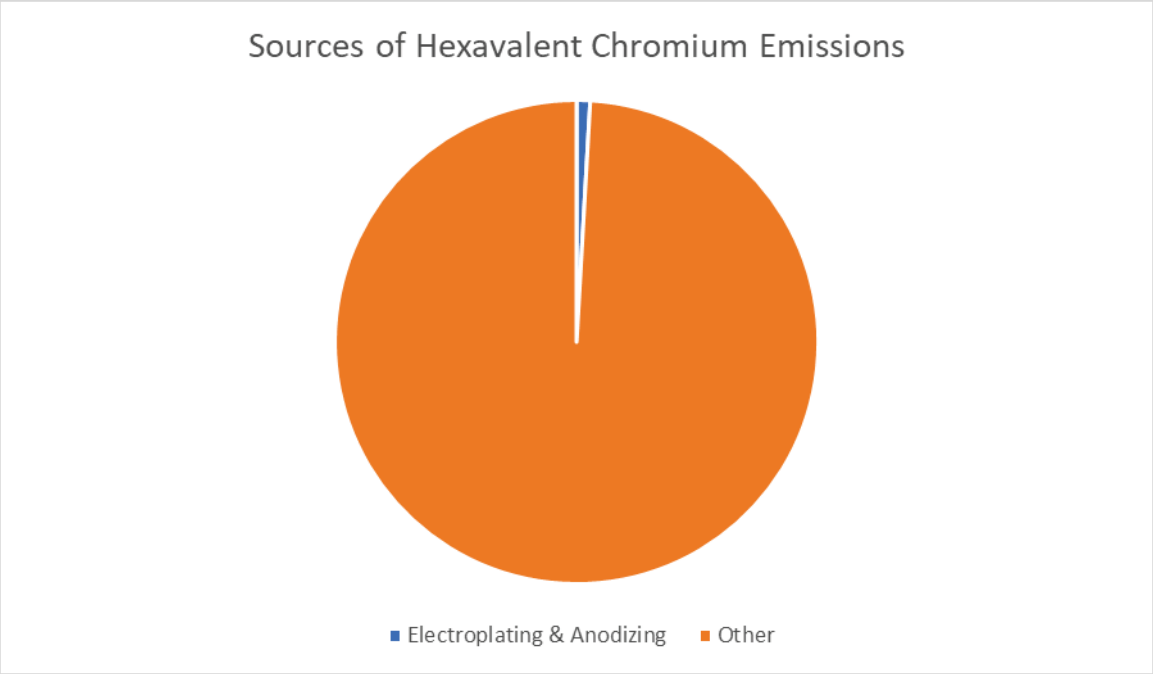
Less Than One Percent of Total Hexavalent Chromium Emissions

Given the industry's success and commitment to significantly reducing hexavalent chromium emissions, it is curious why CARB has targeted the surface finishing industry
85-2 with such a draconian rule that bans hexavalent chromium plating and anodizing. Particularly because hexavalent chromium emissions from the surface finishing operations represent such a small percentage of the overall hexavalent chromium emissions from all sources. Based on EPA's National Emissions Inventory (NEI), hexavalent chromium emissions from the surface finishing industry represent less than one percent of the total hexavalent chromium emissions from all sources. Accordingly, to achieve meaningful reductions in hexavalent chromium emissions into the environment, CARB should focus on these larger sources, and not the one small industry that has already achieved dramatic reductions in hexavalent chromium emissions.

Plating Represents Less than 1% of Total Hexavalent Chromium Emissions

Sources of Hexavalent Chromium and Chromic Acid Emissions, from 2005 NEI

Category Name	Pollutant	SOURCE	Emissions (tpy)	Surface Finishing
Waste Disposal	Chromium (VI)	POINT	0.821654087	
Indus Process - Metals	Chromium (VI)	POINT	0.636627013	
Indus Process - NEC	Chromium (VI)	NONPOINT	0.477337167	
Fuel Comb - Commercial/Institutional	Chromium (VI)	POINT	0.118779229	
Indus Process - Pulp & Paper	Chromium (VI)	POINT	1.787444328	
Construction	Chromium (VI)	POINT	0.00000281	
Non-Road Equipment - Gasoline	Chromium (VI)	NONROAD	0.239950888	
Fuel Comb - Commercial/Institutional	Chromium (VI)	NONPOINT	0.016880825	
Planes, Trains, & Ships	Chromium (VI)	NONROAD	0.284385395	
On-Road Vehicles - Diesel	Chromium (VI)	ONROAD	0.057693448	
On-Road Vehicles - Gasoline	Chromium (VI)	ONROAD	2.48814633	
Solvent - NEC	Chromium (VI)	POINT	2.5493E-05	
Indus Process - Petroleum Refineries	Chromium (VI)	POINT	0.008982453	
Fuel Comb - Industrial Boilers, ICEs	Chromium (VI)	NONPOINT	0.004866356	
Fuel Comb - Industrial Boilers, ICEs	Chromium (VI)	POINT	0.638748795	
Gas Stations	Chromium (VI)	NONPOINT	0	
Indus Process - NEC	Chromium (VI)	POINT	2.89629518	
Fuel Comb - Residential Fireplaces	Chromium (VI)	NONPOINT	0	
Indus Process - Oil & Gas Production	Chromium (VI)	POINT	0.009434548	
Graphic Arts	Chromium (VI)	POINT	0.001116806	
Surface Coating - Industrial	Chromium (VI)	POINT	0.129376394	0.129376
Indus Process - Chemical Manuf	Chromium (VI)	POINT	0.037271436	
Fuel Comb - Residential Wood	Chromium (VI)	NONPOINT	0.015584287	
Indus Process - Storage & Transfer	Chromium (VI)	POINT	0.018721679	
Non-Road Equipment - Diesel	Chromium (VI)	NONROAD	0.002444313	
Waste Disposal - Open Burning	Chromium (VI)	POINT	0.002081	
Degreasing	Chromium (VI)	POINT	0.002530365	
Fuel Comb - Electric Utility	Chromium (VI)	POINT	27.28964883	
Indus Process - Cement Manuf	Chromium (VI)	POINT	0.087770626	
Fuel Comb - Electric Utility	Chromium (VI)	NONPOINT	0.000134024	
Gas Stations	Chromium (VI)	POINT	1.089E-06	
Bulk Gasoline Terminals	Chromium (VI)	POINT	1.491E-08	
Total for Cr (VI)			**36.97806442**	**0.35%**
Indus Process - Pulp & Paper	Chromic Acid (VI)	POINT	0.755987	
Graphic Arts	Chromic Acid (VI)	POINT	0.0004	
Solvent - NEC	Chromic Acid (VI)	POINT	0.0001	
Indus Process - Storage & Transfer	Chromic Acid (VI)	POINT	0.000684777	
Degreasing	Chromic Acid (VI)	POINT	0.0023125	
Fuel Comb - Commercial/Institutional	Chromic Acid (VI)	POINT	0.003568565	
Surface Coating - Industrial	Chromic Acid (VI)	POINT	0.010849123	0.010849
Fuel Comb - Industrial Boilers, ICEs	Chromic Acid (VI)	POINT	0.078880585	
Indus Process - Chemical Manuf	Chromic Acid (VI)	POINT	0.0001151	
Indus Process - NEC	Chromic Acid (VI)	POINT	0.40396068	
Fuel Comb - Electric Utility	Chromic Acid (VI)	POINT	0.377214387	
Total for Chromic Acid (VI)			**1.639983416**	**0.66%**

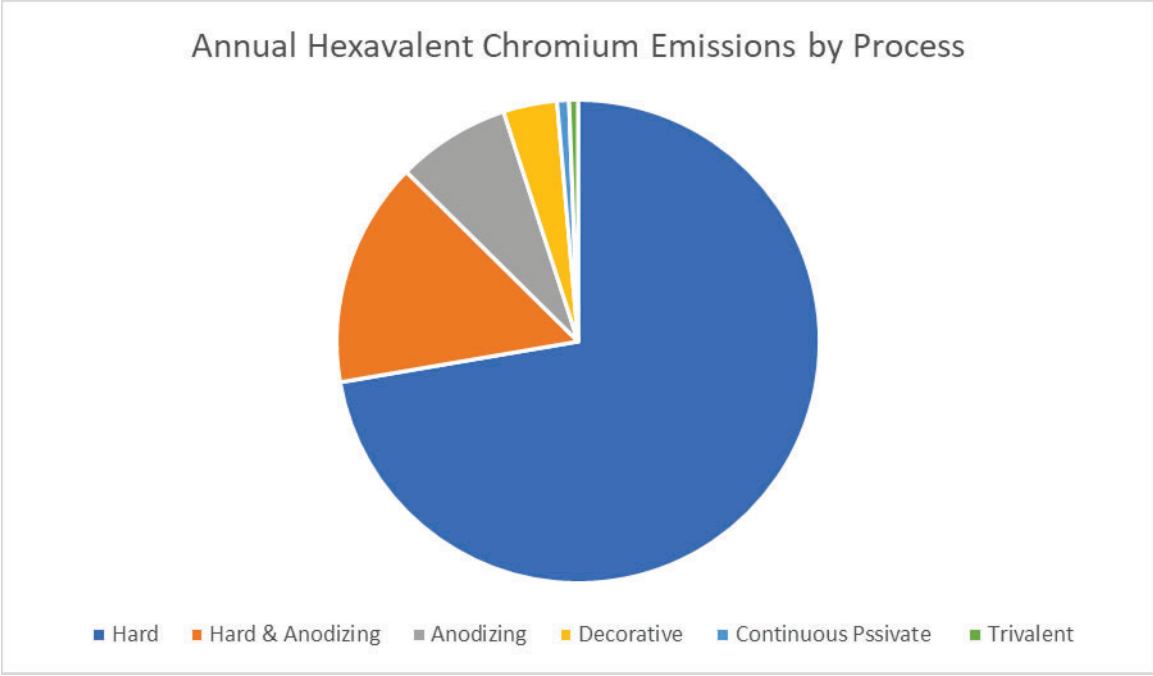


Just Over Two Pounds of Hexavalent Chromium Emissions in California

Due in large part to the more stringent regulatory requirements for surface finishing operations in California, the reduction of hexavalent chromium emissions have been even more successful in California. Based on CARB's own data, only 2.348 pounds of
85-3 hexavalent chromium are emitted annually from chromium plating and anodizing operations in California. This estimate is conservative because it is based on facility amp hours and the permissible emissions from each process. Actual emissions are lower because facilities must operate well below permissible emission limits to ensure ongoing compliance with the regulatory standard. Provided below is a table that summarizes the annual hexavalent chromium emissions in California based on amp hours and permissible emissions and a pie chart of those emissions.

Annual Hexavalent Chromium Emissions in California from Surface Finishing Operations (Permissible Emissions Based on Amp Hours)

Chromium Process	Pounds/Year	% of Total
Hard	1.697004465	72.3
Hard & Anodizing	0.355557774	15.1
Anodizing	0.178293855	7.6
Decorative	0.085612407	3.6
Continuous Passivate	0.018022805	0.8
Trivalent	0.013496204	0.6
TOTAL	**2.347987510**	

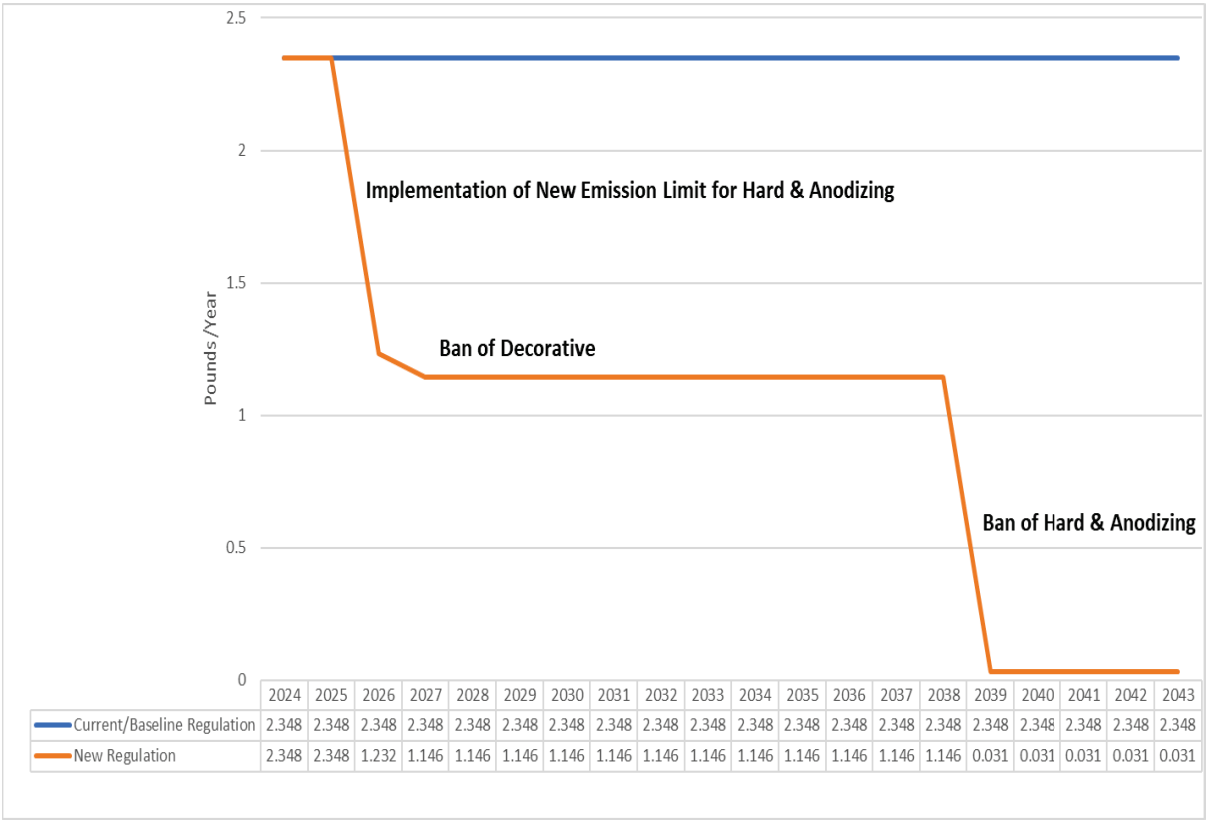


Projected Emissions with New CARB Rule

The new CARB rule that is being considered includes several requirements that are projected to reduce hexavalent chromium emissions from surface finishing operations. On January 1, 2026 hexavalent chromium emissions from hard chromium plating and chromic acid anodizing operations are expected to decrease, at least, by one half with the implementation of the new emission limit. This would be a reduction of over one-pound annual emissions of hexavalent chromium and would represent a reduction of 47.5 percent of the current annual emissions from all surface finishing operations in the state.

On January 1, 2027 the ban of decorative hexavalent chromium plating would result only in an annual reduction of less than one-tenth of a pound and would represent a reduction of only 3.6 percent of the current annual emissions from all surface finishing operations in the state. For the first fifteen years of the new CARB rule (and likely beyond), the vast majority of the annual reductions of hexavalent chromium emissions (over 93 percent) result from an emissions-based limit in the rule, and not a ban. The graph below illustrates the timing and degree of the projected emission reduction for the new CARB rule.

Projected Hexavalent Chromium Emissions with New CARB Rule



	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
Current/Baseline Regulation	2.348	2.348	2.348	2.348	2.348	2.348	2.348	2.348	2.348	2.348	2.348	2.348	2.348	2.348	2.348	2.348	2.348	2.348	2.348	2.348
New Regulation	2.348	2.348	1.232	1.146	1.146	1.146	1.146	1.146	1.146	1.146	1.146	1.146	1.146	1.146	1.146	0.031	0.031	0.031	0.031	0.031

On January 1, 2039 the ban on hard hexavalent chromium plating and chromic acid anodizing operations is scheduled to take effect, assuming non-hexavalent chromium alternatives are available to replace all applications of these processes. Based on some of the critical applications for these processes such as defense, aerospace, hydraulics, and heavy equipment, viable non-hexavalent chromium alternatives to these processes may not be available by 2039 due military, aerospace and customer specifications to address critical safety and performance criteria. To project any hexavalent chromium emission
85-4 reductions in fifteen years as a result of the ban is purely speculative at this point. Accordingly, the only significant reductions of hexavalent chromium emissions that can reasonably be counted upon would be based on an emissions-based rule requirement, not bans.

Ban May Cause More Harm Than Good

Decorative trivalent chromium plating processes are viable alternatives to many hexavalent chromium applications, but not all. Some customers still have specifications
85-5 for appearance and functional performance that can only be met with hexavalent chromium processes. Accordingly, if decorative hexavalent chromium plating is banned in California, these customers will get decorative hexavalent chromium plating outside the State of California. The ban of decorative hexavalent chromium in California does not extinguish customer specifications and demands for the product's functional performance found only from hexavalent chromium processes. The ban only extinguishes small, family-owned businesses, good-paying jobs, and tax revenue in California.

The ban of decorative hexavalent chromium plating would result in the direct reduction
85-6 of a very small amount of hexavalent chromium emissions (less than one-tenth of a pound). Because of the relatively short plating time for decorative processes, decorative plating shops generate the lowest amount of hexavalent chromium emissions, by far, compared to hard chromium and chromic acid anodizing processes. Based on CARB's own data, decorative plating accounts for only 0.086 pounds of hexavalent chromium

85-6 emissions annually in California. That is only 3.6 percent of the total hexavalent chromium emissions from the surface finishing industry in California, and only 0.036 percent of hexavalent chromium emissions from all sources. Banning decorative hexavalent chromium processes in California would result in such a small and insignificant amount of hexavalent chromium emissions that it would provide little, if any, benefit to human health and the environment.

85-7 The emissions-based regulations in California applicable to hexavalent chromium emissions from the surface finishing industry are the most stringent in the country. The surface finishing industry has continued to address these regulatory challenges and make the investments and efforts needed to meet the stringent emissions-based regulations. As noted above, the ban will not extinguish customer specifications and demands for hexavalent chromium plating, so plating will occur outside of California. Banning decorative hexavalent chromium plating in California will cause not only unnecessary facility closures and job losses, but it will also export hexavalent chromium emissions
85-8 and environmental justice concerns to communities outside of California. This export will likely result in increased overall hexavalent chromium emissions from decorative hexavalent chromium processes in those jurisdictions with less stringent regulatory controls and increased truck and rail traffic to ship products in need of decorative
85-9 hexavalent chromium plating to and from customers in California.

If California wants to continue to be the leader in protecting human health and the environment, then CARB needs to promulgate an emissions-based rule with no bans in order to reduce hexavalent chromium emissions overall, and, simply not export its hexavalent chromium emissions and environmental justice concerns to other jurisdictions. Accordingly, CARB should abandon the bans in this rule and promulgate emission-based limits that will result in meaningful hexavalent chromium emissions from the surface finishing industry.

Use of PFAS Fume Suppressants

85-10 One of the arguments expressed for banning hexavalent chromium plating is to eliminate the use of per- and polyfluoroalkyl substances (PFAS) in fume suppressants. The surface finishing industry, with the approval of EPA and CARB, had historically used a perfluorooctane sulfonate (PFOS) based fume suppressant to effectively reduce hexavalent chromium emissions from plating operations. As part of the 2012 revision to the Chromium Electroplating and Anodizing NESHAP, NASF worked with EPA to include a phase-out of PFOS-based fume suppressants. As of 2015, the surface finishing could no longer use PFOS-based fume suppressants. It is the only federal regulation to include a phase-out of a PFOS-based product.

As an alternative to PFOS, the industry switched to a fume suppressant that contained 6:2 fluorotelomer sulfonate (6:2 FTS) that was very effective in meeting the regulatory requirements of the NESHAP. While 6:2 FTS was a significant improvement over PFOS, it is still a PFAS. However, 6:2 FTS is not bio-accumulative, is not persistent in the environment, and is significantly less toxic than PFOS.

With the remaining concerns about the use of a PFAS-based fume suppressant, the surface finishing industry has identified several non-PFAS fume suppressants and is in the process of transitioning to the use of these non-PFAS alternatives to continue to reduce hexavalent chromium emissions. Accordingly, the primary PFAS issues facing the surface finishing industry stem from legacy uses. In addition, EPA is developing a revised effluent limitation guideline (ELG) for the surface finishing industry to address the discharge of PFAS in wastewater. Because of the surface finishing industry's
85-10 proactive approach to transitioning to non-PFAS fume suppressants and the primary focus on addressing legacy uses of PFAS in fume suppressants, banning hexavalent chromium plating and anodizing processes is not an effective way to address PFAS issues for the surface finishing industry.

Voluntary, Cooperative Initiative to Transition to Trivalent Chromium

As noted above customer specifications for product performance will dictate the viability and timetable for transitioning to trivalent chromium plating and anodizing processes. With proper customer acceptance, transitioning to trivalent chromium processes can have many advantages for platers, customers, and communities. Recognizing this important concept and seizing on the critical opportunity that it presents, NASF, in cooperation with EPA, the State of Michigan, and automotive manufacturers, has embarked on a voluntary, cooperative initiative to explore opportunities to transition to decorative trivalent chromium plating for automotive applications. As NASF and its California members
85-11 have continued to emphasize to CARB staff, even though decorative trivalent chromium processes are available, they do not work for all applications and for all customer specifications. The transition is complex and time-consuming, and requires significant testing and evaluation to guarantee product safety, performance and consumer acceptance.

The goal of this initiative is to identify those automotive applications that are ready for transition to decorative trivalent chromium processes and to conduct the appropriate testing, analysis, and evaluation on how best to implement the transition. Unlike the proposed bans in the CARB rule, the technology transition is not a one-size-fits-all approach and must be addressed application by application to ensure that customer specifications for product performance and safety are met.

85-12 The surface finishing industry welcomes the opportunity to work with CARB on a similar voluntary, cooperative initiative to transition to decorative trivalent chromium processes, rather than rely on a draconian, inappropriate, and ineffective ban on hexavalent chromium plating and anodizing. Such an approach with an emissions-based rule can lead to a productive regulatory approach that can achieve meaningful reductions of hexavalent chromium emissions for the surface finishing industry.

III. Conclusion

On behalf of the National Association for Surface Finishing (NASF), we appreciate the opportunity to submit these comments on the California Air Resources Board (CARB) Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations, and look forward to continue working with CARB and its staff on this rulemaking. If you have any questions, would like additional information, or would like to discuss these comments, please contact Jeff Hannapel (jhannapel@thepolicygroup.com) or Christian Richter (crichter@thepolicygroup.com) on behalf of the NASF.

Comment 5 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023). (At Hearing)

First Name: Art
Last Name: Holman
Email Address: art@shermsplating.com
Affiliation:

Subject: Comment
Comment:

Attachment: www.arb.ca.gov/lists/com-attach/98-chromeatcm2023-VTRUIAB1BD8BaANv.pdf

Original File Name: artholman.pdf

Date and Time Comment Was Submitted: 2023-01-27 08:33:32

No Duplicates.

0.000022097 LBS

OR

1/100TH OF A GRAM

ANNUALLY

Comment 6 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023). (At Hearing)

First Name: Bryan
Last Name: Leiker
Email Address: bleiker@klanodizing.com
Affiliation:

Subject: Comment
Comment:

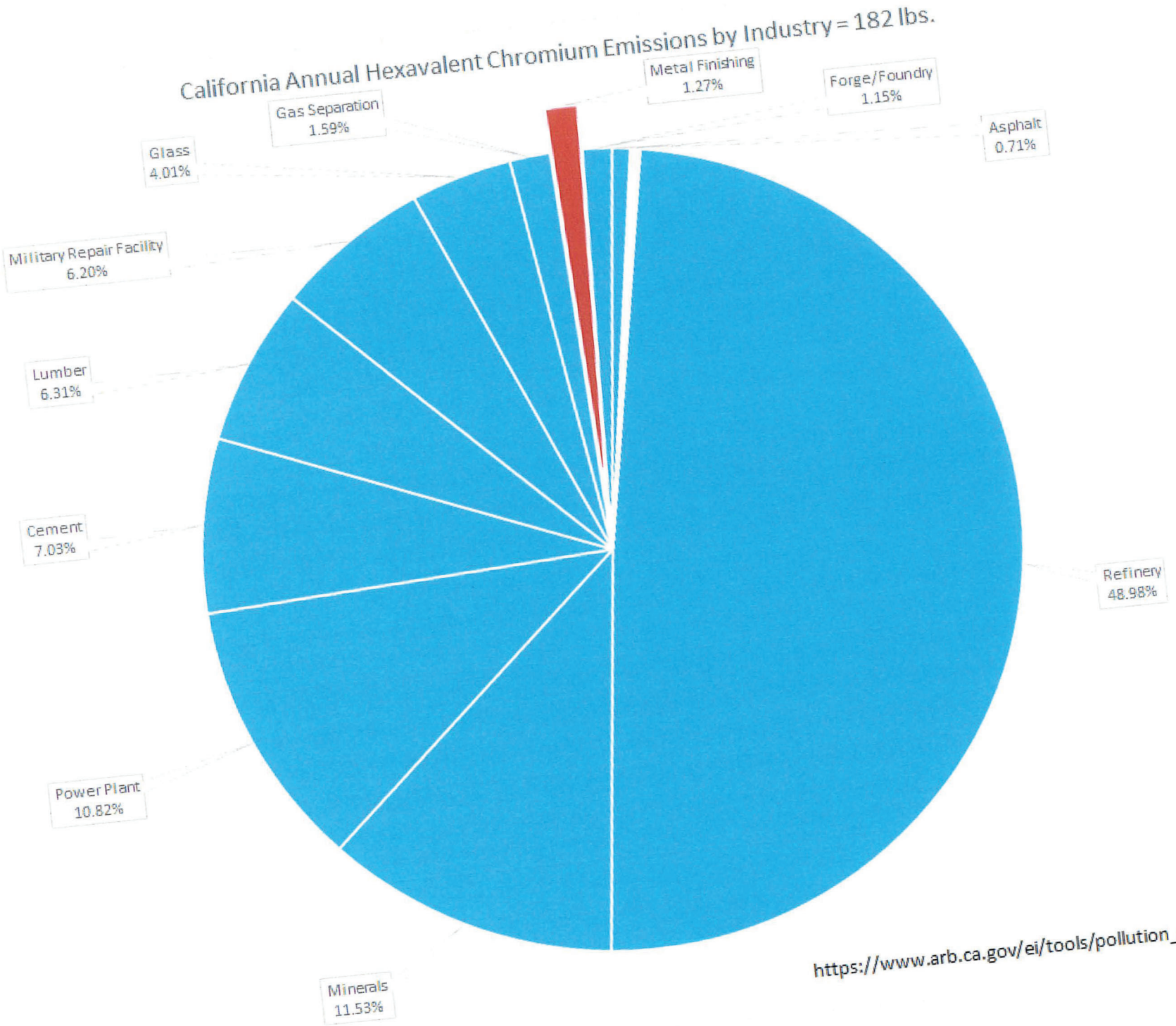
Attachment: www.arb.ca.gov/lists/com-attach/99-chromeatcm2023-WzcGZVE5WWFSMQR2.pdf

Original File Name: leiker.pdf

Date and Time Comment Was Submitted: 2023-01-27 09:13:35

No Duplicates.

23-1-7



https://www.arb.ca.gov/ei/tools/pollution_map/

Comment 7 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023). (At Hearing)

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Cal EnviroScore areas
Comment:

88 If an area is recognized in the CalEnviroScore database as not having residents and therefore has no score then hex chrome plating should not be banned or phased out in that area. Hex chrome plating is necessary and these types of areas are ideal for locating hex chrome businesses. Why send work out of state and to Mexico when there is an in-state alternative? Amend the proposed ATCM to carve out areas with no residential populations and allow hex chrome plating in those areas. It is necessary.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-01-27 09:52:21

No Duplicates.

Comment 8 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023). (At Hearing)

First Name: Keaton
Last Name: Curran
Email Address: Keaton.Curran@MacDermidEnthone.com
Affiliation: MacDermid Enthone - Global Chemical Supp

Subject: From a Global Supplier of Plating Solutions
Comment:

Hello to all it may address,

My name is Keaton Curran. I am a product management specialist for decorative finishes and plating on plastic at MacDermid Enthone, a global chemical supplier of plating solutions.

As a global supplier we share in the many woes and goals of regulators, OEMs, and our customers -the chrome applicators - that impact and guide this great industry. The goals and woes that we are here discussing today, the elimination of hexavalent chrome, is one we have listened to and made strides with at all levels of impact on this industry. Our teams around the globe have called upon and listened to applicators, OEMs, and regulating bodies to guide our product offerings and market direction well into the future. Today, we recognize and share with many across the industry the goal to offer sustainable solutions and meet our customer needs.

These sustainable alternatives technologies are growing and improved upon each and everyday as we commit to these goals but also these alternatives have carried many hurdles for the industry to adopt.

89-1 In the Decorative segment, a sustainable alternative solution we offer is Trivalent Chrome. Today, Trivalent Chrome with the newest generations can offer matching colors, new colors, leading corrosion resistance, and exceptional uniformity of deposits. But it's not as simple as pumping out hexavalent chrome tank, scrubbing down the line, and pumping in Trivalent Chrome. Applicators must adopt new equipment, train on new analyses, implement new maintenance techniques, finalize local and regional permits, test and market to current or new customers, and of course have the space available, time, and financial capital to complete the transition.

New technologies in Plating on Plastics eliminating Hexavalent Etchants from the Plating on Plastics segments are also growing acceptance into the industry. The fully Chrome-Free alternatives have taken foot largely due to Automotive OEM commitments to sustainability and expansion into new end use industries such as aerospace and electronics but these technologies too have high hurdles and high financial costs to implement. Many applicators in Plating on Plastics will be required to construct or rebuild up to

half of their existing manufacturing line to implement these alternatives technologies. This will incur vast costs, well above the presented estimates by CARB, for line construction, testing, implementation, permitting, and lost production time during installation.

OEMs and their Tier level customers share in these many hurdles as the risk to ensure retesting, re-PPAPing, and approvals are met without interrupting the delicate supply chain this Industry operates on.

89-2 Functional Hard Chrome applications eliminating hexavalent chrome are not in our opinion industrially available today and any viable technology are still years away. The development and adoption of such technology will require extensive time and resources to achieve a hexavalent chrome free industry.

89-1 As we step forward towards these goals and through the many hurdles our teams at MacDermid Enthone ask with great magnitude to ensure fully adequate funding and reasonable timeliness for applicators and their customers to step firmly into these alternative technologies.

Thank you for your time, and please accept our open hand of support, to everyone here today, to discuss any and all alternative technologies we offer.

Keaton Curran
Keaton.curran@macdermidenthone.com

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-01-27 09:46:44

No Duplicates.

Comment 9 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023). (At Hearing)

First Name: Brett
Last Name: Troncale
Email Address: brett@caltronplating.com
Affiliation: Cal-Tron Plating Inc.

Subject: Metal finishing
Comment:

I'm third generation in the plating business following my father and grandfather. This is what we know, this is what we have dedicated our life to. We follow all rules and regulations and will
90-1 continue to. We would much rather be regulated then shut down. Please allow my son to be able to be 4th generation in this industry in beautiful California. Our family business supports over
90-2 160 employee family members that will be hurt by this. A Quote from
90-3 one of our state inspectors "at least here I can walk in at any time and test admission and ensure regulations are followed, if banned in CA most companies will go to Mexico where it will not be regulated like it is here. It most likely will get much worst". We
90-1 want to stay in business, we want to offer our services to all industries, we want to follow regulations, we want a safe California. We can work together and solve this without bans. Thank you.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-01-27 09:55:01

No Duplicates.

Comment 10 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023). (At Hearing)

First Name: Clayton
Last Name: James
Email Address: cfjames@rmking.com
Affiliation: King Industrial Hard Chrome

Subject: Hex Chrome Ban
Comment:

Hello my name is Clayton James and I am the facility manager of King Industrial Hard Chrome located in Fresno, CA. We are a small company with only 2 employees, but the work that these two employees process affects the whole world including you if you own anything made with cotton. That's what we do is manufacture and
91-1 Chrome plate cotton picker spindles. We sell and ship these parts all over the world to be used in cotton pickers.
We utilize closed tanks with merlin covers and edd filters and our emissions are far lower than the current regulations require. The current regulations limit our emissions to be lower .015mg per amp hour. Our tanks actual emissions are 0.0000058 m/g per amp hour. Our facility total emissions for last year were 12.46mg our total limit allowed is 18,000mg. We choose to to keep our emissions low
91-2 we take great pride in running a clean shop and keeping our employees safe. The only other companies that manufacture and hard
91-3 Chrome plate cotton picker spindles are located in China.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-01-27 10:35:56

No Duplicates.

Comment 11 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023). (At Hearing)

First Name: Caroline
Last Name: O
Email Address: caroline.orija@gmail.com
Affiliation:

Subject: Proposed Amendments to the Airborne Toxic Control Measure for Chromium
Comment:

92 Many communities around California are overburdened by hexavalent chromium, as the slides shown today have demonstrated.
The use of these toxic chemicals can cause serious health problems for workers and local residents alike.
Switching to trivalent chromium has the benefit of not only significantly reducing the toxic emissions of one of the most dangerous chemicals known in our communities but facilities using trivalent chromium avoid having to use other toxic fume suppressants as well.
Respectfully I, urge the board to take this important action in the Chrome Plating ATCM now, to gain early reductions in the many communities affected by the decorative chrome platers.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-01-27 10:59:25

No Duplicates.

Comment 12 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023). (At Hearing)

First Name: Wesley
Last Name: Turnbow
Email Address: wturnbow@emeplating.com
Affiliation:

Subject: Comment
Comment:

Attachment: www.arb.ca.gov/lists/com-attach/106-chromeatcm2023-AnYFdlEiUWwHY1U6.pdf

Original File Name: turnbow.pdf

Date and Time Comment Was Submitted: 2023-01-27 11:04:16

No Duplicates.

23-1-7

Wesley Turnbow

AQMD Monitoring - EME in Compton

Sites 4C and 5C

93

Date	Upwind	Downwind	Difference	Notes
Monday, June 12, 2017	0.10	-	-	
Thursday, June 15, 2017	0.17	0.24	0.07	
Sunday, June 18, 2017	0.28	0.04	-0.24	
Wednesday, June 21, 2017	0.48	0.11	-0.37	
Saturday, June 24, 2017	0.11	0.14	0.03	
Tuesday, June 27, 2017	0.23	0.26	0.03	
Friday, June 30, 2017	0.09	0.14	0.05	
Monday, July 3, 2017	0.86	0.49	-0.37	
Thursday, July 6, 2017	0.78	0.33	-0.45	
Sunday, July 9, 2017	1.37	1.32	-0.05	
Tuesday, July 11, 2017	0.72	1.09	0.37	
Saturday, July 15, 2017	0.18	0.27	0.09	
Tuesday, July 18, 2017	0.58	0.18	-0.40	
Friday, July 21, 2017	0.88	0.17	-0.71	
Monday, July 24, 2017	0.08	0.22	0.14	
Thursday, July 27, 2017	0.87	1.13	0.26	
Sunday, July 30, 2017	0.06	0.71	0.65	Sunday - no work done
Wednesday, August 2, 2017	0.11	0.14	0.03	
Saturday, August 5, 2017	0.04	0.06	0.02	
Tuesday, August 8, 2017	0.11	0.27	0.16	
Friday, August 11, 2017	0.24	0.20	-0.04	
Monday, August 14, 2017	0.14	0.15	0.01	
Thursday, August 17, 2017	0.34	0.38	0.04	
Sunday, August 20, 2017	0.19	0.27	0.08	
Wednesday, August 23, 2017	0.10	0.55	0.45	Welding of Fence Across the Street
Saturday, August 26, 2017	0.17	0.16	-0.01	
Tuesday, August 29, 2017	0.11	0.09	-0.02	
Friday, September 1, 2017	0.74	0.29	-0.45	
Monday, September 4, 2017	0.09	0.06	-0.03	
Thursday, September 7, 2017	0.20	0.23	0.03	
Sunday, September 10, 2017	0.06	0.06	0.00	
Wednesday, September 13, 2017	0.11	0.29	0.18	
Saturday, September 16, 2017	0.13	0.16	0.03	
Tuesday, September 19, 2017	0.13	0.09	-0.04	
Friday, September 22, 2017	0.20	0.14	-0.06	
Monday, September 25, 2017	0.44	0.44	0.00	
Thursday, September 28, 2017	0.19	0.29	0.10	
Sunday, October 1, 2017	0.03	0.04	0.01	
Wednesday, October 4, 2017	0.36	0.31	-0.05	
Saturday, October 7, 2017	0.17	0.27	0.10	
Tuesday, October 10, 2017	7.18	-	-	Sampling Filter Tore
Friday, October 13, 2017	0.23	0.22	-0.01	
Monday, October 16, 2017	0.61	0.64	0.03	
Thursday, October 19, 2017	0.11	0.20	0.09	
Sunday, October 22, 2017	0.11	0.31	0.20	
Wednesday, October 25, 2017	4.69	**23.64**	18.95	ANOMALY ??? 103° Day
Saturday, October 28, 2017	0.07	0.09	0.02	
Tuesday, October 31, 2017	0.14	0.09	-0.05	

Friday, November 3, 2017	0.12	0.33	0.21	
Monday, November 6, 2017	0.12	0.95	0.83	
Thursday, November 9, 2017	1.62	1.11	-0.51	
Sunday, November 12, 2017	0.14	0.17	0.03	
Wednesday, November 15, 2017	1.68	0.68	-1.00	
Saturday, November 18, 2017	1.46	1.08	-0.38	
Tuesday, November 21, 2017	1.42	1.20	-0.22	
Friday, November 24, 2017	0.13	0.10	-0.03	
Monday, November 27, 2017	0.64	0.23	-0.41	
Thursday, November 30, 2017	0.45	0.64	0.19	
Sunday, December 3, 2017	0.08	0.06	-0.02	
Wednesday, December 6, 2017	1.84	1.42	-0.42	
Saturday, December 9, 2017	0.85	0.69	-0.16	
Tuesday, December 12, 2017	3.57	3.05	-0.52	
Friday, December 15, 2017	1.33	1.32	-0.01	
Monday, December 18, 2017	0.50	0.45	-0.05	
Thursday, December 21, 2017	0.37	0.58	0.21	
Wednesday, December 27, 2017	1.19	0.28	-0.91	
Saturday, December 30, 2017	0.07	0.14	0.07	
Tuesday, January 2, 2018	0.21	0.35	0.14	
Friday, January 5, 2018	0.25	0.47	0.22	
Monday, January 8, 2018	1.12	0.15	-0.97	
Thursday, January 11, 2018	0.32	6.21	5.89	
Sunday, January 14, 2018	0.11	0.09	-0.02	
Wednesday, January 17, 2018	1.77	0.78	-0.99	
Saturday, January 20, 2018	-	3.03	-	Very High Winds
Tuesday, January 23, 2018	-	2.50	-	Upwind of 1.73 Was Later Deleted
Friday, January 26, 2018	-	0.85	-	Mulfunction - 3rd in a Row
Monday, January 29, 2018	0.96	0.81	-0.15	
Thursday, February 1, 2018	0.78	0.21	-0.57	
Sunday, February 4, 2018	0.95	0.67	-0.28	
Wednesday, February 7, 2018	0.62	1.92	1.30	
Saturday, February 10, 2018	0.10	0.06	-0.04	
Tuesday, February 13, 2018	1.28	0.12	-1.16	
Friday, February 16, 2018	1.28	0.65	-0.63	
Monday, February 19, 2018	0.36	1.05	0.69	High Wind Day
Thursday, February 22, 2018	0.31	0.18	-0.13	
Sunday, February 25, 2018	0.15	0.07	-0.08	
Average in Nanograms	0.57	0.81	0.23	
Average without the Anomaly)	0.52	0.52	**0.00**	

Comment 13 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023). (At Hearing)

First Name: Jaime
Last Name: Lopez
Email Address: jaimeilo@usc.edu
Affiliation: University of Southern California

Subject: Ban Hex Chrome
Comment:

94 I am a resident in Paramount, CA and a doctoral candidate at the University of California focusing on environmental justice issues in Southeast Los Angeles. I hope everyone can acknowledge that there is gross imbalance between those in attendance being paid to advocate for industry and virtually all of the disadvantage residents who live in the more than 100 environmental justice communities in CA who can't be here today. Many vulnerable community members do not have the capacity or awareness to yet fully understand the environmental harms that CARB is trying to protect them from, and they also may not have the luxury of an employer to pay for their attendance today.

Many statements made in support of industry fail to present arguments that indicate they've thought about environmental justice beyond their own self-serving perspectives and individual identifications such as, "I've been working at this company for X number of years", "I like my job" "I'm good at my job", "I'm x years old and still healthy and alive", etc. etc. It is clear from many of the statements today that environmental justice not understood within a larger societal context.

It is also tragic that employees are being paraded today on behalf of industry to downplay the harmful environmental conditions that environmental justice scholars and scientists have identified for decades.

Frontline communities are at the real victims here, and thank you CARB for standing up for those who can't speak for themselves today.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-01-27 11:49:54

No Duplicates.

Comment 14 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023). (At Hearing)

First Name: Amy
Last Name: Kyle
Email Address: amydkyle@berkeley.edu
Affiliation:

Subject: Comment
Comment:

Attachment: www.arb.ca.gov/lists/com-attach/108-chromeatcm2023-AGECaVEpUmoGeQNv.pdf

Original File Name: amykyle.pdf

Date and Time Comment Was Submitted: 2023-01-27 12:35:17

No Duplicates.

From: Estabrook, Katie@ARB
To: Bechtold, Bradley@ARB
Subject: FW: Comments on getting to zero discharge for highly toxic chemicals in California communities
Date: Friday, January 27, 2023 12:27:22 PM

Can you add this to the docket?

Katie Estabrook
Manager
Board Administration & Regulatory Coordination Unit
Executive Office
she/her/hers
VoIP: 279-208-7745

From: Amy Kyle <amydkyle@berkeley.edu>
Sent: Friday, January 27, 2023 12:14 PM
To: Estabrook, Katie@ARB <katie.estabrook@arb.ca.gov>
Subject: Comments on getting to zero discharge for highly toxic chemicals in California communities

I am not able to get a good connection to comment. This is at my end and I am not requesting technical assistance.

I appreciate your concern for making the process work.

I would like to submit these comments to the docket if possible.

95-1 1. The proposed rule establishes an important process to implement technologies to achieve zero discharge of proposed chrome 6, which we know is a highly toxic chemical. The rule should be adopted and the process should move forward.

95-2 2. The proposal incorporates the concept of shifting to zero discharge technologies for highly toxic compounds in communities and the concept of transition support for businesses to adapt. These are both important principles that should be adopted here and applied more broadly.

3. We need greater emphasis at CARB on developing, incentivizing, and implementing zero discharge technologies for highly toxic compounds especially when releases are occurring in communities, beyond this case. I have no doubt that CARB and the districts could accelerate zero discharge technologies. Technologies do not just "develop," but need to be incentivized.

95-3 5. To reduce cumulative impacts of toxics in communities, we need to reduce a number of sources that may not be the most significant individually, but that collectively create a disproportionate burden of pollution. We cannot continue to consider each source separately.

Thank you for your consideration of these comments.

Amy D Kyle, PhD MPH

Comment 15 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023). (At Hearing)

First Name: Anthony
Last Name: Rendon
Email Address: Non-web submitted comment
Affiliation:

Subject: Comment
Comment:

Attachment: www.arb.ca.gov/lists/com-attach/109-chromeatcm2023-AnFQNwFyWSRWIANn.pdf

Original File Name: sar.pdf

Date and Time Comment Was Submitted: 2023-01-27 12:36:30

No Duplicates.

ANTHONY RENDON
SPEAKER of the ASSEMBLY
Sixty-Second Assembly District

January 27, 2023

Chair Liane Randolph
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Dear Chair Randolph and members of the Air Resources Board:

Today, the Air Resources Board (ARB) will hear proposed amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations. I
96 encourage the ARB to adopt the amendments, as proposed by staff, that would prohibit the construction of new hexavalent chromium facilities and would fully phase out the existing use of hexavalent chromium for both decorative and functional plating. If adopted, these amendments would help address decades of cumulative environmental burdens from toxic air contaminants that are often concentrated in disadvantaged communities, such as the ones I represent.

Many of the communities in South East Los Angeles are intermixed with heavy industrial facilities, putting schools and residences in close proximity to toxic emissions. The concentration of these facilities causes cumulative health impacts that are more significant than may be represented by regional air pollution indicators. This is particularly the case with hexavalent chromium, a pollutant that is approximately 500 times more toxic than diesel exhaust particulate matter. As reported in the Air Resources Board staff report, more than 70% of the 113 chrome plating facilities in California are in environmentally overburdened and disadvantaged communities. In my district, we have numerous plating facilities concentrated within the relatively small, five square mile area of Paramount.

In 2016, emission spikes of hexavalent chromium were detected from two Paramount facilities. The resulting monitoring from this incident clearly revealed that our communities were being burdened by higher levels of hexavalent chromium than the South Coast Air District or the Air Resources Board realized. These emission violations, along with the passage of AB 617 (C. Garcia, Statutes of 2017), reinvigorated attention to toxic emissions issues and brought our communities the regulatory attention needed to protect public health.

CAPITOL OFFICE: STATE CAPITOL, ROOM 219 · SACRAMENTO, CA 95814 · *Phone* (916) 319-2062 · *Fax* (916) 319-2162
DISTRICT OFFICE: 4909 LAKEWOOD BLVD., SUITE 400 · LAKEWOOD, CA 90712 · *Phone* (562) 529-3250 · *Fax* (562) 529-3255
WEBSITE: ASMDC.ORG/SPEAKER · E-MAIL: SPEAKER.RENDON@ASSEMBLY.CA.GOV

Today you have the opportunity to require the transformation of the industry to a less toxic alternative for chromium plating. In recognition that such a transformation can impose financial challenges to small businesses, last year the Legislature committed $10 million to the ARB to assist with the transition away from the use of hexavalent chromium, which will be made available upon adoption of a rule to fully eliminate hexavalent chromium at all decorative and functional chromium planting facilities and chromic acid anodizing facilities statewide. These funds can be used to provide incentives for small businesses to transition away from hexavalent chromium, grow customer awareness and acceptance of trivalent chromium plating products, and fund demonstration projects that further alternative technologies. This funding aims to ensure that we are helping businesses while we are protecting public health.

96

I would like to commend the ARB for working with environmental justice groups in development of this rule. In May 2022, ARB members and staff visited communities in Paramount and Boyle Heights where there are schools and homes immediately adjacent to numerous industrial facilities, including chrome platers. I believe connecting with these communities and seeing first-hand the people impacted by pollution gives the board invaluable perspective as you approach the work before you.

I encourage the ARB to adopt these strong proposed regulations and thank you for your commitment and attention to the most impacted communities in the state.

Sincerely,

ANTOHNY RENDON
Speaker of the Assembly

proposed amendments. Clarification on the applicability of specific requirements to decorative chrome plating operations may be necessary. And some non-substantive changes for consistency and clarifications, such as changing the acronym CFR to Code of Federal Regulations in the regulatory text.

--o0o--

TTD STAFF AIR POLLUTION SPECIALIST RUBIN: The next steps for the proposed amendments interests are staff will make all needed 15-day changes and present the proposed amendments to the Board for a vote at a future hearing. The hearing is tentatively scheduled for May 2023.

This concludes our eye presentation. Thank you.

CHAIR RANDOLPH: All right. Thank you very much. We will now hear from the public who signed up to speak on this item, eight by submitting a request to speak card or by raising their hand in Zoom. I will ask the Board Clerk to begin calling the public commenters.

BOARD CLERK HARRINGTON: Thank you. We currently have 65 in-person commenters. Sign-ups to speak will close in 30 minutes at 9:45.

And our first speaker is Art Holman.

ART HOLMAN: Good morning. My name is Art Holman. I run a plating facility in Sacramento,

California called Sherm's Custom Plating. I am what is being deemed a so-called decorative plater. I dispute that term, because the process that I provide is very functional. I provide Mil-Spec plating on medical equipment. I also have to adhere to OEM specifications for historical automotive repair and refurbishing.

97-1 The thing that I don't believe that the staff has taken into account here is that the amount of leakage that's going to happen in jobs from this proposal in the decorative plating industry is substantial. There's no

97-2 way that I can transition to a trivalent process and maintain my business. If that were an option for me, I would gladly do so. It's just not. Customer satisfaction is not -- they're not approving of the trivalent chrome process at this point.

97-3 The other issue that I'd like to bring to the Board's attention is the numbers that the staff has presented to you on the emissions that are generated in the decorative and functional plating are very elevated. The calculations were done using maximum throughput at maximal -- maximum allowable emission rates. These numbers are not accurate. Our emissions are much lower than what has been presented.

When -- I've been in the plating industry for 43 years. I've had many of you at my facility for a tour

where I've demonstrated my operation and my control device
97-1 technology in place. I have -- I have 10 employees. They
all have very good homes, jobs, health benefits. That
97-4 will be lost. The plating that I do at my facility will
be moved out of state and we will incur transportation
diesel exhaust particulate matter that --

BOARD CLERK HARRINGTON: Thank you. That concludes you time.

And I would like to remind everybody that you can line up at both of the podiums in advance. And the 30-minute cutoff time also applies to raised hands in Zoom.

Our next speaker is Bryan Leiker.

BRYAN LEIKER: Good morning. Bryan Leiker, Executive Director of Metal Finishing Association of California, also National Association for Surface Finishing Board member and have a business -- long-time business K&L Anodizing in Burbank since 1950, representing the industry here today.

I thank -- I thank the CARB Board for taking the
98-1 time to meet with us over the last few years. We believe
that rules can be emission based. As working on 1469 with
South Coast for several years to develop a rule that has
strict emission controls and allows businesses to continue
to operate.

98-2 Highlighting today, I'd like to point out our industry here, this is CARB's own data, 1.27 percent of hex chrome emissions in the state. We are also likely the most regulated, if not one of the most regulated some of the strictest regulations in the country. Other sources, as you can see here in the handout I provided: refineries, 48.98 percent; minerals, 11.54; power plant, 10.82; and other contributors here.

98-3 There is technology available today to control emissions. We do agree that hex chrome is a toxic substance, but there is the technology to control it.

98-4 Nobody in this room should have to go out of business because of this rule. And unfortunately, what's going to happen is we will lose members.

The main point today to note is it is customer demand. It is what the customer is willing to accept. We are a small business industry. Many of us -- I don't think any in this room sell a produce. We provide a service. And whether it's a Mil-Spec for the aerospace military defense, a medical device that Art at Sherm's Plating might produce or something for a restoration car, that is up to the customer to decide what can be used.

This Board, this staff has taken a step forward that's going to have disastrous consequences for the state of California. Not only are you going to lose an entire

98-4 con't) decorative industry, it is not just decorative, but the entire aerospace industry will follow. The billions of dollars and several thou -- hundreds of thousands of jobs will flow out of here within the next decade.

Thank you.

BOARD CLERK HARRINGTON: Thank you.

(Applause).

BOARD CLERK HARRINGTON: Next, we have Jim Newton.

99-1 JIM NEWTON: The proposed action before the Board is advocated by some as promoting environmental justice. While I hope everyone here is in favor of environmental justice, this action does nothing to advance that cause. In fact, it is anything but environmental justice. I think everyone would agree that simply shifting the environmental burden associated with any industrial activity from one disadvantaged California community to another disadvantaged California community does not serve as environmental justice.

It is difficult then to imagine how anyone could attempt to argue that shifting the same burden to disadvantaged communities in other states or other countries, while continuing to enjoy the benefits of products of that industrial activity here in California could constitute environmental justice either. Just as

the state of California rightly condemns the practice of busing immigrants from Texas and other border states to New York or Washington D.C. or Martha's Vineyard with no thought or consideration given to the welfare of those immigrants or the impact on the receiving communities, passing the buck for the sake of political theater rather than working cooperatively to solve the immigration problem, so too must we resist the temptation to pass the buck on the issue of hexavalent chromium, rather than allowing government and industry to work together to come up with solutions here in California with its proven track record of environmental progress and unrivaled innovation.

99-2 I respectfully urge the Board to reject passing the buck and instead work with industry to achieve true environmental justice. I thank the Board for allowing my comments.

(Applause).

BOARD CLERK HARRINGTON: Cheryl Meyer.

CHERYL MEYER: Good morning. My name is Cheryl Meyer. I have three children and nine grandchildren and I'm an owner of Aviation Repair Solutions in West Long Beach. West Long Beach has -- my whole family has lived there for five generations. We have an incredible community in West Long Beach. But I found myself when I was 23 years old, my husband left, I had two children, and

I had an incredible opportunity with a high school education in the aerospace industry. I worked hard and I retired from the Boeing Company as an executive.

Without that opportunity, I don't know where I would have been, so jobs are important. I remember a time in Long Beach where there was over 50,000 workers in aerospace. There was over 6,000 workers in aerospace in Torrance. These jobs are all gone in California, but they're not gone. They're somewhere else. So jobs are important here.

Today, we're talking about more aerospace jobs.

100-1 This ban will eliminate more jobs and more opportunities for the communities in Long Beach. We have 15 employees in our company. We provide a good wage, a good middle class wage, we provide medical, dental, retirement plans to these employees and their families. If you do this, this is all gone. Long Beach will not make any

100-2 improvements by this ban. Our company today follows the Rule 1469. We do not pollute at all in Long Beach. You'll hear more about that later.

I ask you to -- or to listen to this proposal. Be a balanced leader. Stop the ban. Require --

BOARD CLERK HARRINGTON: Thank you. That concludes your time.

CHERYL MEYER: I thought I had three minutes and

I'd like to say this to this Board because I think it's important. Require 1469 to be put in across California. It protects California and it will also protect the nation because the work is not going away. It's going to go on.

100-2 (con't)

CHAIR RANDOLPH: You're time up is. There's two minutes for each speaker.

Thank you.

BOARD CLERK HARRINGTON: Thank you.

Next is Frank Grana.

(Applause).

FRANK GRANA: Hello. My name is Frank Grana. I'm one of the owners of California Electroplating in Los Angeles. Our company has been in Los Angeles for over a hundred years. I'm here to speak today to ask you to postpone the ban on hexavalent chrome. I've attended all the Zoom meetings and I've come to the impression that the Board members think that trivalent chrome is a direct replacement for hexavalent chrome in the decorative industry. I'm here to tell you it is not.

101-1

Hexavalent chrome gives a color that trivalent chromium has not achieved at this point. There are -- I have many customers that tell me that they like the idea of going with a less toxic chemical, but the color is just not there and color is decorative. We are a decorative shop. If the ban of hexavalent chrome goes through --

101-2

101-2 (con't) excuse me -- my company will lose 45 percent of our business. My customers will send their work out of state where they can get the hexavalent chrome. And they're not 101-3 going to have controls that we do here in California, therefore polluting more out of state than we have here in California.

101-2 The banning of hex chrome will not -- will cause me to eliminate 30 jobs at my shop. The banning of hex 101-4 chrome is not the answer to California -- California's clean air problem. Hexavalent chrome has been regulated by AQMD for decades and we have reduced hexavalent chrome emissions by over 99 percent.

I'm just going to go to the closing, because I 101-5 see the clock is ticking. In closing, I would ask the Board to postpone the banning of hexavalent chrome until trivalent chrome improves. When trivalent chrome can match the look of hexavalent chrome, I will gladly get rid of hexavalent chrome. It's overkill and unnecessary to 101-4 shut down an industry that is already heavily regulated --

BOARD CLERK HARRINGTON: Thank you.

FRANK GRANA: -- monitored and achieving the emission required by our permits. Thank you.

(Applause).

BOARD CLERK HARRINGTON: Thank you.

Next is Pat Patterson.

PATRICK PATTERSON: Hello. My name is Patrick Patterson. I own and operate Pro-chem Corporation. I, in fact, distribute tri-chrome chemistry. Our corporation is on 90 percent of the AQMD permits for the trivalent chrome. We educated the AQMD with our technology and we've made it very clear to the AQMD that beyond decorative finish, as Art suggested earlier, there's a function in chrome plating even in the decorative. So salt spray, corrosion protection, hardness of the material and hardness of the product itself, and especially color are critical. The tri-chrome meets none of the hex chrome's hardness, salt spray requirements, and color.

We're very close on two of the three. We're nowhere near close on the color. We are working hard in our research and development. I would remind you this try tri-chrome technology that we're speaking of and I sell to 90 percent of the people in Southern California has been around for over 40 years. We've employed this technology for 40 years in this State. And after 40 years, it's still less than 10 percent of the products produced here. So that makes a case for the hex chrome.

In these 40 years, we've evolved and improved the process tremendously. We have not been able to attach -- address the color issue. In my belief -- we never will. My belief is in selling this chemistry to these platers, I

102-1

suggest that you will never satisfy your automotive restoration guy. You'll never satisfy a large part of the industry, medical, and especially some of the military applications that this government requires again.

102-2 The last thing I'd say is I find it disingenuous showing where all these sites are. Most of these plating facilities, as Frank suggested, were there for over 100 years. These schools and other communities moved in after these plating facilities. Los Angeles was once a proud manufacturing base as was Orange County, and the central parts of these cities manufactured and utilized this chemistry. Everything else was built around it.

Thank you very much.

(Applause).

BOARD CLERK HARRINGTON: Thank you.

Next is Maria Granadino.

MARIA GRANADINO: My name is Maria Granadino. I have been working at Aircraft X-Ray Lab for over 30 years. I'm a lab supervisor. As a single mother, this job gave me the opportunity to buy a house and put my two daughters

103-1 through school. While eliminate an industry with minimal emissions that is already regulated. Many families like

103-2 mine will be affected.

(Applause).

BOARD CLERK HARRINGTON: Next is Jim Meyer.

JIM MEYER: My name is Jim Meyer. After 23 years at Boeing, I thought I knew a little about airplane parts, so I borrowed money against the house and bought some property in West Long Beach. There's no residential
104-1 population there at all. I'm next to the port, the railroads, some refineries and 5,000 diesel trucks. I bought a state-of-the-art HEPA control system and we began repairing flight critical aircraft parts with chrome. We emit two grams of chrome per year. That's two paper clips. We've never used PFAS or PFOS. There are no schools, residences, or anything there except refineries, rail, the port and a thousand -- 5,000 trucks.

We're already 100 percent compliant to Rule 1469. We've never had a violation or even a complaint. We
104-2 employ 15 skilled craftsmen and -- from a local community and buy medical, dental, and retirement plans for them and 30 more dependents. We've operated for 16 years through a pandemic and the Great Recession. Now, I get 120 seconds to get you to understand that a ban is a death sentence for this business. We will be terminated in 2039 and be on death row for the next 16 years. I get 120 seconds.

You're important people deciding the winners and losers. You're also being deceived. AB 617 set up a process whereby local communities were to have a say about pollution. I'm on the board of the Westside Business

104-3

Association of Long Beach. Westside, Wilmington, and Carson were the first AB 617 community. And the CERP they wrote did show concern for hex chrome, but did not identify chrome platers as the problem.

In fact, five of the first six AB 617 communities did not identify chrome platers as the hex chrome problem, but one did, so now we're going to get a non-local statewide ban imposed because of a local situation in one area. It was not the intent of AB 617 to steamroll community decisions, but CARB is costing jobs in West Long Beach and Carson.

BOARD CLERK HARRINGTON: Thank you. That concludes your time.

(Applause).

BOARD CLERK HARRINGTON: Gary Wannlund.

GARY WANNLUND: Good morning. I work -- I've

105-1 been in the industry for over 50 years and I'm still working, but I've enjoyed it. And I've worked with chrome, hexavalent chrome all my life in -- as a laboratory setting, as a plater, as -- and the environmental end of it also.

And this -- it seems to me that this is very hard for me to believe that you classify chromium as 500 times more toxic. I am 74 years old. I don't have cancer. I'm fine. The people in our shop are 60 -- 50, 60, one is

105-1 (con't) older than me believe it or not still working, healthy. Okay. This is rather deceptive this 500 times more toxic than diesel fuel. My -- our company, the company I work
105-2 for, emitted 14 grams of total chrome last year. That's total chrome. Hexavalent chrome is part of that and the other type of chrome, trivalent, is that other part.
105-3 We overhaul landing gear for the aircraft companies. And we have a -- we chrome plait one -- in one shop, move it over to the next shop, the machine shop, to get it ground, processed. If we ban hexavalent chrome and we can't do it at that shop, we have to move. We can't do business, because we can't take a part, have it chrome plated in Arizona, ship it back, have it machined. It's not going to work. Our turnaround times will be killed.

So I think that the Board -- and you're going to lose a lot of business, because aerospace and defense, and that's going to leave California.

(Applause).

BOARD CLERK HARRINGTON: Thank you.

Next is Dane M.

DANE McCUEN: Good morning. My name is Dane McCuen. I operate and work in a zinc plating facility in Fresno, California. Although these bans don't directly affect me and my company, I'm here in support of the rest of these employees and business owners and to agree with

what they have said earlier is that this is disingenuine at best. Even in your own presentation, you said your numbers were speculative based on information that you don't really have.

106-1

We've given you pipe charts and information that have actual information. You have business owners giving you actual emissions numbers showing that you have won. You have regulated us 99 percent down to one percent emissions. Where do we go from here? You are worried about the leaky faucet in the kitchen while your laundry room is flooded. There are other things to take care of. Please leave this industry alone.

106-2

Thank you.

(Applause).

BOARD CLERK HARRINGTON: Thank you.

Next, is Jerry Desmond.

JERRY DESMOND: Hi, Chair and members. Jerry Desmond with the Metal Finishing Associations, Northern and Southern California.

I would just like to maybe highlight four of the key issues that, you know, our speakers and the members are saying today for consideration before May. One would be the decision that 1469 by South Coast and the investment that the companies have made and the regulatory agency made over 25 workshops and three years of

107-1

107-1 (con't) development that that is insufficient for decorative chrome plating to reduce their emissions to address housekeeping -- I mean, fugitive emissions, which was the primary intent of 1469 is to address fugitive emissions. It's in the rule for hard chrome plating until 2039. It's not in the rule as an alternative for decorative chrome plating shops.

107-2 Second point is as is emerging here is the distinction between decorative chrome and hard chrome is a bit arbitrary. If there were -- there are many of our members who have non-disclosure agreements for the kind of products that they product, but you see the hints of medical devices, functionality of some of these products. And so why is the distinction not clear between dec and hard?

107-3 Third would be as we -- there's an assumption in the rule that the bans are going to move the market. If the bans are going to move the market, A, the two bans that are cited one of them has a variance that allows a facility if it can't comply to get out of the ban. And

107-4 then the second distinction is that when we talk about our products, they can move to other states and countries. You're not going to take your dry cleaning to Nevada to -- you know, to have Perc in your dry cleaning.

107-5 And then lastly, we think that 1469 plus balances

107-5 (con't) the Health and Safety Code section I think it's 39666 that talks about balance -- best available control technology as opposed to looking at costs and the cost to the industry and the acceptability. So we believe all those should be addressed as this moves forward.

Thank you.

(Applause).

BOARD CLERK HARRINGTON: Thank you.

Next is Albert Ybarra.

ALBERT YBARRA: Hello. My name is Albert Ybarra.

108 I'm a second generation metal finisher, homeowner, father. Putting this ban in place will not only ruin me, it will ruin my employees. I'm on the path to ownership, Sherm's Custom Plating. And it will just -- it will ruin a community of all my employees, my father.

That's all I've got to say. Thank you.

(Applause).

BOARD CLERK HARRINGTON: Next is Ricardo Osorio.

Ricardo?

RICARDO OSORIO: Good morning. I am Ricardo Osorio. I've been working in plating doing the hard anodizing process almost for 33 -- 34 years. I have two

109-1 children -- two of my older family work in the same company. One of them has been working in the there for 14 years, the other one close to seven years. And I start

working in there when I was 18 years old and I became the
109-1 (con't) operation manager. And I -- I'm in charge over a hundred
employees more than that. And we being -- having
employees working in there more than 40 years. One just
retired not too long ago. He was 72 years and he still
was trying to come back to work as part time. So that to
109-2 not too long ago, a lot of our companies were monitoring
by soon to read hexavalent chrome and none of them give
crazy report of nanograms in those monitorings. So we are
109-1 for to ask for us to keep our jobs.

Thank you so much.

(Applause).

BOARD CLERK HARRINGTON: Jessie Urias.

JESSIE URIAS: Good morning, members of the Board. My name is Jessie Urias. I work for EME. I've worked there since 2017. I even got my son a job at the company. I was involved with the -- when the company worked with AQMD in Southern California. I watched as EME
110-1 spent over a quarter of a million dollars to add controls
on passivation tanks and chrome sealers. The source
testing was very expensive, but it proved over and over
that emissions were next to zero. The technology to -- is
there to control the chrome emissions and we will -- and
we all know it. The technology is not there to build an
110-2 airplane, launch a satellite or fly a helicopter without

110-2 con't chrome and we all know that.

110-3 You guys talk about disadvantaged communities. A lot of us -- I mean, we live there. I've lived in Compton my whole life. The actual -- the pictures that you guys showed are of my middle school. You know, if you guys -- these companies have given us an opportunity to better ourselves. I think if you guys put these things in place, it's going -- it's going to ruin a lot of us, so I ask you ask guys to please reconsider that.

Thank you for your time.

(Applause).

BOARD CLERK HARRINGTON: Salvador Romero.

SALVADOR ROMERO: Board members, thank you for letting me speak this morning. My name is Salvador Romero. I am a painter at EME. The company is located in the city where I live and that is a very good thing. I have worked at two different plating companies and all of them in my community.

I understand that in a number of years, the plan is to no longer allow our work. Nearly, all of what we do involves some kind of chrome to protect the metal. We

111 don't want any of our work to get sent to another state, Mexico, Texas, or other places. Help me and other painters keep working in the communities we live in. Please don't get rid of chrome processing. That's all.

Thank you.

(Applause).

BOARD CLERK HARRINGTON: Jessie Urias, Jr.

JESSIE URIAS, JR.: Hello, Board members. My name is Jessie Junior. You guys just heard my father speak. I've been at EME plating for about four years now working in the laboratory. Me any my two co-workers, we make sure that every processing tank has the perfect concentration of chemicals in water. I see that air suction on our chrome anodizing tank and four other tanks in action every day. I check the air flow with smoke pipes and I inspect for leaks. I understand that other stops in California also have coverage, control, and filters. Our Air District proved that they work and they work well. I have three children to support. Let me keep my job. Please do not make all the work go to Arizona. No ban. Thank you for your time.

112-1

112-2

(Applause).

BOARD CLERK HARRINGTON: Samantha Torres.

SAMANTHA TORRES: Can I speak? Sorry. Good morning, everyone. My name is Samantha Torres. I'm a masking specialist at EME, Inc. I've been working there for about four years. And within those four years, I've gained skills like learning how to use a micrometer, read blueprints, and learning how to use engineering software

113-1 programs. I really enjoy what I do and I would like to continue to grow with this company, so please don't take these kinds of jobs away, as they would affect many people. They are a good path to learning and growing in
113-2 skills. I ask you to please change the rule in front of you and make it an emission-based rule.

Thank you.

(Applause).

BOARD CLERK HARRINGTON: Thank you.

And as a reminder, the sign-ups for both in-person and Zoom is now closed.

Our next speaker is Ed Appleton.

ED APPLETON: Good morning. My name is Ed Appleton. I'm owner and President of Metal Finishing Marketers in East Los Angeles. We're a family-run business. I'm a native Californian. This is my home, so our environment here is quite important to me as well.
114-1 Trivalent chrome is not a suitable alternative for everything. We're getting closer with that technology for some industries, but when it comes to essential industries such as mine, which I support the automotive and motorcycle industry, and a hundred percent of my business is hexavalent chrome. It needs to be functional. Cars, motorcycles, they're exposed to the elements. They need to have that corrosion resistance capability or function,

114-1 (con't) along with the color. A lot of the -- our clientele are classic car refurbishers, they compete against others. And if their chrome doesn't stand up to the others, they're not going to succeed in what their goals are. So it's very important for the appearance and the corrosion factors to be involved.

114-2 Also, I wanted to mention as far as the impact upon our environment. I have a chart here where our facility -- and this is supported through documentation. But our hexavalent home amp hours permitted by SCAQMD is based upon environmental modeling. We're allowed over four million amp hours per year. Last year, we used 346,000 amp hours. That is less than eight percent that we're permitted.

114-3 So the input that is going to the environment is very well controlled with 1469 and I would recommend that that be promoted to the entire state.

Thanks very much.

(Applause).

BOARD CLERK HARRINGTON: Bobbi Burns.

BOBBI BURNS: Thank you. My name is Bobbi Burns. I am the President of the Northern California Association Metal Finishers and the General Manager of Global Plating in the Bay Area, Fremont, California. And thank you for having us. Thank you for everyone who showed up today to

represent our industry. I realize that our job numbers may look insignificant in the total number of jobs in California as the Table 5.2 in the SRIA shows. We are 0.01 percent of the baseline. But I have 24 employees with families, some of which who have been with me for more than 30 years. And we've always met all of the
115-1 regulations and maintained a safe working environment. I also live in the same neighborhood as my shop.

115-2 I'm here today to urge CARB to provide a uniform emission-based rule for all of the processes in the ACTM and not phase out hex chrome. Banning chrome plating does
115-3 not make the demand for it go away. It will drive the customers to get the work done out of state, creating more mobile emissions while other states don't have the strict regulations that we have followed in the past 30 years.
115-4 Decorative is not just for aesthetics. It's also used for functional purposes on machine parts, including medical parts for its protection against corrosion and wear resistance.

115-5 It's worth noting that the decorative process has the smallest emissions and the least amp hours. We have the same chemistry and same controls as hard chrome, but the process time is second not hours. It's not a hundred percent chromic acid and it's not boiling.

115-1 We have an air scrubber and industrial drapes on

115-1 (con't) the openings. This was not a requirement for me at the time, but it was my decision. I also scrub my shop floor weekly and maintain the housekeeping and best management practices that I feel are important. Eliminating chrome 115-6 will not save the -- will not solve the hex chrome emission issues in this or any other state. We are less than one percent of the total stationary sources, not including mobile sources.

BOARD CLERK HARRINGTON: Thank you. That concludes your time.

BOBBI BURNS: Please don't allow my business to become a relic like you have out there in your courtyard.

(Applause).

BOARD CLERK HARRINGTON: Next is Sylvia Rodriguez.

SYLVIA RODRIGUEZ: Good morning. My name is Sylvia Rodriguez. I own and operate AMEX Plating. My 40-year old business specializes in electroless nickel and anodizing, and we help serve the electronic industry, semiconductor, computer, telecommunications, aerospace, and defense. I can tell you that I love my job. I am so proud of what I do, because I consider myself the ultimate environmentalist.

116-1 My services -- my plating services help promote the long life of parts. We help prevent corrosion. We

116-1 (con't) make parts harder, make them -- help stay longer in life, so we are -- we are definitely the ultimate environmentalists is what we do. At the same time, living 116-2 and doing business in California, one of the most strictest regulatory environments here in the nation, I can say I go to bed, you know, feeling good what I do and knowing that I am not only doing the services I provide, but doing it in a very safe manner.

116-3 So what I urge the Board to consider is the emission-based Rule 1469 to be placed throughout California, because I know that's going to work.

Thank you so much for your time.

(Applause).

BOARD CLERK HARRINGTON: Karen Sigaran.

KAREN SIGARAN: Good morning. My name is Karen Sigaran. I work at EME. 117 I wanted to come here and just ask you to not get rid of my job. I come from a second generation chromic family. My father is currently here. I have -- I started working at EME when I got sick and my employer has been there and very flexible with me and my family for many, many years. I had my first child and they were more than happy to be there for me and my family.

I am a customer service rep at EME and I am very good at my job, I want to believe. I have worked many

departments at the shop. I have done a lot of stuff at the shop and I kind of got stuck at customer service. I -- just please don't get rid of my job.

Thank you.

(Applause).

BOARD CLERK HARRINGTON: Jose Sigaran.

JOSE SIGARAN: Good morning. Hi. I am Jose Sigaran. I have worked in a plating company for 28 years. My daughters have worked in the company. One daughter for seven years now. I have even been their supervisor in the past. I operate a chromic anodizing tank. I see work from Boeing, Lockheed, Northrop, SpaceX. I like to think that I keep the F-35 fighter and a couple of secret bombers in the air. I make traveling by plane safe and dependable to the anodized tank. I use completely covered, so I make -- I mean, so all emissions go through the HEPA filters. The tank has had filters on it for all my years. Please force all shops to completely control their chrome emissions and please do not shut us down. I do not want to lose my job and do not want my family to lose their jobs.

118-1

118-2

118-3

Thank you.

(Applause).

BOARD CLERK HARRINGTON: Maritza Batres.

MARITZA BATRES: Good morning, members of the Air

Resource Board. I'm Maritza Batres. I'm a quality inspector at EME at a plating company. I check adhesion and safeness of coating before the parts are placed on a vehicle or an airplane. And I live -- and I live very, very close to work. I've been working there for four years. My whole family as actually benefited from the
119-1 aerospace and defense industry. And I like the work I do and I think I'm good at it. And I don't want to lose my job. Your decision is not only a decision, but you're deciding on people's livelihoods, so I ask you not to ban
119-2 chromic anodizing. Allow the use of proven filtration systems to keep our air pure.

Thank you for your time.

(Applause)

BOARD CLERK HARRINGTON: Ken Valine.

KEN VALINE: Hi. My name is Ken Valine and I'm with a company called ABCO Products. We distribute chemicals and equipment in the metal finishing industry. I'm here today to support the metal finishers, chemical suppliers, and union -- and users at all of California, including yourselves, yes, CARB.

I have 23 years experience in this industry.
120-1 Your proposal to eliminate hex chrome term -- terminology -- your terminol -- terminology, decorative shops, when they are functional chrome shops would greatly

120-1 con't

impact not only persons with automobiles or motorcycles, but most shops also provide services to medical, electronics, lighting businesses, et cetera.

This proposal would cost not only hundreds, but thousands of jobs from not only the plating shops closing, but also the manufacturers of the products and even the end users in California all paying state -- California State tax in payroll to sales tax in products sold.

120-2

Because of the functionality of the hex chrome to tri-chrome is still being developed as a direct replacement, I feel more time is needed for manufacturers of the chemicals to come up with the perfect solution. Believe me as a parent of five and nine grandchildren, clean air, water, and all pollution is important to me for the well-being of our future generations. I know each of my 15 chrome shops that I personally service feel strongly about this, not only for their families, but their employees also.

120-3

I ask when this proposition does become law, that CARB needs to take a look to coordinate with other State agencies to plan to assist the metal finishers businesses in transitioning costs.

Thank you for your time.

(Applause).

BOARD CLERK HARRINGTON: Thank you.

Next is Frank Aguilar.

FRANK AGUILAR: Good morning. My name is Frank Aguilar. I was once owner in a plating shop in San Carlos, since closed down by overregulation. We closed in 2015. I started working for a company, a Tier 1 chemical manufacturer Chemeon out of Minden, Nevada. I'm their rep here in California. And all these stories just are too much.

Everybody depends on the plating industry. I've been in the plating industry for almost 60 years and my brothers, and myself. My dad started it. And you need it. You need it. It's not time to get rid of it. It's time to look into -- there's -- my boss wrote me up a whole bunch of stuff.

(Laughter).

121 FRANK AGUILAR: He said we are asking you to considering the following steps for CARB to implement in an effort to help -- truly help end the use of hex chrome for California and the world. He goes, in the next six months, CARB and quality air management researchers should work with the industry and metal finishers to identify all specifications on industry coating standards that still call for the use of hexavalent chrome. Take the information and begin collaborative work between the OEM and the prime contractors, save chemical productors[SIC] and so forth, and so on. He goes on and on.

(Laughter).

FRANK AGUILAR: Hopefully, he's not watching.

(Laughter).

FRANK AGUILAR: We really wrote up a lot here.

Anyway, you need to think about this. You can hear all these people.

(Applause).

FRANK AGUILAR: You can see all these people here. Take into account what they do.

Thank you.

BOARD CLERK HARRINGTON: Thank you.

CHAIR RANDOLPH: That's a -- that's a perfect time to remind you that we do take written comments. We will be accepting written comments till the end of this hearing and then we will also accept written comments for the second hearing as well. And we do have many written comments already that we have reviewed and will accept more. Thank you.

BOARD CLERK HARRINGTON: Next is Terry McGuinness.

TERRY McGUINNESS: I want to thank the Board members that took the effort to show up today. Thank you. My name is Terry McGuinness. Since the implementation a RCRA, which is the Resource Conservation Recovery Act of 1960 -- or 1976, I have provided hazard waste management

services to commercial, industrial, and military sectors of California since 1977. I had the honor to be on the Board of the National Association of Surface Finishing and Metal Finishers Association of Northern California.

Over the last 46 years, I've seen many changes in the continuing effort of our regulatory community to eliminate industrial growth in the state of California.

122-1 This ban will immediately and negatively impact operations for many families-owned small businesses. This ban will present decorative and functional chrome(VI) plating facilities with unreasonable choices, close their operations immediately or those costs will start at the low end of $375,000 a year to over a million dollars depending on the size of the facility at the closure.

The current cost of the disposal of a thousand gallons of chromic acid bath is $7,500. This does not include the management of the surrounding support equipment and the processes. When the facility is forced to close, it will cause those hard working Americans to lose their jobs and their family's livelihood or invest significant dollars over three years to comply with the new CARB emission rules and ultimately close their operations on January 1st, 2027, the proposed ban date.

If a facility operator is not properly financial prepared for such an event, the cost will then need to be

122-1 (con't) absorbed by the State Superfund budget, another burdened passed on to the hard working California Americans.

122-2 Please don't think that this ban is going to stop chrome plating. It will simply just underground with no environmental controls. This ban is a painfully irresponsible idea and your staff should be embarrassed to have been brought this flawed data before the Board. Thank you for your time.

(Applause).

BOARD CLERK HARRINGTON: Fernando Roaro.

FERNANDO ROARO: Good morning. I'm glad to have the opportunity to talk to you. My name is Fernando Roaro. I'm a racker and a painter in Compton, California and I also live in Compton. I plan to be painting for Los Angeles County in the next few months. The experience I gained in plating and processing has made this possible.

123-1 I also request an emission-based rule, one that can be complied with like the Southern California AQMD rule. This is fair. These will protect working class people

123-2 that need these jobs. Don't put thousands of people out of jobs. Don't ban anodizing, chrome plating, and the painting. Control it. Thank you.

(Applause).

BOARD CLERK HARRINGTON: James Perez.

JAMES PEREZ: Good morning. I just want to say

thank you for giving us a voice about this topic. My name is James Perez. I work for Aircraft X-Ray Laboratories. I've been working for there for 10 years now. And that place gave me an opportunity to grow, to learn, to build a career. It's something that I'm very passionate about. I love what I do. We have so many people. Anybody that goes on airplanes, goes and travels is because we inspected those parts a hundred percent and we made sure that everybody is safe when they travel. I just want to say that -- that the emissions from -- that the requirements that we do for AQMD it's really strict and they come and inspect us, and they make sure that we do everything correctly as well. So we just ask that you speak with our leaders once again and come with a fair agreement on both sides that will make both sides satisfied.

124

Thank you.

(Applause).

BOARD CLERK HARRINGTON: Kurt Enderle.

KURT ENDERLE: Good morning, Board. Thank you for the opportunity to speak today. I've been in the aerospace industry 40 years now and all of it -- over 40, all of it in metal finishing related positions. It's a privilege to be part of this industry and I take great pride in what I've accomplished and what our organizations

has have done, including aircraft x-ray -- especially aircraft x-ray. I am a huge proponent of emission-based regulations. And with the best available technology that can be used, I think that's a better solution than an overall ban. 125-1

It's -- it really, really breaks my heart to see these young people out here that have such desire, skills, hope, and want to work. They represent a huge, huge amount of people that aren't here. And it's wonderful to see the young industry -- or the industry with young people that want to keep it going as well as the older people that like to see it continue as well. So I would encourage you to review your ban and again encourage emission-based regulations rather than just shutting down people, and making them lose their jobs, and look elsewhere, and start their careers over. 125-2

Thank you.

(Applause).

BOARD CLERK HARRINGTON: Thank you.

Matt McQuone.

MATT McQUONE: Hello. My name is Matt McQuone. I am with Commercial Electroplating. We've been in business for 67 years. I am third generation owner and proud of it.

We did hex chrome plating, functional,

decorative, and we got rid of it and we put in tri-chrome. And I can probably tell you more than any other person in this room, I ran tri-chrome. It doesn't work. It's not the same. We had it in for one year and we had to remove it, because the work was getting rejected. It does not match. When you are doing this type of plating, functional decorative, it's the same chemistry. It's the same chemical, but yet one gets to be in 2039 and one gets to be in two years. It doesn't make any sense, okay?

126-1

126-2

You already have the Rule 1469 in place. Utilize it across the state. Why are we going to ban something that all of you guys use in your daily lives. You probably don't realize how much plating is done that's in your car that you drive here, in coffee maker that you're typing on right now, the gold plating, the nickel plating that is needed in those products that we provide here in this state that you're going to outsource somewhere else where there's no controls at all or less, if that.

126-3

126-4

I have employees that have worked for me -- for my grandfather actually excuse me -- that worked for my grandfather that still work for me. We don't have any problems. There's no health issues. I'd like to know where all these people are that are complaining about all this stuff. I'd like to know where the accountability is with you people, with our other government entities that

126-5

126-6

build the neighborhoods around these facilities, not that these facilities were built in these neighborhoods.

BOARD CLERK HARRINGTON: Thank you. That concludes your time.

MATT McQUONE: Your information is wrong about that.

(Applause).

BOARD CLERK HARRINGTON: Next, we have Justin Guzman.

JUSTIN GUZMAN: Chair Randolph, a pleasure seeing you again. Board, thank you for your time. My eyes are still bleeding from reading these last couple days, so this is -- try and understand, you know, chrome, and what it is, and what we can do, not being the smartest, I guess. You know, this new report that published 2019, the

127-1 application new generation of air monitoring methods of Southern California based and prepared for AQMD along with Montana State University. You know, they've got this very expensive, very nice van that drives around -- that drove around for 30 days. It talks about rail. It talks about monitoring foundries, metal finishing, cement hot spots when all the Paramount thing was going on and they found nothing.

And you know, in that time, you know, we were doing air monitoring -- or they were doing air monitoring

in facilities' fence line. The chrome coming onto the facility was higher than the chrome exiting. You know, looking at the windrows and all that good stuff.

You know, that being said, you know, we're throwing away decades of work that AQMD has done in understanding the metal finishing, instead of capitalizing and expanding that. I think we're missing a huge opportunity here. I've had the opportunity to go to other shops across the country and I ask them about environmental controls and inspections. For years, nobody comes in. Every three months they come into my shop. They understand the process. They know what to look for, making us better at what we do.

You know, that being said, we just won CWEA P-3 award, the cleanest shop in the state. I'm going up to San Francisco Monday to pick up an award. I've

127-2 invested -- or the company has invested a lot of money being a good steward. We got an award from the city for the same reason. We can control it. Give us an opportunity. Thank you.

(Applause).

BOARD CLERK HARRINGTON: Thank you.

Jeff Hannapel.

JEFF HANNAPEL: Good morning, Board members. I'm Jeff Hannapel. And I'm here on behalf of the National

Association for Surface Finishing and our California members.

The surfacing industry has always been committed and very effective in reducing hexavalent chromium emissions. Since 1995, we've reduced reductions over 99.9 percent nationwide. Those reductions have been even greater here in the state of California, because of the stringent emission-based regulations that you have here.

If we look at the ban on decorative plating here in California, that would remove less than one-tenth of a pound of hexavalent chromium emissions or just over three percent of the current emissions from the industry. Now, if we look at the implementation of the emissions-based limits for hard chrome and anodizing, you're going to reduce those emissions by about 50 percent on that.

So what does that mean? So for the first 15 years of this rule, over 93 percent of the reductions that are going to be seen are from emissions-based limits, not from the ban. And that's why we're urging the Board to consider emission-based limits.

Now, keep in mind for decorative applications, trivalent processes are available for many applications, but not all. Customers have specifications for functional performance in appearance that only hexavalent chromium can meet. Those bans will not extinguish those customer

128-1
128-2
128-3

128-3

specifications and needs. They will only extinguish small family-owned businesses, good paying jobs, and tax revenues in California. And for this reason, if you want meaningful reductions of hexavalent chromium emissions, we support that and we welcome that challenge. And we

128-1

believe that this rule should be based on emission-based limits and not a bans. Thank you very much.

(Applause).

BOARD CLERK HARRINGTON: Thank you. Next is Moses Huerta.

MOSES HUERTA: Good morning, Board. My name is Moses Huerta. I'm here as a resident from the City of Paramount. December of 2016, I woke up with a van with a monitor on top of it in -- out in front of my house. And understanding now what the issue is, the hexavalent chromium was being investigated. We fast forward to the height of the investigation, there was 30 monitors within a mile of my home. We now fast forward now from 2016 now to where we are now, I still have monitors near my home investigating this contaminant.

We need relief. It is mentioned to -- right now

129

that we as a sensitive receptor. I've come before you with all honesty, I am that sensitive receptor. My cancer does not need help more to advance than what I have now. Me breathing this contaminant within my neighborhood or my

city does not need to continue. How much more do I have to endure with this going on? How many more years do we have to be exposed to this that has an ability to controlled and solved.

I've grown up in the City around all these industries. Forty-five years -- over 45 years of being around this. How much more do I need to endure? This conversation that's being happening here, I'm in the middle of it. Something has to progress. This notion that this is not an issue, but it is. Please consider the exact -- the conversation in deep understanding what this truly is exposing to us that don't understand the deep consequences in the organizations and the businesses. I am in the middle, but I am somebody who's being affected by this. Please move this forward.

Thank you.

(Applause).

BOARD CLERK HARRINGTON: Thank you.

Jesus Pardinas.

Jesus?

Okay. Next is Manuel Barajas.

MARIBEL BARAJAS(through interpreter): Good morning. My name is Maribel Barajas no Manuel. I work for AAA Plating. The reason I'm here today is because I've been working for the company about seven years, but I

have co-workers who have been with the company 35 years, maybe even more and they are very, very healthy. They have no health problems. Maybe there are people who are
130-1 experiencing health problems, but I haven't observed any in this company or in this industry. Perhaps, they're working in other industries.

And the reason I'm here is because it would be such a tremendous blow to me. I'm a single mom. I have two sons, two grandchildren, and I depend on this income.
130-2 If it were to be shut down, I would be greatly affected. And I would just really urge you, please consider your next steps seriously, because it's not going to affect just myself. It's going to affect many, many people. I think of myself, yes, but also my family, my co-workers, their families, my family in Mexico, because I work and I send them money. So many people are going to be affected by this. And I truly hope you'll consider our situation. Thank you.

(Applause).

BOARD CLERK HARRINGTON: Olivia Meza.

OLIVIA MEZA(through interpreter) Hello. I'm Olivia Meza. I also work for AAA Plating. I've been
131-1 working there for 33 years. I have two children. Excuse me. We're all well. I live really close by to the shop. And I would be very, very sad. I don't want you to shut
131-2

this down. I depend on this. My children depend on this. My co-workers we're all sad. What are we going to do?

131-3 There's so many things on the outside that are so much more dangerous or affect people even more. Here at least, we have a good job. And we're here to support the rest of our colleagues. Please take a look at our situation. Please consider our point of view. Please count our vote.

And thank you so much for your time.

(Applause).

BOARD CLERK HARRINGTON: Rolando Becerril.

ROLANDO BECERRIL(through interpreter): Rolando Becerril for the record.

Good morning. I'm here also to support AAA Plating. I'm here because I've been there working for just over 20 years. And I'm here because not -- it's not

132-1 just our families that depend on this -- on this work, many other families. There's so many other even business things that depend on what we do. And please consider

132-2 there's so many other sources of things that are so much more dangerous. There's drugs. There's cigarettes. Please, give your attention to those things, not this. Don't shut us down. We want our jobs. All my colleagues

132-1 we're all here to support. We want to be able to work and work well. And that's all I wanted to ask. Please

consider that. Thank you.

(Applause).

BOARD CLERK HARRINGTON: Thank you.

Next is Estela Pineda.

ESTELA PINEDA(through interpreter): Good morning. My name is Estela Pineda and I'm here. And I'm here supporting AAA Plating, the same as my colleagues, because we all depend on this work. We depend on this business, not just myself, my family. I have even family in Guatemala that depends on this, because I help them. And I'm here to ask you, please consider this seriously, because we're here. We need this. We don't want the company to be shut down. And that's it for me.

133

Thank you.

(Applause).

BOARD CLERK HARRINGTON: Jerry Wahlin.

JERRY WAHLIN: Hello. I'm Jerry Wahlin. I've been in the -- this industry for 28 years. I've been dealing with hexavalent chrome all this time. I'm still alive. I don't have any lesions. I think I'll make it a couple more years.

134-1

I have a couple interesting statistics I'm going to bore you with. My company has 108 employees, 105 of those are minorities of all kinds. Sacramento talks about jobs for minorities. Everybody out here supplies jobs

134-2

134-2 mostly to minorities. Most of my employees maybe have graduated from high school or not graduated at all. We hire them, we train them, and they come along and they make good money. What you're talking about here now is killing all of these businesses that deal hexavalent chrome over the next few years. And your effects, what
134-1 you're talking about up there is flat wrong.

The least you could do is wait for our study, which we're spending a lot of money on, which will show you that you can live for 30 years exposed to 200 nanograms for 30 years daily that's per cubic liter, and you won't have a lesion, you want have anything wrong with you. This study is close to being done. The least you could do is wait for that study and then make a decision, instead of cutting all these people out and killing all of our jobs.

Thank you.

(Applause).

BOARD CLERK HARRINGTON: Rodrigo Guzman.

RODRIGO GUZMAN: Good morning. I also work at AAA Plating. I'm a painter. I've been there for 11
135 years. It will hurt me if you guys shut us down, because it provides for my family and for everybody else here too. So a lot I really want you to consider what you guys are trying to do, because it will hurt me and hurt everybody

else. So, please. Thank you.

(Applause).

BOARD CLERK HARRINGTON: David Vianello.

DAVID VIANELLO: Yeah, Vianello. Hi. Good morning. My name is David Vianello. I'm here to represent LM Chrome Corporation. We're a metal finishing decorative chrome shop in Southern California. We as

136-1 metal finishers are more than an industry. We are part of all communities. Communities have been built around industries in general. Some of our employees are neighbors to our facilities. Our industry has employed thousands of workers who have committed their lives to our metal finishing industry, because we are passionate about what we do and need to support our families. We at LM

136-2 Chrome support 60 families.

We cannot lose our job because of a ban. This will eliminate job opportunities in our near future. We urge you not to ban our industry. We, as Californians, need to keep industries from leaving California. We give

136-3 maintenance quarterly to our air pollution control system that includes 4,000 HEPA filters that need to be replaced at least every couple of years. We already operate in enclosed facilities that control fugitive emissions to a minimum. We have been complying with our permits. This

136-4 ban will not make air quality better. The metal finishing

136-4 industry does not need to be banned. The metal finishing industry will keep on pleading for an emissions-based rule.

Thank you.

(Applause).

BOARD CLERK HARRINGTON: Thank you.

And my apologies, I skipped Wesley Turnbow.

WESLEY TURNBOW: No problem. Chair, Vice Chair, members of the Board, I appreciate you guys sitting up there and paying attention. It's a long process. I know you're aware of it and been through it many times, but thank you.

I can't express how seriously I see what's going on here. I've been, like so many others, in this for a lot of years. I know a lot. I wish I had an hour to talk to you about health reports and what other countries are doing, what other states are doing. I wish -- I wish we could just go on and on, but I'm going to talk on a couple things.

My name is Wesley Turnbow. I run a family anodized and painting company in Compton, California. My father started it in 1962. My grandfather joined. My uncle joined. They've all retired. We employ 100 wonderful people. You've seen some of them in front of me. And I want to highlight these two facts. Current 137-1

137-1 source control technology works and it works incredibly well. We are the poster child for it. And two, I want to talk too, 137-2 there's just no need to test these controls every two years. It's wildly expensive and these systems are rigorous.

So let's talk about the source controls. Our company placed air suction HEPA filtration on its large chromic tank 25 years ago, way ahead. We worked with AQMD to write the original rule, years and years ago when they didn't know a darn thing. And we -- I submit to you, that 137-1 AQMD placed fence monitoring five years ago right on each side of that tank. It was perfectly placed. The wind is consistent offshore and predictable and they caught it right in between. That testing I submitted to you. It's part of the record. We have HEPA stacks right there in the middle, two monitors. Results, 0.00 nanograms. That obviously includes fugitive, because everything is going to be caught by those monitors.

These things work. I don't know why we don't care. 0.00 nanograms per cubic meter. I mean, that's -- I mean, I don't know how much closer to zero you get than averaging 0.00. Now -- so sad. 137-3 And these jobs matter, as you're hearing.

(Applause).

BOARD CLERK HARRINGTON: Thank you.

Vincent Noonan.

VINCENT NOONAN: Staff and members of the Board, thank you for being here today. I was going to come up here with a lot of statistics that you've already heard, but emotion has taken over for me. You've heard from these employees that have been given these opportunities to participate. I am a non-high school graduate. I'm now the Vice President of Operations at Sheffield Platers in San Diego, California. I'm also the President of the Board of the Metal Finishers Association of Southern California and I participate nationally on the American Electroplaters Society.

138-1 The opportunities that you will be taking away from the communities that are most affected by this are what you're trying to shut down, all of these people here who are supporting their families. It has given me an opportunity to support my family. Give us an

138-2 emission-based rule. We will control it better than anybody else and we will continue to provide opportunities

138-1 for Black and Brown disadvantaged White communities. These people come in. We give them training. They get to elevate through these positions to buy a home, to support their families, to give back to the economy.

138-1 I know there are a number of people on the Board that said that our segment of industry is not going to

have an economic impact on California, but it will have an economic impact on the people who need these opportunities. Give them the opportunity. I was able to
138-1 go back and get a business degree later on in life, because of the opportunity I was given. Please do not take these opportunities away from people who want to better their lives. It's very important. Please provide an emission-based rule.

Thank you very much.

(Applause).

BOARD CLERK HARRINGTON: Thank you.

Ingrid Rivera.

INGRID RIVERA: Good morning. My name is Ingrid Rivera. I have seven years working as EME. My job is to
139-1 hard anodize the leading edge of helicopter blades. These blades have to be replaced with such and anodize is the only thing light enough and strong enough to protect them
139-2 at high speeds. Please, let us to keep our jobs.

Thank you.

(Applause).

BOARD CLERK HARRINGTON: Maria Hernandez.

MARIA HERNANDEZ(through interpreter): Hi. Good morning. My name is Maria Hernandez. I also work at AAA
140 Plating. We need your help. I am a widow and this job depends on us. I'm here to support all of my co-workers

and we are in need of this job, so please consider this. Thank you.

(Applause).

BOARD CLERK HARRINGTON: Angelica Cardenas.

ANGELICA CARDENAS(through interpreter): Good morning. My name is Angelica Cardenas. And I also work at AAA Plating. I've been working there for seven years. One of the things that I want you to notice is that this is a very small portion of people that are going to be ending up without job. And we're here not just to support, but please hear everything and take into consideration our words. My family depends on this. Our co-workers depend on this. And a lot of people will be left out without jobs. 141

Thank you.

(Applause).

BOARD CLERK HARRINGTON: Francisca Ballin.

FRANCISCA BALLIN(through interpreter): Yes. Hello. My name is Francisca Ballin and I've been working at AAA Plating for eight years. And my father, for instance, is 85 years old. He is going through a rough situation right now. And take into consideration my family, my other siblings, and relatives, my bothers. They actually depend on this job as well. There's other things that they're more harmful. We want this to -- take 142-1 142-2

this into consideration, because cancer is pretty much an entire world. Thank you.

(Applause).

BOARD CLERK HARRINGTON: Kashiram Patel.

KASHIRAM PATEL: I am Kashiram Patel from General-Brite Plating Company. I'm 86 years old and I'm working for the General Plating and Brite Plating since 1977, 45 years. And I'm a plater also too. I'm doing addition of the chrome plating. I'm addition and also I'm doing the analysis of the chromers too.

143-1

In that environment, AQMD allow us only included -- building included 3.5 percent opening all these. Still on the environment me and my all colleagues working for the years and years, and I don't see anybody has sick or anybody got exposure of the cancer also too. So to me taking the -- banning is a negative aspect. It should not be. We have to think about positive. And because we know that in California or entire world car accidents how many people dying, by alcohol how many people dying, by gunshot how many people die. All drugs and everything how many people dying? But they don't -- anybody didn't put that ban on car driving, ban on guns, ban on alcohol, they didn't done anything.

143-2

And here we are only the platers. Chrome plating emission is only 1.75, 1.25, which is really, really low

143-2

end percentage-wise. And we converting also in trivalent at good time. Support my company. I was doing at a time right now in 2021, we are allowed to use 500 and above that. And chrome plating -- and 2021 just I don't only 125,000. Same thing, I reduced to 25 -- go to 25 percent. Same thing in 22, I reduce to 30,000 only. So that is overall and this time it is 25 percent. So I'm not adding any emissions to the country at all. And besides that, there's no work between -- with this -- this state to another state. They not involved between the state to another country, so we are --

BOARD CLERK HARRINGTON: Thank you. That concludes your time.

KASHIRAM PATEL: -- too much also too.

Thank you very much.

(Applause).

BOARD CLERK HARRINGTON: Next is Dilip Patel.

DILIP PATEL: Thank you for giving me opportunity to speak, Board members. I want to just mostly about

144-1

jobs. Save the jobs in California, please, please. I'll tell you what happened in our company. I've been working for 30 years at General Plating since 1995. We were a small company with 30 employees at that time right near USC. And we were doing hex chrome on a lot of plumbing parts, car parts, home fixtures, and automotive parts. We

lost this business to overseas, or near states, or other states. We had to survive to keep the employees, because if you don't have work -- we want to run a profitable business. So in 2005, we had to merge with another company Brite Plating. So we don't want to go through this again lose the jobs, keeping renting again. And AQMD, other fire department, everyone comes and inspects us every quarterly, every month and we follow their guidelines. We follow their rules.

144-2

So please I have one request that like we're not running like -- say the jobs, we're not running like gig economy here. Please, save the jobs in California, in Los Angeles. I'll give you an example. I went to restroom before I came here in the auditorium. I saw the faucets in the bathroom when I washed my hand is hexavalent chrome. Have anybody noticed it? Why is it important? Because people like the look for it. So please, reconsider this and save the jobs.

144-1

144-3

Thank you.

(Applause).

BOARD CLERK HARRINGTON: Jose Ochoa.

JOSE OCHOA: Good morning. I'm Jose Ochoa. I've been working at Aircraft X-Ray only for one year, but in that one year, I've been able to bring in more family members. And thanks to the opportunity that we've gotten

145

145

from this industry, we now have much better paying jobs. And things like buying a house doesn't seem like such a distant fantasy. It's a possibility now thanks to everything that Aircraft X-Ray has done for me and my family members. So I urge you to please don't get rid of the industry.

(Applause).

BOARD CLERK HARRINGTON: Thank you.

Misael Serrano.

Misael Serrano: Hello. Good morning. First of all, thank you for your time to everybody. As a worker of this great industry and as a young worker, I believe that

146-1 this industry gives a lot of opportunities to young generation. I believe that we would like to preserve the opportunity to contribute and innovate to this country and this industry. I must say that regulations in California

146-2 are high as one thing conversant to other states and other countries.

For example, in Mexico, the regulations, our document is called (spoke in Spanish) the jobs that make general regulation, in comparison with the detailed requirements of AQMD or CARB regulations. It is important to take in account that many industries such as the

146-3 aerospace depends on this hexavalent chromium and the others states doesn't have like the infrastructure that

has the business in California.

146-4 If we want to make a progress, we have to take in account all variables and work together as a team.

Thank you.

(Applause).

BOARD CLERK HARRINGTON: Thank you.

Juan Perez.

JUAN PEREZ: Good morning. My name is Juan Manuel Perez. I work for Aircraft X-Ray for 44 years. Working for Aircraft X-Ray give me the opportunity to form a family, raise my family, and get me kids through college.

We service the aerospace industry. And servicing the aerospace industry, we have the process of chrome

147-1 anodizing. I'd like to have all these employees to have the same opportunity that I have so they can raise their families and get the kids through college. You ban the chrome anodize, one thing is going to happen, we're going to lose a lot of jobs. And also, it's going to produce a domino effect, because chromic anodize affects other processes, like non-destructive testing painting. So guess what is going to, they will lose their jobs.

So what the aerospace industry is going to do? Aerospace industry needs their hardware. They're going to go out of the state. They're going to go out of the

country. Perfect example, right here across the border.

So please when you make your decision, think about these employees losing their jobs and their families. We can work together. We can come up with a good solution on this. Please don't shut us down.

147-2

Thank you.

(Applause).

BOARD CLERK HARRINGTON: Sam Bell.

SAM BELL: Hello. My name is Sam Bell with Metal Surfaces, Incorporated and Metal Finishing Association. If I ask for an interpreter, do I get twice the time?

(Laughter).

SAM BELL: He's speaking Spanish, right?

Coming to work this morning, I'd like to thank CARB, AQMD for being able to see the mountains as pretty as I could and the sunset was -- sunrise was beautiful as it was coming up. But as I walk into this building, I see sunset. I see our industry dying.

We're a family company. Been involved in the industry since 1955 and I have 125 employees Bell Gardens, California. It was started by my father and my generation took it over in 2000 when he passed away. Without processes to continue processing we'll have no business. Do I have any reason to keep this business alive for my children or my grandchildren? The answer is no. There's

148-1

no future in it if we have no business.

148-2 I'm asking that you put together a risk-based rule and

148-3 spend the $10 million that's been allocated to generate tools that we can use to measure and monitor ourselves, inexpensive tools where we can see how much chrome there is and monitor to a risk-based rule. That's why I'm asking for. I know that -- I read -- I read in the article yesterday that Barry Wallerstein had said that

148-4 the diesel emissions on trucks is about 1,500 to 1 -- 1500 in a million and our industry contribution is 1 to 10 in a million. Let us stay in business. Give us a risk-based rule.

Thank you very much.

(Applause).

BOARD CLERK HARRINGTON: Charles bell.

CHARLES BELL: I'm Charlie Bell also with Metal Surfaces. We're in Bell Gardens. We're proud to employ 100, 125 thereabouts employees. We do not exclusively have chrome, but a fair amount of chrome. I don't know how much is appearance and how much is fact, but our industry here in Southern California with AQMD spent multiple years formulating the Rule 1469, basically the

149-1 same thing. To me, it's not fair that we're back here in front of CARB after having formulated and emission-based rule that's had very little time to be put into place and

then to have analyzed where we stand.

We want to be good environmental citizens. We believe we are good environmental citizens and we ask the court -- or ask the Board to consider a rule based on the 1469 AQMD provisions and let's see how that works out. 149-2

I don't know if the industry will be killed, but there will be multi-shops. It's difficult. We've been in the same location since 1960. For our business, we're not going to be able to move anywhere and stay in business with the same environmental air treatment, water treatment. The facility we have is geared towards our business. 149-3 And let's keep the rule at this point in time emissions based and see how it works before you just agree with CARB staff with the elimination of chrome(VI) regardless of the time frame. And if we need to do it in the future after --

BOARD CLERK HARRINGTON: Thank you. That concludes your time.

CHARLES BELL: Thank you.

(Applause).

BOARD CLERK HARRINGTON: Irma Munoz.

IRMA MUNOZ: Hi. Good morning. My name is Irma Munoz and I work for Aircraft X-Ray Laboratories. Our company has been operating since 1938. The amount of success stories in our company is very high. Employees

have, you know, been able to buy their homes, been able to help their families, whether it's in Mexico or any other states. They've also been putting their kids through college, giving the employees the opportunity of growth and success, not only to mention a trade tech.

Okay. Most of the owners here with -- in this industry work with communities, whether it's sponsoring or participating in community events, including going out to high schools speaking of the success stories to help students understand that success is reachable.

150-1 Okay. Closing companies shuts a lot of opportunities, not only for our communities but for our families as well. In this company, I have family working. Okay. This shutting down will not only affect me, but it will affect my generation. Okay. There was 117 facilities mentioned. If we just multiply that by 30, an average of employees, it's equivalent to 3,510 employees without a job. Okay.

150-2 What comes with that? Okay, depression, desperation, and having to go to the stress of looking for another job. Okay. Relocating will not help. Relocating will only -- 150-1 relocating or shutting us down will not help the problem. It will create an unemployment problem. Okay. This is a world of opportunity. Continue to give us the opportunity to fulfill our dreams and continue to

make our future brighter.

Thank you.

(Applause).

BOARD CLERK HARRINGTON: Thank you.

Cathy Ream.

CATHY REAM: I'd like to thank the Board for allowing me to speak today. I work for Teikuro Corporation, which is a hard chrome plating facility in the Bay Area. We do specialty plating for the automotive industry, basically for Toyota and Tesla. And this allows Tesla to make their EV cars and trucks of the future.

We also have an opportunity to expand our business to some military work in the future. If this ban goes into effect, that will not happen in California. That will be done in another state. We do comply with all the air requirements of our air permit and have very low emission rates.

151-1

And I personally have worked in the chromic acid anodizing and hard chrome plating field for over 44 years and I am still healthy. And -- of all the people that I have worked with, I only know one person that contracted cancer and that was an inherited cancer, because it was the same cancer that his father had died with. And it's true that there are many causes of cancer, but California currently has the 46th lowest cancer rate in the nation.

151-2

151-1 And also, listening to all these stories, we don't need more homeless people on the streets.

Thank you.

(Applause).

BOARD CLERK HARRINGTON: LaVaughn Daniel.

LaVAUGHN DANIEL: Hi. Good morning. My name is LaVaughn Daniel. I work for a company called Danco. We're a metal finishing operation. We don't do chrome plating, but I am here today to support all the shops here and to challenge the method.

I was reading an article recently, a headline,
152-1 and they were talking about this amendment and it referred to it as an unprecedented ban. California being the only place on earth to ever propose this type of ban. Well, there's a reason it's unprecedented. Even the European Union hasn't done it, because they haven't found a substitute for crucial -- critical components.

152-2 Please don't allow CARB to proceed with this blanket ban, because of politics. Encourage them to continue working with industry, as we've done in the past, to continue improving technology for control, and to work on substitute coatings, but we're not there yet. And to turn around and just try to put a ban in place doesn't make sense.

You've heard a lot of people here talking about

152-3 opportunity. Don't take away the opportunity for these people in disadvantaged and all communities to come into industries such as ours to learn a skill that can help them and their families go on to live a good prosperous life.

Thank you.

(Applause).

BOARD CLERK HARRINGTON: Darren Thompson.

DARREN THOMPSON: Good morning. My name is Darren Thompson. I'm a waste water operator at AAA plating and inspection. I've been in my job for ten years now. I personally, you know, oversee the waste disposal of my department. And I've watched us constantly grow from simple things like, you know, discharging straight to the sewer to reclamation, distillation. I'm a homeowner. I'm grandfather, a father. I'm also a super commuter.

You know, these days there's not a lot of professions in California that allow for a person to become a homeowner. You know, I ask that you, you know,

153-1 don't take the one profession that could potentially, you know, affect thousands of Californians. You know, this is -- you know, this is a bigger problem than, you know, than just CARB. You know, this is -- you know, this is potentially detrimental to communities everywhere. You know, this is, you know, a larger -- you know, this is a

larger price to pay than what's -- than what's necessary.

You know, going into more -- you know, more

153-2 alternative methods like distillation and, you know, reclamation. You know, I think those are the answers than, you know, just shutting us -- shutting down chrome -- the chrome process.

You know, these days, you know, like I said, you know, California is ever -- you know, every growing, you know, and -- California is ever growing. You know, things are getting more expensive. There's just not a lot of things out there that are matching it.

Thank you.

(Applause)

BOARD CLERK HARRINGTON: Thank you.

Rafael Hernandez.

RAFAEL HERNANDEZ, JR.: Hello and good morning. My name is Rafael Hernandez, Jr. I would like to read a short version of my experience in the field.

As a long-term in the aviation industry since 1995, and as a current resident for the City of Compton, born in Torrance, California, I would like to express my concerns and the importance of maintaining our facility and all other similar businesses with its doors open.

154-1 Throughout my years working in the aerospace industry, I have witnessed how diligent it's become, the

154-1 effort, and the hard working in meeting OSHA regulations to continue and make it a safer and healthier environment. This industry has provided me with a life-time opportunity for the field of final stage process and non-destructive testing.

Initially, I was set to join the electric field once I have received my Associates of Science Degree as an electronic technician. The aviation industry took in mind my potential and offered the same opportunity and growth that was offered to me by what was known there Pacific Bell, now known AT&T. Given the opportunity in the aviation industry has with no doubt in my mind served my just as well as any other profession had to offer. With this, I have been able to provide a roof over my family, food on the table, my children through school, now into their early and mid-years of college, and countless, countless family moments.

154-2 With all of opportunities given and the ones yet to come by Aircraft X-Ray Laboratories that was established since 1938, I would have truly accomplished and lived the American dream, everyone in any profession --

BOARD CLERK HARRINGTON: Thank you. That concludes your time.

RAFAEL HERNANDEZ, JR.: -- tries to have.

Thank you.

(Applause)

BOARD CLERK HARRINGTON: Next is Dana Schlumpberger.

DANA SCHLUMPBERGER: Hi. I would like to thank the Board for the opportunity to testify today.

155-1 I've been in the industry for almost 40 years and I've seen -- we've been talking about social justice. Here's the exact opportunity or example of it. You've seen people that have walked in the door with no skills and worked them way up through, you know, into management. I even know people that have walked in with no skills that are now shop owners. They own the shops. So this is amazing. This industry is an opportunity. You don't -- you don't have degrees. You don't get a degree and come to be a plater. You have to learn this.

And I am at a point right now after 40 years, where I have -- I'm the Quality Assurance Manager at K&L Anodizing. It's a company that's been around since 1950. It's family owned, almost a hundred people. Right now, I'm at a point where I have accumulated so much skill and knowledge, that I actually have engineers from the aerospace industry that consult with me. I don't have a degree. I don't have a chemical de -- engineering degree or mechanical engineering degree, but I have people that

come to me and consult with me about these finishes.

155-2 These are essential businesses. These are essential finishes that we are doing here. I have parts that have -- that are -- have gone up in Artemis. And that's the new upcoming, you know, space. We're going to the moon -- back to the moon. We're going to go to Mars. We're using chromic acid anodize on critical parts for these projects.

155-3 And, you know, my -- after 40 years, my first experience with trivalent chrome was in 1990 and we couldn't sell it. We put in a tank thinking that we could switch it over. The color is just not good. And it's state -- and it's been that way. And I could still have testifying that it remains the same.

155-4 So my message is regulate, yes, eliminate, no.

Thank you.

(Applause).

BOARD CLERK HARRINGTON: Thank you.

Alan Olick.

ALAN OLICK: Hello. I'm Alan Olick. I'm President at the General Brite Plating Company in Los Angeles, California. And I've been on the board of directors for MFASC for about 35 years. My background is a manufacturing type person. I've also been a school teacher. In college in statistics, the statistics teacher

told us this class ia bout numbers, concepts, how you put them together to tell your story and make your story say what you want it to. In other words, statistics are interpreted.

Today's meeting at the beginning it was mentioned
156-1 that the chrome platers have potential for putting over 10 pounds of chrome into the atmosphere a year. We have charts that show it looks like it's more like a pound, maybe a pound and a tenth, much different than 10 pounds.

Potential is an interesting thing. The AQMD puts together source test regulations for metal finishing, for plating, for chrome. You hire independent contractors that you pay tens of thousands of dollars to. They come out. They tent the tank and they put the tank under abnormal conditions. What are those? They tent -- they put the tank at maximum current. That's like driving your car 200 miles an hour for 30 days and then complaining it doesn't stay together. It's not right, not fair. So that's the test that we do and that's where they get their numbers from from those tests.

We established with AQMD with rulemaking -- I was on the committee. I think we worked for 18 months. I sat right next to Barry Wallerstein for many of the meetings. And I was pretty much told keep my mouth shut, because the environmentalists don't want to hear what I have to say.

And it's not what I have to say. It's what's fair interpreting numbers.

We're not killing anybody or it's not our potential. We want to run a business and we really need an emission-based rule, emission-based rule, a fair rule.

Thank you very much.

BOARD CLERK HARRINGTON: Thank you.

(Applause).

BOARD CLERK HARRINGTON: Francisco Romano.

FRANCISCO ROMANO(through interpreter): Hello. My name is Francisco and I work for Aircraft X-Ray. We all work or live for a cause, to move forward and for our families, for our families and homes economy, and the economy of our state. And we work under all the rules that have been imposed by you and we work hard to maintain them. The attack, in a way, for our industry here, it's an attack against the economy of our home, of our state, and our nation.

Thank you.

(Applause).

BOARD CLERK HARRINGTON: Mark Hyman.

DR. MARK HYMAN: Good morning. My name is a Dr. Mark Hyman. I'm the President of Alliance Finishing and I have hex chrome in my shop.

I'm not here to debate science versus health.

I've seen science manipulated too many times to meet a political agenda. We would believe the earth is flat and we would believe that the sun revolves around the earth based on political agendas. I'm here to take a different approach. Science is a curse and a blessing. Science, including the invention of hex chrome, provides wonderful technologies, like teflon, but teflon required PFOS to make teflon. We knew it had a problem, but we didn't ban teflon.

158

Now, after many years, they want to alter these forever chemicals. Not too far way from here, there was a town called Dairy Valley. It was where the farmers, the dairy farmers had cows that created manure and urine that contaminated the groundwater. We didn't ban milk production, we moved them to Chino.

(Laughter).

DR. MARK HYMAN: We have lead in gasoline, freeways going by apartments, going by homes. We did not ban gasoline. We corrected the technology.

I hold a super conductor -- excuse me, super computer in my hands. I can access the most powerful databases in the world and a cesspool of porn, we do not ban cell phones. Facebook was created to create social media among families and friends, but we also allow it to have a platform for racism and terrorism. We do not ban

Facebook. You have technology that allows you to control emissions. Let that work. Do not ban technology.

Thank you.

(Applause).

BOARD CLERK HARRINGTON: Brad Kerr.

BRAD KERR: Thank you, Board and staff. I'm Brad Kerr. I'm a supplier of to the metal finishing industry, chemicals, chrome, tri-chrome. We all in this room have definitely one thing in common. None of us want to cause cancer or be polluters. None of us. We try the best to comply with regulation. My responsibility is to provide my customers with the latest in technology and you've heard it constantly here. The big concern with this is there is no technology replacement today for hexavalent chrome. And to be in a situation where you ban it, it's going to have huge impacts that are just going to snowball. And one thing is for sure, I can't believe you guys want to eliminate the aircraft industry, because they're going to the leave. We need hard chrome. We need hex chrome, and we will work with.

159-1

159-2

How did you say Dana? What was your saying.

DANA SCHLUMPBERGER: Regulate, yes, eliminate, no.

BRAD KERR: Regulate, don't eliminate.

159-3

Thank you.

(Applause).

BOARD CLERK HARRINGTON: Thank you. Next is Jane Williams.

JANE WILLIAMS: Good afternoon, members of the Board. Thank you for your patience. Members of the staff, thank you for your patience. My organization, California Communities Against Toxics represents communities across the state that are impacted from hexavalent chromium emissions. And we have worked with the California Air Resources Board now for almost three decades on this topic. And this is the sad and sorry state of affairs that we are in, and that is that because we do not have rules that require fence-line monitoring at hexavalent chromium facilities, and every time we go out and look at what is actually happening with fugitive emissions at these facilities, we find elevated levels of hexavalent chromium in the air. 160-1

Now, you've heard a lot today from workers who are understandably very worried about the fate of the industry in California. And that is why the switch to alternatives is so important. As you know, this Board has been intimately involved in switching technologies. It is practically become your job description, switching from gasoline powered cars to electric vehicles, switching from diesel powered engines to other forms, either 160-2

electrification or other forms of replacing diesel. This is exactly the same problem. And I have to say having been to the funerals of so many children who have lived next to chrome platers and died and the number of family members who are -- have either gone to school next to chrome platers, where teachers have died, it is really a 160-2 signature issue for the environmental justice movement in California, this issue of the disproportionate impact on public health from the plating industry.

The problems are not the stack emissions, which 160-1 the industry wants to talk about as being, you know -- those stack emissions are easy to control. It's the fugitive that are difficult to control.

(Times up.)

(Jeering from audience).

CHAIR RANDOLPH: That's not necessary.

VICE CHAIR BERG: No, we don't do that.

BOARD CLERK HARRINGTON: Next is Brian Ward.

BRIAN WARD: Hello, Board. Thank you. My name is Brian Ward. I'm with Metal Finishers Association and also AAA Plating. It seems like what we've got here is -- it would appear to be an argument of community health versus jobs, and that's not really the argument here. We're not seeing for this very, very specific issue. I don't want to say that platers historically have been good

operators or bad operators. A lot of shops have shut down and been shut down and rightfully so. Bad operators need to be taken care of.

The reality is is that the people that are now
161-1 currently around and are doing business in this community are good operators. And the reality is is that we're not seeing the health effects that very specifically hexavalent chromium from air emissions, which is what we are tasked with controlling today, are not affecting people out in the communities. This is a long-term cancer risk. Our employees that are here en masse today have such a faith in the systems. They know how these -- how these tanks work. They have their children work at our companies. They understand this in an intimate level. There isn't the risk there that maybe there had been prior or with other exposure methodologies.

So the reality is is that this effect, this ban on chrome will have zero effect in the community. It may have a positive effect politically for some people, but it will not have an environmental effect in the community. You will notice nothing. You will notice no change,
161-2 except for these people will lose their jobs, and these families will have to sit there and struggle and have to get new positions. And that doesn't seem fair to them, to the communities.

Thank you very much for your time.

(Applause).

BOARD CLERK HARRINGTON: Sonia De Leon.

SONIA DE LEON: Good morning. My name is Sonia Olmos De Leon. I'm a teacher. I'm also environmental activist. And officially I'm an elected official, so I represent many in my community in Paramount. Unfortunately, I cannot afford to bring all my constituents to this platform and have them say how they feel and what they have experienced. I could personally say that in my community, a lot of people have died of cancer. My mom is currently dying of cancer. And as a -- as community member, I've seen so many students now in special education. That has no solution. No solution. There's no solution for cancer. There are solutions though to getting a better job. And there's definitely solutions. But when you have these industries in our homes -- nearby our homes, it's really just killing us. And that's it. There's no solution for us.

So, yes, you -- I hear. I understand everyone needs to survive, but what do you tell my cousin who died of cancer at 10 years old when he's pleading for his life and says, Sonia, I don't want to die. And I'm going to tell -- have to tell him, you're not going to die, sweetheart. You're not going to die. That's what you're

162

not hearing. And I would wish you could hear that, because that I can't solve. But if I need another job, I get another job. Yes, it's going to be hard. I've been a single mother and I pushed myself to where I'm at today. So there are solutions. However, there are no solutions for people that are dying. So please give us extra life. Please ban hexavalent chromium. Thank you.

BOARD CLERK HARRINGTON: Jose De Leon.

JOSE DE LEON: Good morning to everyone. My name is Jose De Leon. I live in the City of Paramount and I understand jobs are important as well as business, but what is more important? So, in general, life is a sacrifice. And, yeah, you are worried about your business. Well, you have to sacrifice something in order to get something else. You are worried about your job. I understand. I'm sacrificing my job. I own my own business and I have to be here for my community. I'm sacrificing my day pay, my responsibility with my customers, but's part of life. I have to sacrifice something.

163 My question is are you willing to keeping sacrifice lives, especially the youngest? I understand some of the members here from the public, they say, yeah, I'm old. I live well and everything. Yes, they are -- I'm glad for them, but not too many people can say that.

And us in the City of Paramount, at some point, I feel that we are between the border in Ukraine and Russia. Why? Because we're being exposed to this. We can die at any moment. Why am I saying this about my community? Because in Paramount, we build weapons. They all say that that's why -- part of the job that they have to build weapons or parts for airplanes. And that's how we feel, like, my fellow here she mentioned she's dying from cancer. I don't know. At this point, I don't know what is my chromium level in my blood.

Let's ban chromium(VI). In Europe they already did it. We have to -- we need to transition.

(Jeering from audience).

BOARD CLERK HARRINGTON: Thank you.

This concludes our in-person commenters for this item. I will now pass it over to Katie.

BOARD CLERK ESTABROOK: Thank you. So there are a total of 15 commenters who have raised their hand in Zoom prior to sign-up closure. I'm going to ahead and read all of the names. And if you do not hear your name and would like to give a comment, please note that you can submit a written comment at the link that's shown on the screen. To be included in the record and considered by the Board, please submit your comments prior to the conclusion of public comment. The electronic dockets will

close when the Chair closes the record following public comment and prior to the Board discussion. There will be additional opportunities to submit comments during the upcoming 15-day comment period and at the second hearing for this item.

Our commenters are Caroline Orija, Chris Chavez, Florence Gharibian, Robina Suwol, a phone number ending in 430, Gabriela Ballesteros, Katherine Butler, Amy Kyle, Geoffrey Blake, Yvonne Watson, Christine Wolfe, Bill LaMarr, James Goehring, and Dean Talley. And William Koons, you had your hand up before the comment period closed, but I see that it's down. So if you still would like to give your comment, please raise it.

So before we get started, we're going to take a quick technical break just to reset the Zoom, so stand by.

CHAIR RANDOLPH: And, Clerk, are we doing a five-minute break, 10-minute break? How long a break are we going to take?

BOARD CLERK ESTABROOK: Five minutes.

CHAIR RANDOLPH: Five minutes. Okay.

(Off record: 11:15 a.m.)

(Thereupon a recess was taken.)

(On record: 11:21 a.m.)

CHAIR RANDOLPH: Okay. We are coming back after our break. And I would last -- like to ask the clerks to

being calling the Zoom commenters. So if we could be quiet in the room, so that the Board can hear the Zoom commenters.

BOARD CLERK ESTABROOK: Yes. Thank you chair. So our firs three commenters are Caroline Orija, and then Chris Chavez, and Florence Gharibian.

Caroline, you should be able to unmute and begin.

CAROLINE ORIJA: Good morning. This is Caroline Orija. I'm a community and I'm very concerned about this

164 rule. Our communities are already overburdened with hexavalent chromium as the slides today have shown us. The schools, the residents, and the workers were all affected by the health. This is a very serious health matter.

Switching to trivalent chroming has the benefit of not only significantly reducing emissions of one of the most dangerous chemicals known in our community, but also facilities using trivalent chroming have avoided using other toxic fumes as suppressants as well. So there's multiple benefits to reducing this.

Respectfully, I urge the Board to take the important action with this amendment and to gain early reductions that have already affected many communities already. This is good. I understand that impact on jobs in the industry. But as we tradition -- transition into a

safer method, I believe all those jobs will be restored.

Thank you for you time.

BOARD CLERK ESTABROOK: Thank you.

Chris Chavez.

CHRISTOPHER CHAVEZ: Yes. Good morning. My name is Chris Chavez and I'm the Deputy Policy Director at Coalition for Clean Air as well as a member of the Wilmington, Carson, and West Long Beach AB 617 community steering committee. I'm speaking today in support of the 165 hexavalent chromium rule as well as CARB providing financial assistance to facilitate the transition to trivalent chromium.

The proposed regulation would be the most health protective rule in the country. While half of the rule relies on commercially available technologies for decorative platers, the other half provides flexibility and sets a transition deadline far into the future for hard platers.

Further, this rule requires two technology reviews to assess whether or not the hard plating deadline needs to be amended. We also strongly support assisting chrome platers with transitioning to trivalent chromium. We urge CARB to work with the State to secure additional funding to further facilities the transition. Not only is hex chrome a highly carcinogenic chemical, but it can also

165 cause pulmonary, renal, skin, and a host of other diseases.

As CARB staff indicated, it is one of the most toxic substances identified by the agency, even more so than diesel particulate matter. Not only are workers in danger, but the communities that live near facilities using hex chrome are also at risk of exposure. These communities include houses, schools, and other sensitive receptors directly adjacent to hex chrome sources.

Many of these high risk neighborhoods unfortunately are low-income communities with other significant environmental burdens, such as freeways, railyards, and other industrial sources. The vast majority of hex chrome sources are located in AB 617 or other disadvantaged and low-income communities. Hex chrome emissions were identified in most, if not all, AB 617 community emission reduction plans with East LA, Southeast LA, and South LA having significant emissions.

Further, phasing out hex chrome would also phase out the need for toxic fume suppressants, some of which are even more toxic than hex chrome itself. Thank you for your time.

BOARD CLERK ESTABROOK: Thank you.

Florence Gharibian will be next. And then Florence will be Robina Suwol, a phone number ending in

430, and then Gabriela Ballesteros.

Florence, you can unmute and begin.

FLORENCE GHARIBIAN: Hello. My name is Florence Gharibian. I am the Chair of the Del Amo Action Committee. I also have worked with CalEPA and the Department of Toxics. And I will mention that I've done work in the Inland Empire on the Stringfellow Acid Pits and also the director of the Inland Empire permit assistance center.

I'm very grateful to be here today. I would like you to know that the Del Amo Action Committee through the Los Angeles Environmental Justice Network worked on the issues with hex chrome in the City of Paramount. And you hear about a child losing its life at 10 years old from cancer, it breaks your heart. We then worked extensively with the South Coast Air Quality Management District on Rule 1469 participating in the work group, meeting with the staff, and preparing correspondence on the subject.

166 Unfortunately, our correspondence recommended that the rule not be approved, because it didn't have strong enough efforts to make sure that the requirements would be enforced, which is of tremendous importance, something that should always be considered with any rule, but we're glad we had that opportunity. We heard many things similar during the process of getting the Rule 1469

passed.

Thank you very much for your time and attention.

BOARD CLERK ESTABROOK: Thank you.

Robina Suwol, you can unmute and begin.

ROBINA SUWOL: Hi. Good morning. My name is Robina Suwol. And I'm the Executive Director of the California Safe Schools Coalition. We're children's environmental health and environmental justice group that have been in existence for more than 25 years. We have witnessed during our time frame horrific health impacts and tragically even death from environmental threats from toxic contaminants, especially in environmental justice communities and particularly for children. We thank the CARB staff and all the diverse participants, including industry, who have attended countless meetings to create this rule and locate funding sources for facilities to transition.

167

California Safe Schools fully supports amending the toxic control measures and for making human health the priority.

Thank you very much.

BOARD CLERK ESTABROOK: Thank you.

Phone number ending in 430, you should be able to unmute by dialing star six and then please state your name for the record before you begin.

Phone number ending in 430, are you there?

You should have a prompt to press star six to unmute.

Okay. You're unmuted. Go ahead.

KESHAV KUMAR: Hello.

BOARD CLERK ESTABROOK: Yeah.

KESHAV KUMAR: Madam Chairman and respectful Board members. My name is Keshav Kumar. And I with Plateronics Processing. We're located in Chatsworth in LA County. Just to give you background. I have completed my PhD in physical chemistry from University of Pennsylvania. So I believe that with my education and business owner as a background, I'm qualified to make some comments on technical and business aspect of chrome plating.

168-1 I agree with various presentations to start the conversation we had today that hex chrome plating can be slowly moved to other processes as technology advances. But as you have heard many, and if you do any technical analysis, you will find out that neither the technology nor the market is hundred percent ready for that.

Product companies and consumers are not ready for this level of drastic change. If we ban hex chrome

168-2 processes in California, we'll be losing jobs with electroplating. And in terms of numbers, I heard we are talking about 3,000, but it will have trickle effect on

other processes. And the reason for that is we heard a very good presentation when we started the conversation, where it was shown that most of these plaiting processes are done on metal components. And most of -- most of these metal components are either machine or formed, which is a part of Southern California and Northern California manufacturing industry.

So this will impact the machining and forming manufacturing jobs, because nobody is going to shift 10 times, you know, shipping cost on these processes. As you have heard, many employers have said that electroplating employers are far and few manufacturing small businesses that provide reasonable hour rates, medical, 401(k). That is not common in the small businesses. I do -- I don't agree with this proposed plan and it's premature and going to hurt small businesses and its employees. Perhaps the right approach will be to ban use of hex chrome plated parts first before we --

BOARD CLERK ESTABROOK: Thank you.

KESHAV KUMAR: -- do hurt the economy.

Thank you.

BOARD CLERK ESTABROOK: Thank you. Could you please state your first name again for the cord.

KESHAV KUMAR: Yeah. My first name is Keshav, It's K-e-s-h-a-v.

BOARD CLERK ESTABROOK: Thank you.

Robina, you can unmute and begin.

ROBINA SUWOL: I actually spoke previously.

BOARD CLERK ESTABROOK: Oh, apologies.

Our next speaker will be Gabriela Ballesteros.

And after Gabriela will be Katherine Butler, Amy Kyle, and Geoffrey Blake.

Gabriela, you can unmute and begin.

GABRIELA BALLESTEROS: Good morning, Chair Randolph and members of the Air Resources Board. My name is Gabriela and I'm here on behalf of Assembly Speaker Anthony Rendon. I will now read an excerpt from a letter of support by Speaker Rendon.

"I encourage the ARB to support the amendment to the chromium rule as presented today. Many of the communities in South East Los Angeles are intermixed with heavy industrial facilities, putting schools and residences in close proximity to toxic emissions. As reported by the ARB staff report, more than 70 percent of the 113 chrome plating facilities in California are in environmentally overburdened and disadvantaged communities. Especially in my district, we have numerous plating facilities concentrated within the relatively small five mile square area in the

169

City of Paramount.

"In 2016, emission spikes of hexavalent
169 chromium were detected from two facilities in Paramount raising a flag that our communities are being burdened by higher levels of it than realizes. These emission violations along with the passage of Assembly Bill 617 reinvigorated attention to toxic emission issues and brought the regulatory attention needed to protect our community's public health. Today, you have the opportunity to require the transformation of the industry to a less toxic alternative for chromium plating.

"Last year, the Legislature committed $10 million to assist with the transition away from the use of hexavalent chromium upon adoption of a rule to fully eliminate it at all decorative and functional chrome plating facilities. This funding aims to ensure that we're helping small business while we are protecting our community's public health.

"Lastly, I would like to commend the ARB for working with environmental justice groups in development of this rule. In May of 2022, ARB members and staff came and saw communities in

Paramount and Boyle Heights that are immediately adjacent to numerous industrial facilities including chrome platers. I believe connecting with these communities and seeing firsthand the communities impacted by pollution gives invaluable perspective to the work before the
169 Board. I encourage the ARB to adopt these strong proposed regulations and thank you for your commitment and attention to the most impacted communities in the State.

"Thank you for your time".

BOARD CLERK ESTABROOK: Thank you.

Katherine Butler, you can unmute and begin.

KATHERINE BUTLER: Thank you. Thank you, Chair Randolph and hearing Board members. My name is Katie Butler. I'm the Senior Health Deputy for LA County Supervisor Janice Hahn.

170 This proposed rule is critical to protecting the health of workers and residents in Supervisor Hahn's District. In 2016, the local air district discovered screening high levels of hexavalent chromium from metal processing facilities in the City of Paramount only blocks away from homes and schools. Residents reported noxious metal odors, acute health symptoms, and cancer cases to our health department. Levels were so high that our

170

county fire department had to step in and shut down some of the facilities.

Now, we have Rule 1469, and yes, this has made significant progress to reduce hex chrome levels in Paramount and other communities. But as we heard today, there is no safe level. And by the way, these studies that show hex chrome is so harmful are worker exposure studies. Supervisor Hahn encourages CARB to put these rules in place to protect worker health and community health.

We heard heartfelt testimony from small shop owners and workers who fear they'll lose their business and their jobs, but we don't have to choose between jobs and our health. Supervisor Hahn commends the State for setting aside dollars to help small businesses to help with this transition to alternative greener technology and she encourages the state to continue to do this to assist businesses with this transition. Our communities deserve both, good paying jobs and clean air.

In June 2021, the LA County Board of Supervisors sent a five signature letter to CARB in support of these proposed rules. They are essential when it comes to operations located next to homes and schools, protecting our worker health and our community health. On behalf of Supervisor Hahn, I thank you for your time and

consideration.

BOARD CLERK ESTABROOK: Thank you.

Next, will be Geoffrey Blake and then Yvonne Watson, and Christine Wolfe.

Geoffrey, you can unmute and begin.

GEOFFREY BLAKE: Hello. My name is Geoffrey Blake and I am from the aerospace community. I've worked as Director of Environmental Health and Safety for two aerospace companies in Southern California. I currently sit on the Board of the Metal Finishers Association of Southern California and I'm the President of the Small Business Alliance in California. I also sit on the advisory board at the AQMD South Coast AQMD and have been involved with the regulations and the formation of rule regulation since the early nineties, going back to the original formation, not the 1988 rule, but the '98 revisiting of the 1469 rule.

171 The facts are confusing to many people listening today, because the numbers that are being thrown around are not understood as they should be and when the -- when the Cal R -- the OEHHA came out with the ruling on chrome, the latest lowest numbers for exposure limits that we've seen anywhere in the world, and certainly nothing close to it anywhere else in any of the other 49 states, we submitted information to -- updated information to the

regulating community -- communities, so that we went to OEHHA, it went to CARB, and it went to all the agencies, but the report was done by Dr. Proctor -- Deborah Proctor, and the report is --

BOARD CLERK ESTABROOK: Thank you. That concludes your time.

All right. Our next commenter is Yvonne Watson. Yvonne, you can unmute and begin.

YVONNE MARTINEZ WATSON: Hello. My name is Yvonne Martinez Watson. I've been an environmental justice advocate for about 15 years now. And I have spoken before to the AQMD.

172-1 I support the phaseout of hexavalent chromium(VI) and PFAS/PFOA chemicals in the chrome plating industry. I'm not there today, because I am partially immunocompromised. I'm answering that early. I've been on the phone -- I've been on this meeting since 9 o'clock. That's why a lot of people are not at these meetings, because they either have health effects already or they're in a job that doesn't pay for them to attend large -- you know, en masse like chrome plating industry did for today's meeting.

172-2 What the workers need to understand about hexavalent chromium effects and the effects of chrome plating is -- can be found on the OSHA website. And

172-2 you -- if you are a worker, you should be familiar with that. It is not just cancer. It is eye irritations, asthma, which is something that I have, perforated eardrums, respiratory irritation, kidney damage, liver damage, pulmonary congestion, and edema, upper abdominal pain, nose irritation and damage, respiratory cancer, skin irritation, erosion and discoloration of the teeth, some people can develop skin reactions and contact dermatitis.

There's a whole variety of things. And if you go to the Cal/OSHA fact sheet, you can get a one-page summary of these things. And this should be available to all the it workers, so that you can know how to protect yourselves. If OSHA is demanding all of these safety precautions to protect your health, that means that this is a dangerous chemical and communities that surround chrome plating organization -- plants, the community members do not have that protection.

Thank you very much.

BOARD CLERK ESTABROOK: Thank you.

Next will be Bill LaMarr. After Bill will be James Goehring, Dean Talley, and then William Koons.

Christine, you should be able to unmute and begin.

CHRISTINE WOLFE: Good morning, Chair Randolph and members of the Board. This is Christine Wolfe from

the California Council for Environmental and Economic Balance. I wanted to express appreciation for staff who we know have been working hard on this difficult but important issue with all the interested stakeholders.

173 We're supportive of the proposed inclusion of technology reviews to identify feasible alternatives for hard chrome plating and chromic acid anodizing consistent with international approaches to this issue.

Thank you.

BOARD CLERK ESTABROOK: Thank you.

Bill LaMarr.

Bill, you should be able to -- you should have a prompt to unmute and begin.

Are you there?

All right, we'll come back to you.

James Goehring.

JAMES GOEHRING: Thank you and good morning. This is my second opportunity in my career as a hard chrome plater to talk to the Board about this topic. And I need to make a few points clear right out of the bat.

174-1 There is no ban on chrome -- hexavalent chrome use in Europe. We have many facilities that do our type of work in Europe. In fact, the European Union has given them an exclusion to the REACH, because the socioeconomic impact of our work is far greater than the environmental impact.

174-2 We have no fumitive -- fugitive emissions. We test regularly for our employees and have proven on many occasions, there's no fugitive emissions in our shop. And one other unfortunate fact I'd like to point out is my dad is currently living with cancer and my sister -- younger system, Darla, died of cancer, neither one of them which lived anywhere near a chrome plating shop.

I've been in the business for 30 years. We service the steel and aluminum industry. 174-3 As Sylvia mentioned earlier without work like ours, many, many more parts would have to be manufactured on a regular basis leading to great and greater air pollution.

I urge the Board to reject this proposal. You have been misled this morning, based on the information I saw in the presentation. I attended all the workshops and was surprised to see what was given to you today. 174-4 Our emissions have been overstated, just as Art Holman pointed out. And we have, in our particular experience in the 174-5 steel and aluminum business, been looking for a alternative for going on 20 years, and there is nothing. I stood before the Board before you, assured me there would not be plan (inaudible).

Thank you.

BOARD CLERK ESTABROOK: Thank you. That concludes your time.

All right. Next, we will hear from Dean Talley. You can unmute and begin.

DEAN TALLEY: Good morning, members. Dean Talley with the California Manufacturers and Technology Association, also known as CMTA. CMTA represents nearly 500 manufacturers and the interests of more than 30,000 manufacture in the state of California. Our members are also some of those that will be impacted by this regulation. The regulation is indeed challenging for industry and establishes extremely aggressive dates for phasing out of the use of hexavalent chromium in California.

175

For those CMTA members within scope of the proposed amendments, we appreciate the dialogue and collaboration we had with program staff. These conversations were beneficial and led to a greater understanding of the manufacturing processes of our members by program staff, the exchange of ideas, and better communication between all parties. We just want to say thank you again for the considerations and we look forward to continuing our work with CARB in 2023.

Thank you.

BOARD CLERK ESTABROOK: Thank you.

And our two remaining speakers are bill LaMarr and Williams Koons.

Bill, let's try you again.

BILL LaMARR: Can you hear me?

BOARD CLERK ESTABROOK: Yes, we can.

BILL LaMARR: All right. Thank you.

Good morning. I'm Bill LaMarr. I'm the Executive Director of the California Alliance of Small Business Associations.

This is a cruel and inconceived rule. It's
176-1 premised mostly on innuendo, supposition, and generally inaccurate information. While you may have decreed that hex chrome is a toxic contaminant that has the potential to cause cancer, there has never been a confirmed medical diagnosis that anyone that has contracted cancer from any of these small businesses. Worker longevity in these facilities runs 30, 40, years, and worker illnesses and deaths are no more remarkable than if they were working at CARB or any other commercial enterprise.

Conversely, your contemplated action is certain
176-2 to result in an entire industry being eradicated from our State's economy. The hundreds of thousands of dollars
176-3 that these small businesses have invested to comply with SCAQMD's Rule 1469 will be stranded assets.

Thousands of good paying jobs with benefits will
176-2 be lost and the benefit to the environment and public health will be minuscule at best based on your own annual

emissions reports. As an alternative that would further
176-4 reduce hex chrome emissions and preserve this vital
industry, we urge you to adopt and apply our South Coast
District's Rule 1469 for the entire state.

Thank you.

BOARD CLERK ESTABROOK: Thank you.

All right, last we will hear from William Koons. You can unmute and begin.

FE KOONS: Yeah. My name is Fe Koons. I'm speaking on behalf of William Koons.

Talk about environmental justice, justice no
177 exposing your workers, the community members, and children to hex chrome plating. We live in Carson and we're very near Compton where there are chrome plating facilities that put us in danger. We also have refineries around our homes. Not only do they pollute the environment, but also harm our health. We encourage CARB to please implement this rule and ban hex chrome plating. All of us should not acquire long cancer, COPD, asthma, and other ailments.

Thank you.

BOARD CLERK ESTABROOK: Thank you.

Chair, that concludes that commenters for the item.

CHAIR RANDOLPH: Okay. Staff, are there any issues raised in the comments that you want to address

Comment 1 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-1.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: New Error in Emission Inventory (Table 1 and Table 2 disagree)
Comment:

178 The previous appendix B Table 2 on Line 3 "Hard with Add-On" showed the computation of the average source test value used in Table 1 of Appendix B above it. The calculation included results from seven tested facilities. The values were:

As shown previously
Test 1 0.00045
Test 2 0.00011
Test 3 0.001
Test 4 0.00034
Test 5 0.00063
Test 6 0.0002875
Test 7 0.0013
Average 0.000588214

Now, I don't know if the facility source test values you used above are correct or not but I do know math and the math appears to be a correct computation of the average of the values shown.

In your now corrected emission inventory put out this morning, your team is using a value of 0.0000588214 as the source test value for hard chrome. I know that you know that 0.000588214 is a magnitude of 10 times greater than the 0.0000588214. So, what changed? Your team has not included a revised Table 2 with the data release from this morning. Therefore the 0.0000588214 is an unsupported value since it does not correspond to the yet to be corrected Table 2 of Appendix B. The official record supporting a hex chrome emission rule contains this critical 10X uncorrected error which is a building block of the current emissions of the industry.

I recommend CARB introduce a quality assurance function. Those of us who are in the aviation safety business (until 2039) have found value in having a second set of eyes inspect work before it goes out.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-03-29 08:08:26

No Duplicates.

Comment 2 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-1.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Hex Chrome Emissions in Paramount
Comment:

179 According to the March 27 modification of the Emissions Inventory, the STATEWIDE hex chrome emissions of the ENTIRE METAL FINISHING INDUSTRY in 2019 were 0.19 pounds. You can verify this by referring to attachment 2, page 22, lower right cell in the table.
It is helpful to contrast this with the hex chrome emissions reported in Paramount, California in 2017 from just two sources; Carlton Forge at 0.6 pounds and Press Forge at 0.3 pounds. That is just in Paramount. You can verify this yourself by going to CARB's website here (https://www.arb.ca.gov/carbapps/pollution-map/?_ga=2.123164547.925282913.1680112885-1134180171.1680112885#) and using the pollution mapping tool CARB provides. Please use the filter criteria on the left and select pollutant = hexavalent chromium, City = Paramount, and Year = 2017.

Please keep this in mind when you hear CARB staff tell you fugitive emissions from metal finishers were the problem in Paramount. The emissions were observed from Metal Processors (See list here: http://publichealth.lacounty.gov/eh/chromium6/directive.htm) of which only two of the nine Metal Processors were Metal Finishers (Anaplex and Lubeco).

So, again, Carlton Forge and Press Forge reported emissions totalling 0.9 pounds just a few blocks from the metal finishers whose entire industry statewide emitted a fraction of that total. CARB is making no attempt to ban hex chrome emissions from Carlton Forge which is owned by Warren Buffet. But then, that might be a bit more difficult for CARB.

STOP THE BAN.

Please note that the modification of the Emissions Inventory enabled this public comment and it is therefore pertinent for inclusion in the board's considerations. I reserve the right to modify this comment if CARB staff amend the emissions inventory for a third time.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-03-29 15:20:39

No Duplicates.

Comment 3 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-1.

First Name: JIM
Last Name: MEYER
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Proportionality of Metal Finishers to Metal Processors / Implications for Fugitives
Comment:

Since we now have a new total hex chrome emission number we can examine the proportionality between Metal Processors and Metal Finishers in Paramount. According to the March 27 modification of the Emissions Inventory, the STATEWIDE hex chrome emissions of the ENTIRE METAL FINISHING INDUSTRY in 2019 were 0.19 pounds. You can verify this by referring to attachment 2, page 22, lower right cell in the table.
It is helpful to contrast this with the hex chrome emissions reported in Paramount, California in 2017 from just two sources; Carlton Forge at 0.6 pounds and Press Forge at 0.3 pounds. That is just in Paramount. You can verify this yourself by going to CARB's website here (https://www.arb.ca.gov/carbapps/pollution-map/?_ga=2.123164547.925282913.1680112885-1134180171.1680112885#) and using the pollution mapping tool CARB provides. Please use the filter criteria on the left and select pollutant = hexavalent chromium, City = Paramount, and Year = 2017.
Please keep this in mind when you hear CARB staff tell you fugitive emissions from metal finishers were the problem in Paramount. The emissions were observed from Metal Processors (See list here: http://publichealth.lacounty.gov/eh/chromium6/directive.htm) of which only two of the nine Metal Processors were Metal Finishers (Anaplex and Lubeco).
So, again, Carlton Forge and Press Forge reported emissions totalling 0.9 pounds just a few blocks from the metal finishers whose entire industry statewide emitted a fraction of that total. CARB is making no attempt to ban hex chrome emissions from Carlton Forge which is owned by Warren Buffet. But then, that might be a bit more difficult for CARB.
Please note that the modification of the Emissions Inventory enabled this public comment and it is therefore pertinent for inclusion in the board's considerations. I reserve the right to modify this comment if CARB staff amend the emissions inventory for a third time.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-03-30 06:16:15

No Duplicates.

Comment 4 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-1.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: WARNING - Compliance is not a success strategy in California
Comment:

181 CARB's March modification of the proposed new chrome plating rule failed to delete the ban. The message from CARB to business remains the same...

Businesses that adopt a compliance based strategy to do business in California are not safe. CARB will ban you anyway, and they will do it with full knowledge that the replacement technology for your process has not been invented yet. They will do it even if your site selection process selects a non-residential location. This warning is applicable to any business that works not only with chromium but also stainless steel.

Southern California has the strictest and most effective chrome plating rule in the world already (Rule 1469). Chrome plating firms in Southern California are already in compliance with Rule 1469 (if they are not, CARB and AQMD are not effectively enforcing existing regulations). CARB's proposed ATCM continues to impose a ban on these compliant businesses. They cannot grow and they will be eliminated with no alternative paths to comply.

Heed this warning if you are considering investment in California. Compliance will not save you.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-03-31 06:25:45

No Duplicates.

Comment 5 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-1.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Cancer Risk Falsehood (Please Correct)
Comment:

182 The staff presentation to the Board on January 27 contained two slides which referred to a "213 in a million" cancer risk from chrome platers. The "213" value comes from Table F.14(b) in appendix F page 28. Table F.14(b) shows the cancer risk from large hard chrome facilities without controls, and maps the cancer risk using two variables, throughput, and proximity.

Considering there are ZERO facilities in California with throughput at 120,000,000, and likely ZERO hard chrome facilities operating without HEPA controls, and ZERO facilities of anywhere close to that size that are 5 meters from a residential source, CARB's allegation of a "213 in a million" cancer risk from chrome plating is a complete FALSEHOOD. Unfortunately, the LA Times picked it up and has published it as a general description of the cancer risk from large chrome facilities.

I challenge CARB to spend a few minutes and locate the facility that has the highest cancer risk in the state using Table F.14(b) (proximity and size) but also in consideration of the HEPA controls that facility operates with, and tell the public what the real truth is about the maximum cancer risk at the highest risk real chrome plating facility in California. The answer will not be 213 in a million.

This comment is not about any modifications to the rule that were published on March 27. It is about incorrect cancer risk contained in CARB materials presented to the board on January 27 and which influenced the board's feedback to the staff on that date. Page 24 of the presentation states "Controlled Tanks". Table F.14(b) contains information about uncontrolled tanks.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-04-03 14:18:10

No Duplicates.

Comment 6 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-1.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: SRIA Cost / Benefit Relationship no longer relevant
Comment:

183 The SRIA painted the picture that implementation of the proposed ATCM will provide an annual hex chrome emission reduction benefit of 10.15 pounds annually at a cost of $688 Million. That works out to $68 million per pound of hex chrome reduced.

Subsequent publishing of the ISOR in November of 2022 and now the revised emissions inventory in March of 2023 reveal that there are only 0.19 pounds of hex chrome actually emitted annually. So, this is a 53-fold reduction in the benefit for the same cost.

Let's assume for now, that CARB's March 27 emission inventory is correct and that the costs originally assumed in the SRIA have not changed. We can calculate the benefit at 0.19 pounds per year and the cost at $688 million and determine that the cost of the ATCM is now $3.621 Billion per pound of hex chrome reduced. Considering all the non-chrome plating sources and emissions which have not been addressed by CARB yet, California is looking at an absolutely crushing economic hit to come in the range of more than $100 Billion.

How does the Department of Finance feel about this proposal now?

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-04-03 15:37:03

No Duplicates.

Comment 7 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-1.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Technology Reviews
Comment:

184 CARB has not defined what a technology review is. What is CARB's definition of a technology review? What criteria would be used to ascertain that an alternative technology is viable in terms of capability, reliability, market acceptance, economics, and environment? (not a comprehensive list of criteria).

Who would be the participants in a technology review? We can see who participated in the technology review which led to where we are on Page 230 of the ISOR. I suggest that reviews of materials and processes which keep transport aircraft airworthy should be weighted towards scientists and engineers. The LA Times published an article on Jan 27 in which an environmental and community justice advocate and attorney is quoted as saying "We would be working with the industry and the military to actually identify new coatings. That's precedent setting". Indeed it is.

CARB does not seem to realize that hexavalent chrome is used in a variety of chemical solutions to process parts constructed of a wide range of base materials and alloys (some ferrous and some non-ferrous) for a wide range of applications. There will not be a singular magic technology that will replace hex chrome across all applications at the same time. Change will occur incrementally process by process. Change will not occur facility type by facility type. CARB's references to technology reviews in the posted materials are little more than a punt. A dangerous punt if you rely on commercial aircraft for transportation.

CARB points to an apparent comment by Boeing that a 2039 phase-out date is OK with Boeing so long as there are technology reviews. Boeing has reason to be confident they can overwhelm CARB in a technology review, however, we have not seen any concurrence by Lockheed, Raytheon, Airbus, Parker, Honeywell, Northrup, DOD, the FAA or anyone else with the requisite technical expertise. Many of the supply chains supporting these entities have already left California.

At what point leading into 2039 will CARB relax the ban when a technological substitute is not found?

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-04-04 13:20:08

No Duplicates.

Comment 8 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-1.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: CARB has grossly misinformed the public
Comment:

185

Now that we can see the corrected emission inventory...

On page 37 of this presentation here (https://ww2.arb.ca.gov/sites/default/files/2022-06/Chrome%20Public%20Workshop%206.9.22_9.30am.pdf) CARB defined large functional platers as "hard chrome platers W/ Add-On Controls".

On page 38, they show that Large functional platers (defined above) have a cancer risk of 213 in a million.

In the posted appendix F, Table F.14(b) CARB shows that a cancer risk of 213 in a million is derived from a facility assumed to be 0 meters from a receptor with throughput of 120,000,000 amp hours and an emission rate at the ATCM limit of 0.0015. The emission rate of 0.0015 is not the emission rate of a facility with Add-On Controls. Large chrome platers in California have HEPA systems as required by the Air Districts. There is no such facility in California with 120,000,000 amp / hours located 0 meters from a residential receptor, without a HEPA system. Zero.

The highest risk facility has a throughput of 116,500,000, is located 40 meters from a residential receptor, and has a HEPA system. The HEPA system efficiency of that facility is unknown by this writer but CARB's posted materials contain two statements about HEPA control efficiency. Table 1 of the emission inventory states 0.0000588, and Table 2 of the emission inventory states 0.000588. Using these values, we can calculate that facility has a cancer risk between 6 in a million (Table 1 HEPA efficiency) or 60 in a million (Table 2 HEPA efficiency). (As an aside, yes it would be helpful if CARB would correct this previously identified discrepancy between the two HEPA efficiency numbers in their posted materials).

Page 39 of the presentation is highly inaccurate in several respects as we can now determine from review of the emission inventory just released by CARB. Yet this seems to be the basis for statements in the ISOR and SRIA and made to the board on January 27.

The presentation referenced above was made to a public workshop on June 9, 2022 and was (I am sure) troubling to the public and

environmental justice communities who viewed it. They were misinformed.
The advocates for this rule have been misinformed. The media have been misinformed. An industry has been damaged. Large chrome platers with HEPA controls have been damaged.

CARB. What is your response?

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-04-06 17:18:41

No Duplicates.

Comment 9 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-1.

First Name: BobbiProposed
Last Name: Burns
Email Address: bobbiburns@sbcglobal.net
Affiliation: Global Plating Inc

Subject: Proposed Ban on Hex Chrome ATCM
Comment:

186-1 Contempt prior to investigation is the best way to summarize the latest revisions made to the proposed amendment to the ATCM. CARB's presentation from June 2022 stated that "Chrome Plating emissions account for less than 1%" in the State of California. The slides presented to the public showed our Industry responsible for 10 lbs annually of Hex Chrome. Now in March 2023, CARB has stated we are .19 percent and approximately 1 lb annually. The CARB Board and public have been mis-informed. Several journalists have published articles with the inaccurate data quoted directly from CARB's presentations. Our Industry has been prejudicially singled out and the proposed BAN renders our assets to CARB's favorite word "ZERO"

186-2 It is CARB Staff's opinion that there is no safe level therefore none of the proposed options to add more controls to achieve an even lower emission is worth discussing. This proposed BAN has been generated by an attempt to calm the emotional outcry of disadvantaged communities. Communities that are mostly affected by mobile sources of pollution that we all contend with. Communities that have been built around industrial areas due to poor city planning and greedy land developers.
I see my neighborhood over the last three years developing thousands of homes, not low-income housing, very expensive high rise type homes right in the center of the industrial area, between two freeways in Fremont, CA. This mixture is problematic and when government officials introduce flawed data, there is panic and outrage by all parties affected. I am embarrassed and disappointed that CARB has not removed the BAN from this proposed rule, mostly because CARB Staff knows the truth about the emissions in our Industry. The fact that CARB would use our Industry for a political glory is a shame. I urge CARB to keep this amendment an emission base rule, not a ban. Please do not abandoned decades progress in the road to lowering emissions by terminating an entire industry, an Industry that has invested in the ATCM and has proven there is a way to keep Chrome Plating in this State.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-04-07 12:33:22

No Duplicates.

Comment 10 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-1.

First Name: Art
Last Name: Holman
Email Address: art@shermsplating.com
Affiliation: Sherm's Custom Plating

Subject: Incorrect data
Comment:

187 The CARB board has a responsibility to hold staff accountable for accurate data to base this rule making process that will affect the lives of thousands of people here in the state and beyond. To date the emission rate data that's been shared have been flawed, therefor it is impossible for the board to make an educated decision on this very aggressive rule.
Using staff's table III.1 as an example, why are we even looking at estimated emission rates? Local air districts have actual reported amp hours and emission rates as required by law. CARB staff must input the correct data to comprise a true representative sample of industry emissions, only then would the board have the information required to make a decision that will impact so many lives.
The first working group meeting was held Sept. 11, 2020, and still we are being presented with flawed emission rate numbers. Initial data submitted by staff for this rule was the Chrome Plating Industry as a whole emitted 10.15 lbs. of hexavalent chrome annually. That information was shared with the public and created an outcry within communities and environmental groups. Now in the 15-day comment period, data is shared and emission rates are 0.19 lbs. annually, but the damage has already been done.
CARB Board members must hold staff accountable to provide accurate information regarding emission rates before a decision is made that will affect so many lives and jobs here in California. As a CEO of a company, you would require your staff to present accurate data for the basis of making a decision that will impact your business livelihood and that of your employees. Inaccuracies would not be tolerated, but CARB staff faces no consequences for reporting these inaccuracies or failing to provide requested information to stakeholders.
I urge the Board to delay this rulemaking process until such time as the true emission numbers have been calculated using accurate amp hrs. and source test emission rates as reported to local Air Districts.

Respectfully,
Art Holman

Sherm's Custom Plating

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-04-10 12:13:26

No Duplicates.

Comment 11 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-1.

First Name: Terence
Last Name: McGuinness
Email Address: terrym@allcleanhaz.com
Affiliation:

Subject: CHROME BAN IN CALIFORNIA
Comment:

188 Since the implementation of RCRA, which is the Resource Conservation and Recovery Act of 1976. I have provided Hazardous Waste Management services to the commercial, industrial, and military sectors of California since 1977.
I have the honor to sit on the Board for the National Association of Surface Finishers and the Metal Finishing Association of Northern California.
Over the last 46 years I have seen many changes in the continuing effort of our regulatory community to eliminate Industrial growth in the State of California.
This ban will immediately and negatively impact operations for many family-owned small businesses.
This ban will present decorative and functional Chrome 6 plating facilities with unreasonable choices.
• Close their operations immediately.
• Those costs will start at the low end of $375,000.00 to over 1 million dollars, depending on the size of the facility.
• The current cost for disposal alone of a 1000 gal Chromic Acid Bath is $7,500.00. This cost does not include the management of surrounding support equipment of the process.
• When a facility is forced to close, it will cause these hard working Americans to lose their jobs and their family's livelihoods.
• Or invest significant dollars over three years to comply with new CARB emission rules, and ultimately close their operations on the January 1, 2027 the proposed ban date.
• If a facility operator is not properly financially prepared for such an event, the cost will then need to be absorbed into the States Superfund budget. Another burden passed on to all our hard-working California Americans.
• Please don't think that this ban is going to stop Chrome Plating. it will simply just go underground with no environmental controls.
This BAN is a painfully irresponsible idea, and your Staff should be embarrassed to have even brought this flawed data before the Board.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-04-10 12:27:55

No Duplicates.

Comment 12 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-1.

First Name: Aaron
Last Name: Plechaty
Email Address: aplechaty@electro-coatings.com
Affiliation:

Subject: Destroying an industry is not the answer ...
Comment:

189 The plating industry is asking and looking for cooperation in the overall picture of what you are looking at. From what I can tell, the ruling that is looking to take place is without all the data, and with the full scope of everything in play here. It seems, offhand, that to make a proper ruling you would want to collect all the data (I know the industry is providing a metric ton of it), to compile and fact check before you just toss your hat in the ring haphazardly. You are looking to destroy an industry that while they operate with chrome (they operate safely and within all parameters all agencies impose on them) makes up a whopping 1% of all Hex Chrome emissions in the entire state. 1%. Theme parks put out more emissions.

Please consider reviewing the emissions standards and rules, revising them to allow the thousands of individuals who have and continue put their entire lives work into the states economy vs just flipping a switch and shutting them all down without reviewing and working with these families you are playing with - without the full review needed - to force to shut down. We, the industry, work hard day in and day to meet or exceed the state emissions standards. Review them. Shutting these shops down may reduce a tiny bit of the emissions, but that work will go to the states with less restrictions and just amplify the nations emissions. There is middle ground, as stated above, review the emissions standards - work with the industry, not against it and see the future that we can create together.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-04-10 12:59:08

No Duplicates.

Comment 13 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-1.

First Name: Tracey
Last Name: Coss
Email Address: traceycoss@scpci.com
Affiliation:

Subject: ATCM for hex chrome
Comment:

190 I urge the California Air Resources Board [CARB] to NOT move forward with the proposed amendment to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations [CrVI ATCM], and instead to revise the ATCM to provide emission control measures that will be effective in further reducing the negligible amount of air emissions of hexavalent chromium from metal finishing facilities, recognize the extremely negative consequences of proposed bans, and provide a reasoned, science-based approach and emission-based rule moving forward.

The proposed ban on CrVI plating fails to acknowledge the importance of this segment of manufacturing in California, the significant emission reductions the industry has achieved to date and can obtain through further emission reduction efforts, and the increase in emissions (from commercial trucks transporting products for CrVI plating) that will result from plating operations moving to other states and countries with less, if any, emission requirements. Further, bans will leak significant businesses and associated jobs away from California!

CrVI plating facility emissions have been significantly reduced over the years to the extent that chrome metal finishing comprises significantly less than 1% of total annual CrVI emissions for the entire state. No other state or country has CrVI emission limits anywhere near the level of protections already established in California. CARB should acknowledge that protection of the environment is best achieved in California by working WITH industry.

I urge CARB to remove the ban, correct the data, SAVE JOBS, and prevent business from closing down and/or leaving the state.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-04-10 13:58:41

No Duplicates.

Comment 14 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-1.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: For the Record
Comment:

191-1 The attached was sent to CARB staff, Cliff and Chang, via USPS certified mail, return receipt requested and via email. A receipt was returned for the Chang letter. Cliff acknowledged by email that he had passed it to staff. This posting is to make the CARB board aware of it.

The materials posted in this 15 day period show that the largest and (according to CARB) the riskiest chrome platers in the state have cancer risks well below 10 in a million considering proximity and control system efficiency. Yet CARB is trumpeting to the public, to the EJ communities, and to the media that the cancer risk is 213 in a million.

Will the CARB board see through the deceptions? or will the CARB board tie itself to the CARB staff and join the deceptions?

CARB credibility is on the line. Quite honestly, it is noteworthy that this has been allowed to persist this far.

Attachment: www.arb.ca.gov/lists/com-attach/128-chromeatcm2023-AGMBZl0uV2YEXVMw.pdf

Original File Name: CARB Cliff 03062023.pdf

Date and Time Comment Was Submitted: 2023-04-10 14:24:18

No Duplicates.

AVIATION REPAIR SOLUTIONS

Chrome Plating - Precision Grinding - Non-Destructive Testing

6 March 2023

Steven Cliff, PhD
Executive Director
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Dear Dr. Cliff,

191-2 CARB staff have misled the public and the CARB board about the proposed Hex Chrome ATCM. The "Appendix B – Emissions Inventory" presents incorrect data about facility permit levels and emissions.

191-1 The January 27 staff presentation to the CARB board overstated the cancer risk from chrome plating as 213 chances per million. CARB staff has repeatedly advertised the toxicity of hex chrome emissions to the public as "500 times more toxic than DPM" but has undercut its own rhetoric by not taking equivalent action on the 98.7% of hex chrome emissions in the state not associated with chrome platers. The same toxic emissions are apparently not as toxic when emitted from refineries, cement plants, and powerplants.

191-2 A reasonable person who reads the "Appendix B - emissions inventory" would conclude that California chrome platers commonly violate their permitted emission levels. The published emissions inventory shows that more than 20% of chrome platers exceeded their permit level in many cases by very large margins. This is false and it has led the public to believe chrome platers are irresponsible violators. Three months ago, CARB notified the Metal Finishers Association that a member of the public had notified CARB that the published Emissions Inventory was incorrect. CARB agreed and cited a "spreadsheet error" as the cause. Despite this notification to the victim of the misinformation, CARB did not inform the public of this error, nor the media, nor has it provided a corrected emissions inventory to this day. The public has been deprived of the opportunity to make educated comment during a 60 day public comment period. The CARB board has been deceived. It is reasonable to conclude that public perception about chrome platers compliance with permit levels is now set. It will be difficult to change the public perception. It is astounding to me that incorrect data purporting to be an "emissions inventory" has been allowed to persist uncorrected in the public record during a rulemaking about those emissions. …while the central advocacy of the Metal Finishers Association was for an emissions-based rule. If truth is part of the CARB mission, you should direct staff to correct the data immediately. Lacking that, please take down the incorrect data and provide notice to the public that they have been viewing incorrect data since November 29, 2022. Isn't the most pertinent data in an emissions rulemaking the emissions data?

191-1 A reasonable person hearing CARBs repeated assertions that "Hex Chrome is 500 times more toxic than Diesel Particulate Matter" will interpret this as a statement of risk and not of potency. They perceive that Hex Chrome must be killing them as they are already very familiar with the abundance of DPM in their

1480 Canal Avenue
Long Beach, California 90813
USA

Office (562) 437-2825
Fax (562) 432-6615
WWW.AVIATION-REPAIR.COM

191-1 communities. The hex chrome toxicity statement is used to provoke fear and divert attention. The establishment of fear disguises other inaccuracies and mis-directions in the materials supporting this ATCM which I will not take the time to name here. This messaging by CARB is clearly intentional but CARB knows that cancer risk is the combination of toxicity and dose. It is misleading to the layman to be presented with only toxicity information in the context of a more overarching health concern about cancer risk. If CARB believes a comparison to DPM is most helpful for understanding, CARB should also report the difference in prevalence between DPM and Hex Chrome. The AQMD MATES V study is useful here. See MATES V Appendix IX 88. It informs us that DPM has produced a cancer risk of 306.3 in a million while hexavalent chrome has a cancer risk of 7.13 in a million across the geographic area encompassed by MATES V. Backing through the math, this means that DPM is 4,520 times more prevalent (dose) than Hex Chrome. CARB staff has access to this information but is consciously choosing to mislead public perception about hex chrome cancer risk. So, it is not a surprise that CARB behavior doesn't match the rhetoric. In fact, according to CARB, 98.7 % of statewide hex chrome emissions don't come from chrome platers, yet CARB pursues the smallest source (platers) anyway. A true concern about toxicity would drive a different behavior than we see from CARB. Despite effective HEPA controls which have been in place within the chrome plating community for more than 20 years, CARB seeks to ban chrome platers but has not proposed any ban of hex chrome emissions from refineries, cement plants, or other types of major hex chrome emitters.

In the January 27 presentation to the board, CARB staff showed a chart stating that emissions from chrome platers have an upper bound cancer risk of "213 in a million". Individuals who spoke to the CARB that day were asked to take an oath prior to speaking. The "213 in a million" statistic is not correct. The LA Times editorial board has subsequently picked up that "213 in a million" probability and stated it as fact to support an editorial argument in favor of CARBs proposed ATCM. Specifically, they stated "large chrome-plating facilities have an estimated cancer risk of about 213 additional cases per 1 million people." A quick reference to Appendix F.14(b) on page F-28 and Appendix B reveals there is absolutely no factual basis for CARB's 213 in a million number. Why? Because there are exactly zero facilities that operate at or above 120,000,000 amp/hours per year in California. If such a large facility did exist, it would need to be operating without HEPA systems which would be in violation of most air district rules. Additionally, it would need to be operating within 16 feet of a receptor. There is no such facility in California! This is an entirely theoretical construction of a set of numbers, that in fact, do not represent any facility but are used strategically as the baseline from which this entire effort is being justified! It is plainly wrong. Yet CARB staff have spread it to the CARB board, to the public, and now to the media who have amplified it and used it to construct and recommend support for your proposal. CARB must immediately move to correct the public record and refute this number which has fooled even an experienced LA Times environmental editorialist.

My business, Aviation Repair Solutions, Inc. is damaged. By virtue of operating at more than 1,000,000 amp/hours annually, we have been portrayed by CARB and the LA Times as a "large chrome plater". The informed public by virtue of referring to CARBs presentation and by reading the LA Times could easily

AVIATION REPAIR SOLUTIONS

Chrome Plating - Precision Grinding - Non-Destructive Testing

191-1 perceive us as creating a "213 in a million" cancer risk. Yet the same F.14(b) chart reveals that based only upon our size and distance from receptors, our risk is only 1 in a million and this doesn't even account for the efficiency of our HEPA system which operates 65 times more efficiently than the emission rate CARB used to construct this chart! This is an egregious assault on our reputation. I recommend you contact the LA Times to demand a retraction of their editorial.

191-3 The public deserves clean air. We are in complete support of applying AQMD Rule 1469 to the entire state. Why wouldn't we want our competitors to follow the same rules as us? We do not understand why CARB has not done that after four years of work. We do not understand CARB's apparent decision to elevate advocacy above truth. What is the mission of CARB? Is it advocacy? Or is it truth? The amount of misdirection, error, distortion, fear-mongering, and politics in this process would sicken a California Condor. Yet CARB was established to protect public health. Does CARB realize that departure from truth undermines credibility? If you lack credibility on this issue, how will it impact your work on others? Why does CARB find it necessary to misinform on this issue?

191-3 Let me remind you that we protect lives by repairing flight critical aircraft parts with hexavalent chromium plating. We are located in a non-residential area more than 1,000 feet from any receptor. We operate with a HEPA system which was most recently source tested at 0.000023 mg/amp hour. The system has push pull headers and fugitives are minimized. We have never used PFAS/PFOS. We welcome a rule which will allow us to continue operating in a non-residential area, with HEPA controls, without PFAS/PFOS. CARB should be proud that the cleanest chrome platers in the world operate in California. Don't eliminate us.

Please correct the deficiencies I have identified and send your response to me at jmeyer@aviation-repair.com. I look forward to it.

Sincerely,

Jim Meyer
President
Aviation Repair Solutions, Inc.

.cc Edie Chang

1480 Canal Avenue
Long Beach, California 90813
USA

Office (562) 437-2825
Fax (562) 432-6615
WWW.AVIATION-REPAIR.COM

Comment 15 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-1.

First Name: Steve
Last Name: Oliveira
Email Address: info@bbcmachine.com
Affiliation:

Subject: proposed ban
Comment:

192 Our customers, our employees, our fellow platers urge CARB to reconsider the bans on decorative hexavalent chromium plating, hard hexavalent chromium plating, and chromic acid anodizing. The bans would provide little, if any, environmental benefits, will not decrease customer demands for hexavalent chromium plating and anodizing, will impose undue economic hardships on California plating shops, and will likely result in a net increase in hexavalent chromium emissions.

An emissions-based rule could continue the surface finishing industry's long-standing record to reduce hexavalent chromium emissions without imposing significant economic hardships on California plating companies and the communities that they serve with good paying jobs and financial contributions to local businesses.

We urge the committee to focus on the facts and overall impacts a decision to ban this industry in California will honestly have. An industry that has contributed to its success, been a loyal partner and provided many opportunities to it's purveyors does not deserve to be cancelled based on incomplete or speculative data. A ban is not the answer in the overall goal of reducing emissions as it will just shift elsewhere.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-04-10 13:15:53

No Duplicates.

Comment 16 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-1.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Use of Hex Chrome REDUCES Ambient Hex Chrome
Comment:

193 Please refer to the attached photo of a Cal Fire S70 Helicopter which is maintained in flight worthy condition via the use of hexavalent chromium plating. This helicopter fights fires. The fires it extinguishes emit FAR more hexavalent chrome than the entire chrome plating industry in California.

Rules adopted by CARB will have consequences.

Attachment: www.arb.ca.gov/lists/com-attach/131-chromeatcm2023-BmVTNAdqADUKZQR2.jpg

Original File Name: CalFire S70.jpg

Date and Time Comment Was Submitted: 2023-04-11 09:03:08

No Duplicates.


VINA
205
CAL FIRE
CAL FIRE

Comment 17 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-1.

First Name: Neil
Last Name: Hammel
Email Address: neil@vcapcd.org
Affiliation: Ventura County APCD

Subject: Correction to Surface Tension Calculation using Stalagmometer
Comment:

194 The listed surface tension of water at 25 degrees celcius (72.75 dynes/cm) in now appendix 7 is actually the surface tension of water at 20 degrees celcius. The correct surface tension of water at 25 degrees celcius is 71.99 dynes/cm as noted in the International Tables of the Surface Tension of Water at https://srd.nist.gov/JPCRD/jpcrd231.pdf and attached. If facilities use the surface tension calculation as presented in the ATCM, their results will be skewed higher than reality, resulting in greater emissions of hexchrome. Thank you.

Attachment: www.arb.ca.gov/lists/com-attach/132-chromeatcm2023-UzpdNVciAjRRJQBu.pdf

Original File Name: International Tables of the Surface Tension of Water.pdf

Date and Time Comment Was Submitted: 2023-04-11 12:13:41

No Duplicates.

International Tables of the Surface Tension of Water

N. B. Vargaftik, B. N. Volkov, and L. D. Voljak

Moscow Aviation Institute, Moscow, U.S.S.R.

This paper presents a table for the surface tension of water from 0.01 to 374 °C and an interpolating equation which represents the values in the table to well within their estimated uncertainties. The table of values and the interpolating equation are those recommended by the International Association for the Properties of Steam (IAPS) in its recent official release. The experimental measurements of the surface tension of water and their uncertainties are discussed, as is the development of the IAPS tables.

Key words: critically evaluated data; internationally agreed-upon data; surface tension as a function of temperature; surface tension of water.

1. Introduction

The International Association for the Properties of Steam (IAPS) has approved an international table of values for the surface tension (σ) of water in equilibrium with its vapor over the entire liquid range. Given below is an analysis of the most important experimental studies of the surface tension of water, the results of which have served as the basis for the recommended values.

2. Experiments on Water Surface Tension

The total number of experimental studies of σ for water is large. They have been carried out to different levels of accuracy, and the majority of them cover the region of temperatures below the normal boiling point. A survey of the early low-temperature investigations is given in Ref. 1. Some experiments at high temperature are also considered in Ref. 2, however, the most important of these were carried out after Ref. 2 was written. We shall deal with the most carefully carried out works on σ for water.

The work of Richards and Coombs[3] was of great importance in the development of the capillary-rise technique. It gives a thorough analysis of the factors affecting the accuracy with which σ can be measured using the capillary-rise technique. The following factors were investigated:

(a) the sensitivity of the results to the accuracy with which the radius of the capillary was measured;

(b) the diameter which was necessary for the vessel into which the capillary was dipped in order that the surface of the water in the vessel could be considered plane;

(c) the influence of the size of the contact angle;

(d) the estimations of the weight of liquid in the meniscus; and

(e) the arrangement of lighting to permit the most accurate measurement of the height of the meniscus above the plane surface of the water in the containing vessel.

As a result of their measurements, Richards and Coombs recommend the value for water: $\sigma_{20\,°C} = 72.62 \times 10^{-3}$ N/m.

The work of Richards and Carver[4] is a continuation of that of Richards and Coombs. These investigators observed that the contact angle (θ) of water on glass at room temperature is zero, derived a more accurate method for estimating the weight of liquid in the meniscus, and studied the influence of air and the ellipticity of the capillary section on the measurement of σ.

They obtained the value $\sigma_{20\,°C} = 72.73 \times 10^{-3}$ N/m. They also re-evaluated the data of Richards and Coombs[3] and obtained $\sigma_{20\,°C} = 72.72 \times 10^{-3}$ N/m.

Harkins and Brown,[5] using the capillary-rise method, made careful measurements of the surface tension of water in equilibrium with its vapor and with saturated air. In both cases, they obtained the value $\sigma_{20\,°C} = 72.80 \times 10^{-3}$ N/m. In these experiments they used several different samples of water and several different capillaries. The uncertainty in the results obtained can be estimated to be about 0.1%.

As a result of investigations[3–5] the capillary-rise method was considerably improved and is, at present, one of the most reliable methods available for determining the surface tension of fluids over a range of temperatures. Moreover, a sound mathematical basis has been developed for determining σ from the capillary rise.

Gross[6] used a capillary method to measure σ for water over the temperature interval 0–60 °C. He obtained six values for σ which are of sufficient accuracy for consideration here.

Warren[7] has investigated the surface tension of water over the temperature range 0–90 °C using the maximum-bubble-pressure method. The author estimates the uncertainty of his measurements to be 0.01%. The measurements, however, were relative values based on $\sigma_{15\,°C} = 73.65 \times 10^{-3}$ N/m. If these values are recalculated using $\sigma_{15\,°C} = 73.50 \times 10^{-3}$ N/m which is accepted in this paper, they appear to be acceptable for use.

Moser[8] made three series of quite accurate measurements of the surface tension of water in the range of temperatures 0–100 °C using a ring-detachment method. The dependence of σ on temperature found in this work agrees with that obtained by Warren.

Ramsey and Shields[9] have investigated σ for water over the temperature range 0–130 °C by the capillary method. The glass tube containing the capillary had an inside diameter of ~10 mm. The surface of the water in the annular region between the capillary and the container has a considerable curvature for such a narrow container. The authors attempted to correct for this curvature but underestimated its effect. The values were recalculated later by Sugden.[10]

The results of a large number of investigations of σ for water at low temperatures were compiled and evaluated in Ref. 11; recommended values are given for the temperature range − 9 to 140 °C. In Ref. 11 the surface is in equilibrium with air saturated with water vapor at atmospheric pressure for temperatures below 100 K and with saturated water vapor above it. Surface tensions measured under these two conditions using the capillary technique could be expected to differ because of the greater density of the saturated air and possible adsorption of components of the air at the interface. For water at pressures of about 1 atm, the differences are small (see Ref. 1) and fall within the overall reliability of the measurements, and can be neglected. Below 0 K the surface of the supercooled water is referred to. As will be shown later, these values for the surface tension of water can only be considered accurate below 100 °C.

Heyks and co-workers[12] investigated the region of temperatures higher than the normal boiling point. The measurements were made by the capillary-rise method over the temperature range 101–224 °C. The authors estimate the uncertainty in their data to range from 0.3% to 0.7%, however, they did not take the incomplete wetting of the capillary into account in their calculations. If these results were to be recalculated using the currently accepted values for the contact angle of water on quartz, the results could be used in preparing critically evaluated data for water.

Watanabe and co-workers[13] have measured σ for water by a capillary-rise method over the temperature range 20–200 °C. Unfortunately the data are only shown in a diagram.

More detailed investigations of the surface tension for water in the temperature range above the normal boiling point have been carried out at the Physics Chair of the Moscow Aviation Institute (MAI). Voljak[14] has used a differential capillary method. The apparatus consisted of two quartz capillaries sealed into a thick-walled quartz ampule. The method suggested by the author for selecting capillaries with a uniform inner cross section permitted selection of capillaries with a uniformity within ± 0.5%. Both uniformity of radius along a capillary and ellipticity of cross section were considered. Measurements were made over the temperature range 20–354 °C, and the uncertainty was estimated to be 0.4% at 150 °C and 5% at 340 °C.[15] There was a systematic error resulting from the temperature-measurement technique and the scatter of the experimental points was relatively large—up to 1% at temperatures below 250 °C and 3% at 350 °C.

The same method was used for succeeding experiments carried out at MAI,[16,17] but the experimental apparatus was improved. The control of the thermostat was more accurate and temperature was measured with a platinum-resistance thermometer with an uncertainty of ± 0.05 K. Capillaries with a uniformity of inner section of 0.05% were used, their radii were determined with an uncertainty of 0.1%. The results of the first set of measurements[16] on this apparatus were processed assuming the contact angle of water on quartz to be zero. Soon investigation[18] showed that the contact angle of water on quartz increases with temperature from a value of ~4° at 0 °C to a value of ~28° near the critical point. The succeeding measurements of σ for water[17] were processed using the results of the measurements of θ. The results published in Ref. 16 were recalculated to take into account the temperature dependence of the contact angle and also published in Ref. 17.

The ranges of temperature investigated in Refs. 16 and 17 are mutually overlapping, the results obtained are in agreement within 0.2×10^{-3}N/m at low temperatures and 0.1×10^{-3}N/m at high ones. The calculated uncertainty of these experiments varies from 0.3% at 20 °C to 1.7% at 360 °C, the greatest contribution coming from the uncertainty in the values of the contact angles. In the range of temperatures greater than 360 °C, the uncertainty was not greater than 0.07×10^{-3}N/m.

The results of Refs. 16 and 17 in the range of temperatures up to 100 °C agree well with the most reliable measurements in this range of temperature. It should also be noted that the value for the surface tension at 20 °C, 72.74×10^{-3}N/m practically coincides with the values from the very precise measurements at this temperature.[3–6]

The values obtained from Refs. 16 and 17 also agree with those from the high-temperature measurements[12–14] within their uncertainties.

3. Tables of Values for the Surface Tension of Water

As the results of an evaluation of the known investigations of the surface tension of water, Young and Harkins gave a table of values of σ for water over the temperature range − 8 to 140 °C in Ref. 11. On the basis of Refs. 3, 4, 5, and 6, they recommended $\sigma = 72.75\times10^{-3}$N/m, for the surface tension of water at 20 °C as a reference value, which since has found wide use in the calibration of instruments.

An analysis shows, however, that the selection of data made in preparing the tables[11] was not always justified. The values for σ at temperatures higher than 80 °C could only have been obtained by relying on the measurements on Ref. 9 as recalculated by Sugden.[10] However, as Sugden himself noted, the recalculated values are only reliable at moderate temperatures. Perhaps that is why one of the authors of Ref. 11, Harkins, only presented a table of recommended values for water covering the temperature range 0 to 60 °C in his monograph.[19] Also, in Ref. 20 recommended values for the surface tension of water are only given for the temperature range − 10 to 100 °C; the values given are in close agreement with those in Ref. 11. Thus for many years relatively reliable values for the surface tension of water have only been available up to the normal boiling point.

Apparently, tables for the surface tension of water covering the entire liquid range were first given by Fritz.[21] The data on which these tables are based are not cited. For temperatures up to 100 °C these tables differ slightly from those given in Refs. 11 and 20. At higher temperatures, especially

those approaching the critical, the values in Ref. 21 differ considerably from measured values obtained later.[16,17]

Values for the surface tension of water for the temperature range 0–374 °C, given in Vargaftik's reference book[22] and in Ref. 23 have been widely used in recent years. However, these tables are based on the values in Ref. 16 which were calculated without allowance for the incomplete wetting of quartz by water.

4. International Tables for the Surface Tension of Water

The General Meeting of the Eighth International Conference on the Properties of Steam held in Giens, France in 1974 instructed the International Association for the Properties of Steam to prepare international tables on the surface tension of water. Two papers presenting titles on surface tension were presented during the Conference,[24] and three drafts of tables were considered by Working Group 3, Other Properties, Especially Surface and Electrical Properties, during the meeting. The tables submitted by the Japanese Delegation were based on Refs. 11 and 21 for temperatures up to 100 °C and on the experimental data of Watanabe[15] and Vargaftik *et al.*[16,17] with allowance made for the temperature dependence of the contact angle of water on quartz. The tables were approximated by a nine-term polynomial in $(T_c - T)$ where T_c represents the critical temperature.

The tables submitted by the delegation from the FRG were based on Refs. 11 and 21 as well as the experimental data in Refs. 16 and 17. Three different interpolating equations were investigated: a seven-term polynomial in $T_c - T$, a polynomial in $T_c - T$ containing a term with a fractional exponent, and a binomial equation in $T_c - T$ with nonintegral exponents.

The tables submitted by the Soviet delegation were based on the mean values of the most accurate low-temperature experimental data[3–9] and the high-temperature data[12,13,16,17] corrected for the effect of temperature on the contact angle. The tables were approximated by a seven-term polynomial in $T_c - T$ with the first term having a fractional exponent.

These three submissions were considered by Working Group 3. Since the values of the surface tension recommended by the different submissions did not differ greatly, the decision was made to use the arithmetic means of the values given in the different submissions in the international tables. In 1976 this table was adopted by the International Association for the Properties of Steam and promulgated in an official release.[25]

These values of σ are presented in Table 1 along with

TABLE 1. Surface tension of water as a function of temperature

t °C	$\sigma\cdot10^{-3}$N/m	$\Delta\sigma\cdot10^{-3}$N/m	$\delta\sigma\cdot10^{-3}$N/m	t °C	$\sigma\cdot10^{-3}$N/m	$\Delta\sigma\cdot10^{-3}$N/m	$\delta\sigma\cdot10^{-3}$N/m
0.01	75.64	0.38	0.01	190	39.95	0.22	0.00
5	74.95	0.37	0.00	195	38.82	0.22	0.00
10	74.23	0.37	−0.01	200	37.69	0.22	−0.01
15	73.50	0.37	−0.01	205	36.55	0.22	−0.01
20	72.75	0.36	−0.01	210	35.41	0.22	−0.02
25	71.99	0.36	−0.01	215	34.25	0.22	−0.01
30	71.20	0.36	0.00	220	33.10	0.22	−0.02
35	70.41	0.35	0.00	225	31.93	0.22	−0.02
40	69.60	0.35	0.00	230	30.77	0.22	−0.02
45	68.78	0.34	0.00	235	29.60	0.22	−0.02
50	67.94	0.34	0.01	240	28.42	0.22	−0.02
55	67.10	0.34	0.00	245	27.24	0.22	−0.01
60	66.24	0.33	0.00	250	26.06	0.22	−0.01
65	65.36	0.33	0.01	255	24.87	0.21	0.01
70	64.47	0.32	0.02	260	23.67	0.21	0.03
75	63.58	0.32	0.01	265	22.48	0.21	0.04
80	62.67	0.31	0.01	270	21.30	0.20	0.05
85	61.75	0.31	0.01	275	20.11	0.20	0.06
90	60.82	0.30	0.00	280	18.94	0.20	0.06
95	59.87	0.30	0.01	285	17.77	0.19	0.07
100	58.91	0.29	0.01	290	16.61	0.19	0.07
105	57.94	0.29	0.01	295	15.45	0.19	0.07
110	56.96	0.28	0.01	300	14.30	0.18	0.07
115	55.97	0.28	0.01	305	13.17	0.18	0.06
120	54.96	0.27	0.01	310	12.04	0.17	0.06
125	53.95	0.27	0.01	315	10.92	0.16	0.06
130	52.93	0.26	0.01	320	9.81	0.16	0.07
135	51.89	0.26	0.02	325	8.73	0.15	0.06
140	50.85	0.25	0.01	330	7.66	0.14	0.05
145	49.80	0.25	0.01	335	6.61	0.13	0.05
150	48.74	0.24	0.01	340	5.59	0.12	0.05
155	47.67	0.24	0.01	345	4.60	0.11	0.04
160	46.58	0.23	0.02	350	3.65	0.10	0.03
165	45.49	0.23	0.02	355	2.75	0.10	0.00
170	44.40	0.22	0.01	360	1.90	0.10	−0.10
175	43.30	0.22	0.01	365	1.13	0.10	−0.04
180	42.19	0.22	0.01	370	0.45	0.10	−0.06
185	41.07	0.22	0.01	374.00	0.00		0.00

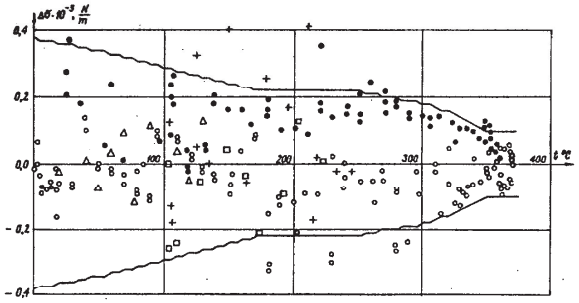


FIGURE 1. Deviation of experimental points from the international values of σ: ○ Vargaftik and others (Refs. 16 and 17); + Voljak (Ref. 14); □ Heyks and others (Ref. 12); △ Ramsey and Shields (Ref. 9).

their uncertainties estimated from the reliability of the experimental data.

As is evident from Fig. 1, most of the experimental points from the works used in evaluating the surface tension over a wide range of temperature fall within the estimated uncertainty of σ. The results of Refs. 3–8 fall well within these limits.

The values in the table are well represented by Eq. (1) with $T_c = 647.15$ K and this equation is recommended for use as an interpolating equation

$$\sigma = B\left[\frac{T_c - T}{T_c}\right]^{\mu}\left[1 + b\left(\frac{T_c - T}{T_c}\right)\right], \qquad (1)$$

where $B = 235.8 \times 10^{-3}$ N/m, $b = -0.625$, and $\mu = 1.256$.

Table 1 also gives the divergences ($\delta\sigma$) of the values (σ_c) calculated using Eq. (1) from the values recommended in the table. $\delta\sigma = \sigma_c - \sigma$. As is evident from the table, the divergence lies well within the estimated uncertainties.

5. References

[1]B. P. Weinberg, Zh. Russ. Fiz-Khim. O-va. **24**, 44 (1892).
[2]Gmelin's Handbuch der Anorganischen Chemie, 8 Aufl., System nummer 3, Berlin, 1963.
[3]T. W. Richards and L. Coombs, J. Am. Chem. Soc. **37**, 1656 (1915).
[4]T. W. Richards and E. K. Carver, J. Am. Chem. Soc. **43**, 827 (1921).
[5]W. D. Harkins and F. E. Brown, J. Am. Chem. Soc. **41**, 499 (1919).
[6]P. L. K. Gross, The Theory of Atomic Collisions, the Determination of a Standard for Surface Tension Measurements, Ph.D. thesis, University of Chicago, 1926. See also Ref. 19.
[7]E. L. Warren, Philos. Mag. **4**, 358 (1927).
[8]H. Moser, Ann. Phys. **82**, 993 (1927).
[9]W. R. Ramsey and J. Shields, J. Chem. Soc. **63–64**, 1–89 (1893).
[10]S. Sugden, J. Chem. Soc. **125**, 32 (1924).
[11]T. F. Young and W. D. Harkins, in *International Critical Tables of Numerical Data, Physics, Chemistry and Technology* (McGraw–Hill, New York, 1928), Vol. 4.
[12]J. R. Heyks, M. K. Barnett, L. V. Jones, and E. Orban, J. Phys. Chem. **58**, 48 (1954).
[13]A. Watanabe, H. Watanabe, and K. Watanabe, Data Survey and Correlation of Surface Tension of Water with Saturation Temperature. Report to the meeting of Working Group III of The International Association for the Properties of Steam, Schleersee, FRG (1975). (Copies available from the Executive Secretary of the International Association for the Properties of Steam, Physics Bldg., A316, National Bureau of Standards, Washington, DC 20234.)
[14]L. D. Voljak, DAN USSR **74**, 307 (1950).
[15]L. D. Voljak, Teploenergetika **7**, 33 (1958).
[16]N. B. Vargaftik, L. D. Voljak, and B. N. Volkov, Temperature Dependence of the Surface Tension of Water in Tr. Vses. Nauch.-Tekh. Konf. Termodin, Sb. Dokl. Sekts. "Teplofiz. Svoistav Veshchestv," 3rd M. D. Vaisman, Ed. Leningrad, Leningrad. Tekhnol. Inst. Kholod. Prom. (1969).
[17]N. B. Varagaftik, L. D. Voljak, and B. N. Volkov, Teploenergetika **8**, 80 (1973).
[18]L. D. Voljak, Y. G. Stepanov, and J. Y. Tarlakov, Zh. Fiz-Khim. **46**, 1620 (1972).
[19]W. D. Harkins, in *Physical Methods of Organic Chemistry*, edited by A. Weissberger, 3rd completely revised and augmented edition, vol. 1, Technique of Organic Chemistry (Interscience, New York, 1959).
[20]*Landolt-Börnstein Zahlenwerte und Funktionen aus Physik, Chemie, Astronomie, Geophysik und Technik* (Springer, Berlin, 1956), 6 Aufl., B.2, Teil 3.
[21]W. Fritz, in *Die Grundgesetz der Wärmeübertragung*, 3rd ed., edited by H. Gröber, S. Erk, and U. Grigull (Springer, Berlin, 1969), 3 Aufl.
[22]N. B. Vargaftik, *Tables on the Thermophysical Properties of Liquids and Gases*, 2nd ed. (Hemisphere, Washington, 1975).
[23]M. P. Vukalovitch, S. L. Rivkin, and A. A. Alexandrov, *Tables of the Thermophysical Properties of Steam* (Publication of Standards, Moscow, 1969).
[24]Proceedings of the 8th International Conference on the Properties of Water and Steam, September, 1974, Giens (France), Editions Européennes Thermiques et Industries, Paris (1975).
[25]Release on Surface Tension of Water Substance issued by the International Association for the Properties of Steam, September (1975). Howard J. White, Jr., Executive Secretary, National Bureau of Standards, Washington, D.C.

Comment 18 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-1.

First Name: Jerry
Last Name: Desmond
Email Address: jerry@desmondlobbyfirm.com
Affiliation: MFASC-MFANC-NASF

Subject: Chromeatcm2023
Comment:

Attached please find the comments of the the Metal Finishing Association of Southern California [MFASC], Metal Finishing Association of Northern California [MFANC] and National Association of Surface Finishers [NASF] regarding the March 27 Notice of Public Availability of Modified Text and Availability of Additional Documents and Information on the Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations [ATCM].

Attachment: www.arb.ca.gov/lists/com-attach/133-chromeatcm2023-VDcAZwBzV2YHXlc0.pdf

Original File Name: CARB CrVI ATCM Letter 4-11-23.pdf

Date and Time Comment Was Submitted: 2023-04-11 13:02:46

No Duplicates.

April 11, 2023

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

Hon. Steven S, Cliff, Ph.D., Executive Officer
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Public Comments – Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations

Executive Officer Cliff –

The Metal Finishing Association of Southern California [MFASC], Metal Finishing Association of Northern California [MFANC] and National Association of Surface Finishers [NASF] have the following comments regarding the March 27 Notice of Public Availability of Modified Text and Availability of Additional Documents and Information on the Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations [ATCM].

The modified text presents data that is fundamentally flawed, and it is not responsive to the direction the members of the California Air Resource Board [Board] provided to staff at the January 27 meeting. The modified text also presents significant issues that undercut the rationale for a ban rather than an effective alternative such as an emissions-based ATCM. It is critical that the errors be corrected with sufficient time for the public to review and comment on the amendments to the ATCM prior to its adoption.

195-1 **Flawed Data** – The Board's emissions data are flawed, inaccurate, and inconsistent in the record both as originally presented and in the subsequent 15-day Notice of proposed changes. This information is critical in understanding what the ATCM is regulating and what restrictions would be justified.

The Staff has had three years to correct this data and the surface finishing industry has provided continuous input that has not been effectively addressed. Even the "corrections" made to this data as part of the 15-day Notice are flawed and inaccurate. The emissions data are the foundation for the rule, and therefore, critical for all the analysis and justifications that are based on this information. For example, the corrected data inaccurately claims that emission from decorative processes equal those from functional plating processes. Without correct information, the conclusions drawn by the Board will be based on flawed assumptions, presenting a situation where any approval will be subject to potential legal challenge.

This erroneous compilation of data is a fundamental flaw and misunderstanding of the hexavalent chromium processes, despite the fact that industry has repeatedly identified these flaws for the Board and provided real-world actual emissions data from the Board's own records.

In addition, the update appears to claim significant benefits for emissions reductions that may not even be mathematically possible based on the small amount of actual emissions of hexavalent chromium from the finishing industry. Specifically, the Initial Statement of Reasons [ISOR] and Standardized Regulatory Impact Assessment [SRIA] claim reductions of 10.15 pounds per year in 2039 but the latest update to the emissions inventory shows total industry-wide emissions of only 0.19 pounds per year. If the founda-

- continued

195-1 tion for the rule's analysis and justifications are flawed and inaccurate, then all the analysis and justifications for the rule are meaningless. Applying inaccurate information to reach a particular conclusion appears to be arbitrary and demonstrates a substantial lack of knowledge and understanding of the industry that will be impacted by this amendment of the ATCM.

The Board must first correct the emissions data and conduct a totally new cost and benefits analysis for the rule based on the corrected information, and then provide an appropriate opportunity for notice and comment of these critical revisions. Otherwise, the Board will have failed to meet its statutory requirements for developing a rule to govern this industry.

The Table I data was included and then almost immediately excluded from the ISOR because stakeholders alerted staff that it was flawed. The staff response was that the table would be corrected in the 15-day document. While it is revised, it remains fatally flawed, Table 2 shows the calculation of the hard chrome source test average but the hard chrome source test average in Table 1 does not match Table 2. There are other issues as well. The reason for amending the ATCM should be clearly and accurately stated before proceeding with rulemaking.

The goal of this rulemaking process has been to develop an accurate picture of the industry's plating emissions. Facilities are required to report to their respective districts, both annual tank amp-hours [amp-hr] and source tested emission rates [mg/amp-hr]. The Board has the authority [we argue, the responsibility] to gather this information from the districts and make this available in the rulemaking. Staff has had over 2.5 years to obtain pertinent data from the local agencies. We have requested data and have only received 2019 amp-hr usage data but have never been provided accurate source test data that may or may not have been part of the staff's evaluation. Repeated requests to staff for source test data have yielded nothing.

The amp-hr data that was released as part of this rulemaking is from 2019. This data is not up to date. Some facilities have gone out of business, others have added HEPA filtration since this data was developed. There are discrepancies between amp-hr data released before and the present time that are on the order of hundreds of thousands of amp-hrs.

It also appears several facilities may have had no reported throughput data, and staff used their exact maximum permitted amp-hrs rather than indicate the Board had no data.

To obtain the most accurate picture of the industry's annual emissions each facility's throughput [amp-hrs] and source tested emissions factor [mg/amp-hr] need to be used. Staff gathered minimal source test information and then simply averaged the few data points to categorize the entire industry. There has not even been an attempt to weight the average with facility amp-hrs [i.e. source test data from higher amp-hr facilities are weighted heavier]. Staff requested source test data from at least one facility. While the facility provided the data, staff did not use it in its computation of the hard chrome average. From our calculations, this information would have lowered the average, and the failure to include it is arbitrary.

There are obvious issues with the "average" source test data, as well. First, there is what appears to be a typographical error of the average hard chrome source test emission factor in the "corrected" table. See Attachment 2, Table 1. Our review of this information found that the average calculated to 0.000588 mg/amp-hr. The value used in the table is 0.0000588 mg/amp-hr. This additional zero yields a dramatic difference in the calculated emissions. Second, the "average" source test emission factor for chromic acid anodize facilities is based on a single point that is impossibly low [0.000000029 mg/amp-hr], something that is not appropriate when performing mathematical evaluation (i.e., an average cannot be based upon a single point). Third, for decorative chrome platers, staff uses either the average of three tests of add-on controls or the default (fume suppressant only) and a maximum allowable default of 0.01 mg/amp-hr. Again, many of these decorative chrome plating facilities now have HEPA, which would dramatically reduce the resulting emissions.

195-2 **Safe Level -** The proposed modifications to the ATCM demonstrated that the Board is firmly entrenched in the attitude that there is no safe level of hexavalent chromium.

195-2 The staff presentation to the Board on January 27 contained two slides which referred to a "213 in a million" cancer risk from chrome platers. The "213" value comes from Table F.14(b) in appendix F page 28. Table F.14(b) shows the cancer risk from large hard chrome facilities without controls, and maps the cancer risk using two variables, throughput, and proximity.

Considering there are no facilities in California with throughput of at least 120,000,000, and likely no hard chrome facilities operating without HEPA controls, and no facilities of anywhere close to that size that are 5 meters from a residential source, the Board's allegation of a "213 in a million" cancer risk from chrome plating is not supported. Moreover, its inclusion in the report and as part of this rulemaking leads to false evidence of exposure and is capricious. It serves to generate fear that ultimately results in more pressure to bear on CARB for rule attributes that are not science based (e.g.. A ban prior to technology invention).

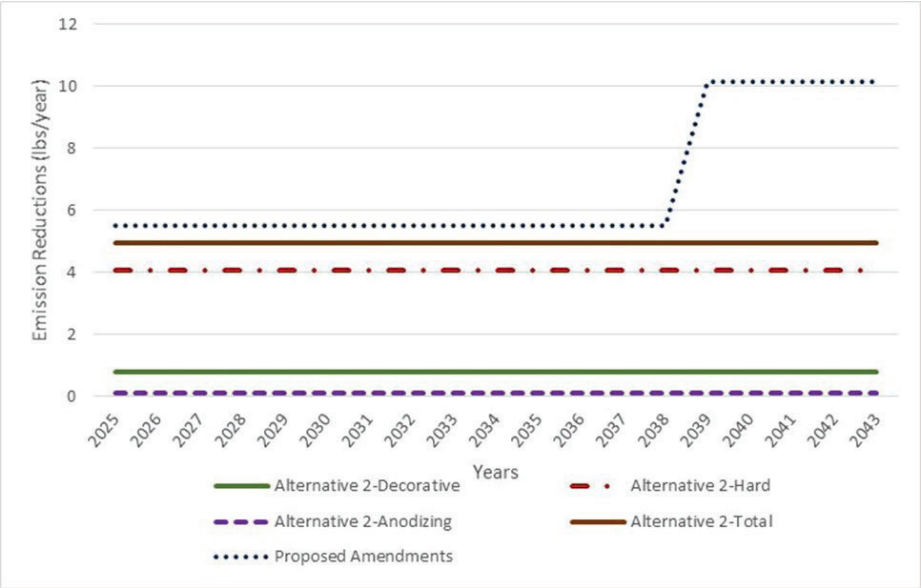
195-3 **Facility Locations** - There is a focus in the documents on environmental justice in AB595 and AB617 communities as justification for the update to the ATCM. However, the provisions provide no relief for facilities who are not located near residential receptors or are willing to relocate within the state to areas not near sensitive receptors. Facilities with cancer risks below 10 in a million (as a function of proximity, amp/hours, and HEPA efficiency) should be encouraged by the rule rather than banned.

Staff and the reports have stated that the concentration is less important than the proximity, but this rule change gives no relief to those facilities that are not located in disadvantaged areas. The proximity issue is repeated in numerous places throughout the reports as justification, with data identifying by percentages the number of facilities near a sensitive receptor or in a disadvantaged area. Notably [but not described in the reports], there exists a remainder of facilities that do not meet the reports' listing criteria, yet the report arbitrarily concludes that all facilities must be banned.

Consideration is given to permanent total enclosures [PTE] in disadvantaged communities in Alternative 2, because capture efficiency for the PTE is estimated to be 100 percent, meaning there is zero emissions. But it is disregarded.

195-4 The following graph is based on the estimated emissions of 10 lbs./year, but it hasn't been updated. If any decisions are made based on the SRIA and it has not been updated with correct [or even the new, faulty] emissions estimates then the process is undermined. If the estimated emissions are less, then the $/lb. of emission reduction changes dramatically.

Figure 6.2 Projected Hexavalent Chromium Emission Reductions under Proposed Amendments and Alternative 2



195-4 The ISOR and SRIA baseline levels of 10.15 pounds per year are the theoretically worst-case possible emissions which could exist without the proposed ATCM. The Board is trying to take credit for the distance in improvements the industry as already made by investing in HEPA controls and underutilizing their permits. Relating the cost per pound associated with the SRIA $688M per 10.15 pounds provides an efficiency factor $67.8 million per pound of emission reduction. Relating the $688 to 0.19, provides an efficiency factor of $3.62 billion per pound cost of emission reduction.

195-5 The proposed bans are predicated on emerging acceptable alternative processes that will favor a ban only, but not on emerging acceptable alternative control technologies. The failure to adequately consider an alternative control technology is self-serving for a conclusion to ban. It is also arbitrary.

195-1 Over the course of the development of the modifications to the ATCM, inaccurate and ever-changing data has been set forth in the documents. This has affected the Board, the press, the public and this rulemaking. It supports a perspective that a decision was already made to impose bans regardless of the facts. It also renders earlier published materials as highly inaccurate and creates a scenario where the original textual information cannot be used to support the original conclusions. The late inclusion of data and some tabular correction does not repair the fundamental changes necessary for the documents to be accurate. A fundamentally flawed record is not substantial evidence, and any decision based upon it would be an abuse of discretion.

195-5 The Board must reconsider its decision to ban decorative hexavalent chromium plating, and instead implement an emissions-based rule for all hexavalent chromium plating applications to ensure that emissions continue to be reduced to protect human health and the environment.

195-6 **Review prior to Ban Date** - While we appreciate the additional time for decorative hexavalent chromium plating, a technology review is needed before the ban in 2030 can be implemented. A technology review should consist of a review by knowledgeable participants which would include an assessment of important criteria.

At the January 27 meeting, Board members expressed concerns that decorative hexavalent chromium platers needed more time before the ban. The underlying rationale for the additional time is that trivalent chromium is still not an option for many critical decorative applications, where customer specifications and demands for product performance require the use of hexavalent chromium processes. A 2030 ban is arbitrary, and without providing a viable alternative to the many applications performed with decorative hexavalent chromium plating. Even with the additional time, there is no guarantee that trivalent chromium decorative plating processes will be available for the applications that prompted the extension to 2030.

Accordingly, we urge the Board to modify, at minimum, the proposed modifications to the ATCM to include a requirement for a technology review to be conducted prior to the 2030 ban date to assess the transition to alternatives and determine if more time is needed to phase out decorative hexavalent chromium plating for all applications. Otherwise, the ban will unnecessarily eliminate decorative plating services for many critical supply chains and high paying California jobs for the employees who work there.

195-7 **Accurate Definition** - The definition of “decorative chrome plating” as modified remains inaccurate. It refers only to “a thin layer of chromium” that is “electrodeposited on a Base Material to provide a bright surface with wear and tarnish resistance.” As the metal finishing industry provided in our enclosed comments to staff following the January 27, 2023 Board meeting, “decorative chrome plating” provides many properties beyond a “bright surface with wear and tarnish resistance.” Decorative applications that require hexavalent chromium processes provide many properties that trivalent chromium cannot, including functionality, corrosion protection to make products last longer, wear resistance and hardness to make products work better, product performance, and health and safety protections.

The Board at the January 27 meeting requested that staff consider revising the definition for products where CrVI provides func-

195-7 tionality, health and safety protection, or compliance with customer specifications. The modified text does not do so, which appears arbitrary.

It is difficult to understand how the Board can rationally ban decorative hexavalent chromium processes when it excludes the breadth of decorative applications that require the use of hexavalent chromium in the definition of "decorative chrome plating." We therefore urge the Board to not only revise the definition of "decorative chrome plating" in the proposed modifications to the ATCM to include these critical properties consistent with the industry's previous comments, but to include additional and necessary evaluation of these critical aspects of decorative hexavalent chromium in the staff report and the economic analysis.

195-5 **Emissions-Based Rule** - At the January 27, 2023 meeting, Board members expressed some fairness concerns that the smallest emitters of hexavalent chromium, decorative platers, are subject to the earliest bans. Given that emissions from decorative plating operations are only a very small percentage of the overall hexavalent chromium emissions from the finishing industry, the environmental and health benefits from banning decorative applications first would be minimal, yet the potential economic harms resulting from facility closures and job losses would be significant. Consistent with our position on hard chrome platers and chromic acid anodizers who are frequently small businesses, we urge an emissions-based rule. A ban is not necessary. The modified text released on March 27 is not responsive to these concerns. It neither identifies nor considers small decorative platers.

In conclusion: We can accomplish more by working together to protect our communities, further reduce emissions, and enable essential jobs to remain in California. We urge the Board to ensure that the updated CrVI ATCM is based on currently available and proven technologies that significantly decrease emissions and does not lead to a ban of these critical processes, strand assets, export plating and their jobs to other states and countries, and significantly increase air emissions.

We remain committed to working with the Board as we have in each of the previous rulemakings addressing hexavalent chromium, to develop an updated rule that protects public health.

Sincerely,

Bobbi Burns

Bobbi Burns, MFANC President, 510-659-8764

Bryan Leiker

Bryan Leiker, MFANC & MFASC Executive Director, 818-207-1021

Vince Noonan

Vince Noonan, MFASC President, 800-227-9242

Jeff Hannapel

Jeff Hannapel, The Policy Group, on behalf of NASF, 202-257-3756

C: Members, California Air Resources Board

Comment 19 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-1.

First Name: James
Last Name: Simonelli
Email Address: james@metalscoalition.com
Affiliation:

Subject: Comments on ATCM (California Metals Coalition)
Comment:

Please see enclosed comments. Thank you.

Attachment: www.arb.ca.gov/lists/com-attach/134-chromeatcm2023-WzgAawFjWVVSNwZp.pdf

Original File Name: CMC_Comments_April11-2023_CARB_ATCM.pdf

Date and Time Comment Was Submitted: 2023-04-11 14:17:43

No Duplicates.

CALIFORNIA METALS COALITION

Main Office and Mailing Address: 2971 Warren Lane, El Dorado Hills, CA 95762
Lobbying Office: 1215 K Street, 17th Floor, Sacramento, CA 95762
P. 916.933.3075 | F. 916.933-3072 | http://www.metalscoalition.com

April 11, 2023

Liane M. Randolph, Chair
California Air Resources Board (CARB)
1001 I Street
Sacramento, CA 95814

cc: Eugene Rubin, Staff Air Pollution Specialist, Toxics Control Section (eugene.rubin@arb.ca.gov)
Clerk's Office Submitted Electronically: https://www.arb.ca.gov/lispub/comm/bclist.php

RE: March 27, 2023, 15-Day Notice for Comments on Public Hearing to Consider the Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations

Dear Chair Randolph:

The California Metals Coalition ("CMC") appreciates the opportunity to comment on the *Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations,* and working groups, led by the California Air Resources Board ("CARB").

SUMMARY

This comment letter addresses the March 27, 2023, 15-Day Notice for the "Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations." It may also reference previous public workshops on this topic.

ABOUT ADVANCED METALS INDUSTRY IN CALIFORNIA:

California metal manufacturers utilize recycled metal (ex: aluminum, brass, iron, steel) to manufacture new metal parts installed in clean energy technologies, electric cars, medical devices, agriculture, infrastructure, aerospace, defense, food processing, movement of water, and millions of other products demanded by Californians.

Statistics about the state's metal sector[1]:

- Metalworking jobs in California pay $80,000/year, on average, in wages and benefits.

[1] www.metalscoalition.com/metals-industry.html

- Metalworking jobs benefit working class communities and continue to be the only path to the middle-class for many disadvantaged Californians.
- The metals industry in California is comprised of approximately 4,000 businesses, most of which are family-owned small businesses.
- The metals industry in California generates over 350,000 total jobs.
- The metals industry in California accounts for $87 billion in total annual economic activity.
- The metals industry in California generates $28 billion in total annual wages.
- The metals industry in California accounts for $8.6 billion in total annual state and federal taxes.

ENVIRONMENTAL BENEFITS OF MANUFACTURING METAL PRODUCTS IN CALIFORNIA:

Californians discard more metal than any other state in the US. In fact, Californians generate enough aluminum scrap each day to build 5 commercial aircrafts. Fortunately, recycled metal is the choice material consumed by California's metals industry.

As metal can be recycled and reused indefinitely without losing its physical properties, metal recycling allows us to preserve the finite resources we have on earth. The Institute of Scrap Recycling Industries (ISRI) reports that recycling one ton of aluminium saves up to 8 tons of bauxite; and recycling one ton of steel conserves 1,115 kg of iron ore, 625kg of coal and 25kg of limestone. In addition, using scrap metal instead of virgin ore generates 97 percent less mining waste and reduces 40% water pollution. In total, the process of recycling discarded metal and manufacturing new metal parts can cut greenhouse gas emissions by 300 million to 500 million tons.

A healthy metals sector also has a big impact on energy conservation. Recycling discarded metal into new metal parts requires drastically less energy than manufacturing new metal parts from virgin material. The estimated yield in energy saving by using recycled metals is: 95% for aluminum; 85% for copper and 75% for iron and steel.

Finally, the environmental footprint of the metal products we all consume starts with manufacturing. Local metal recycling and manufacturing reduces overall emissions as California's metals industry adheres to the world's most stringent environmental standards. Shipping metals out of California—only to have the finished product shipped back into the state—can result in significant localized transportation emissions, as well as increased global greenhouse gas emissions.

COMMENTS ON MARCH 27, 2023, 15-DAY NOTICE

196-1 **Item #1: Confusing Description of No Safe Level of Exposure to Hexavalent Chromium**

In its recent literature CARB states:

> *Why is CARB Concerned about Hexavalent Chromium? In 1986, the California Air Resources Board (CARB) identified hexavalent chromium as a toxic air contaminant (TAC) under California law pursuant to Assembly Bill (AB) 1807 (Tanner, Stats. 1983, Ch. 1047) and Health and Safety Code section 39657. Specifically, the Board identified hexavalent chromium because of its toxicity and potential for exposures to this highly toxic compound. It was identified as a*

196-1

compound that has the potential to cause cancer with no associated threshold for cancer initiation. This means there is no level of emissions below which exposure to hexavalent chromium would be considered safe.

In the latter part of this statement, if CARB is stating that "threshold" means a no safe exposure level, this position is solely based on CARB's pursuit of policy, and not based on current science. More importantly, this statement is very confusing to the reader.

Both the Federal Occupational and Health Administration (Fed-OSHA) and Cal-EPA Office of Environmental Health Hazard Assessment (OEHHA) have a calculated risk factor for inhalation of hexavalent chromium—and neither are at "no level of emissions."

It should also be noted that the highly conservative OEHHA risk factors come from worker Cr6 exposure data that occurred nearly 100 years ago. Workers from chromate plants in the 1930's were exposed to extreme levels of hexavalent chromium that are not seen today in California. This worker data is the basis for OEHHA's health risk analyses.

Overall, CARB should be focusing on the best available data for Cr6 exposures, which is available and currently being studied by experts at Vanderbilt University. Fed-EPA[2], and even OEHHA[3], is seeking input with this better data, so that we can all act on scientific analysis that effectively calculates the health risks associated with hexavalent chromium.

Item #2: Technology Review Prior to the 2030 Proposed Ban.

196-2

The regulated community, and its employees/families, rely on rulemaking agencies to make thorough and informed decisions. Any loss in the livelihood of our small businesses and workforce is not acceptable if the agency does not properly review—and if necessary alter—its decisions.

We urge the Board to modify, at minimum, the proposed modifications to the ATCM to include a requirement for a technology review to be conducted prior to the 2030 ban date to assess the transition to alternatives and determine if more time is needed to phase out decorative hexavalent chromium plating for all applications.

196-3

Item #3: Concepts increase California's warehouse construction and congestion.

The California Metals Coalition (CMC) has members that manufacture parts which require them to utilize chromium electroplating and chromic acid anodizing to satisfy customer specifications. Regardless of whether the finish is required to be decorative, or functional, the metal parts must meet the stated testing, engineering and product specs approved by the customer.

Eliminating local sources of chromium electroplating and/or acid anodizing in California will break a link in California's manufacturing chain.

---

[2] www.metalscoalition.com/uploads/2/4/3/5/24359359/fed_epa_cr6_iris_comments_dec19_2022.pdf
[3] www.oehha.ca.gov/water/public-health-goal/announcement-second-data-call-hexavalent-chromium-public-health-goal-update

196-3 Currently, parts are manufactured and kept at the same facilities prior to finishing. Without a local source of plating in California, keeping up with customer demand may lead to increased use of warehousing as the parts wait for interstate, or international, metal finishing.

California has seen a boom in warehouses, and trucks that carry the products to and from warehouses. This has resulted in an increase in pollution and rulemaking[4] related to warehouse activities. In December 2021, SupplyChainDive published *7 charts show Southern California's warehousing crunch*[5]. According to the article, the increase in warehousing has resulted in "Stakeholders are attempting to provide relief in several ways, such as filling parking lots with drop trailers, (and) securing warehouse space outside port markets."

CMC questions whether CARB staff has considered the overall increase in congested warehousing, or even the increase in trucking/transportation based on its proposals. This analysis should quantify the pollution from localized warehousing, trucks, trains, planes, or ports—which includes hexavalent chromium.

196-4 **Item #4: Concepts further congest statewide truck transportation and truck pollution.**

The maximum total vehicle weight for a commercial truck in California is 80,000 lbs. Of all the different products shipped across the state, metal parts are heavy and can quickly hit the capacity limit of trucks on California's roads. Rules that further the distance of trucks traveling on our roads is a concern to CMC as it impacts local, regional and statewide health.

A metal part that is manufactured in California will see an increased travel route if the part must be shipped out of state for chromium electroplating and chromic acid anodizing—and then back into the state. CMC questions whether CARB staff has considered the overall increase in transportation routes (ex: trucks, train, ships, plans) to get the product out of California—and back into California—rather than utilizing in-state commerce. This comparative analysis should quantify the increased pollution—which includes hexavalent chromium.

It should also be noted that the relationship between a local manufacturer of metal parts, and the local finisher of metal parts, occurs because very often individual parts must first be tested and accepted prior to placing a full order.

Without a local chromium electroplating and/or acid anodizing facility, even 1 or 2 parts that are being cleared for initial approval must travel much longer distances out of California—and then back into California.

196-5 **Item #5: Exhaustive analysis of pollution control technologies.**

The CARB website on "chrome plating ATCM" includes several references to local and national rules. More specifically, the local California air agency South Coast Air Quality Management District (SCAQMD) has completed several rounds of rulemaking in recent years specific to chromium electroplating or acid anodizing.

---

[4] Fighting Toxic Pollution: The Indirect Sources Rule – California Green Zones (calgreenzones.org)
[5] 7 charts show Southern California's warehousing crunch | Supply Chain Dive

196-5 Since SCAQMD is authorized and monitored by CARB it is unclear why SCAQMD rules for chromium electroplating or acid anodizing are not acceptable to CARB and has sparked this rulemaking.

SCAQMD's health agents, air experts, legal, staff and board are heralded as the best local air district team in the United States. CARB staff has not commented on where it disagrees with SCAQMD rulemaking; and if it does disagree with SCAQMD, why it didn't make comments while local rulemaking was being debated by industry, communities, and local government?

CARB staff should specifically analyze the control measures in SCAQMD rules and provide data, analysis, and testing that shows SCAQMD's rules are not effective in protecting public health.

CONCLUSION

196-6 Please take the time to work with local metal manufacturing and local metal platers to find local solutions that allow us to survive locally, address all public health concerns, limit warehousing and truck pollution, and find a balance between productivity and innovation.

Thank you for your time, and for allowing CMC to participate and comment on CARB's *Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations*. Please do not hesitate to contact me with questions: *james@metalscoalition.com*.

Sincerely,

James Simonelli
Executive Director

Comment 20 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-1.

First Name: Charles
Last Name: Pomeroy
Email Address: cpomeroy@stilespomeroy.com
Affiliation: StilesPomeroy LLP

Subject: Letter to CARB Re Chrome Platers Proposed ATCM w Attachments
Comment:

Please see attached communication.

Attachment: www.arb.ca.gov/lists/com-attach/135-chromeatcm2023-AF9UYFFjAn8CMAgm.pdf

Original File Name: (23.4.11) Letter to CARB Re Chrome Platers Proposed ATCM w Att.pdf

Date and Time Comment Was Submitted: 2023-04-11 16:27:53

No Duplicates.

STILESPOMEROY LLP

CHARLES H. POMEROY
CPOMEROY@STILESPOMEROY.COM
PH.: (626) 243-5599

301 E. COLORADO BLVD., STE. 600
PASADENA, CALIFORNIA 91101
FAX: (626) 389-0599

April 11, 2023

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

Hon. Steven S, Cliff, Ph.D.,
Executive Officer
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Public Comments – Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations

Dear Mr. Cliff:

On behalf of our client, the Metal Finishing Associations of California (the Metal Finishing Association of Southern California [MFASC] and Metal Finishing Association of Northern California [MFANC], collectively, the "MFACA"), which operate facilities using hexavalent chromium ("chrome plating facilities"), we provide these comments to the March 27, 2023 *Notice of Public Availability of Modified Text and Availability of Additional Documents and Information* on the *Proposed Amendments to the Airborne Toxic Control Measure [ATCM] for Chromium Electroplating and Chromic Acid Anodizing Operations* (the "Proposed Amendments") (hereinafter the "Supplemental Notice" or "SN").

By necessity, information contained in the Notice shall refer to various portions of the SN including the newly issued emissions inventory replacing the one found at the Initial Statement of Reasons ("ISOR"), Appendix B, Table 1 ("Revised Inventory") as well as portion of the prior record posted November 29, 2022 as the Public Hearing Notice and Related Material for the ATCM (hereinafter the "Notice") as well as the record from the January 26, 2023 public hearing before the California Air Resources Board ("CARB") (the "Hearing") and comments from the public. Collectively, the Notice, Supplemental Notice and Hearing and all prior comments constitute the "Record" to date.

197-1

Issues and Requests

New information published as part of the Supplemental Notice identifies three significant problems with the Proposed Amendments. First, this information demonstrates that actual hexavalent chromium emissions from chrome plating facilities are much lower than previously reported and have not been properly analyzed or corrected throughout the Record. Second, because the newly reported hexavalent chromium emissions from chrome plating facilities are much lower, the Proposed Amendments, if adopted, will increase the existing amount of

197-1 hexavalent chromium emissions in California, endangering public health. Third, the new emissions inventory that replaced a prior version, continues to contain errors and improper assumptions, which lead to confusion and improper conclusions, thereby undermining the accuracy of the information that is the cornerstone of the Proposed Amendments and all their assumptions.

Based upon the foregoing issues that fundamentally affect the legality of the Proposed Amendments as presently prepared, the MFACA respectfully requests that CARB: (1) Withdraw the Proposed Amendments from their presently scheduled hearing; (2) Meet with the MFACA commenting parties to discuss further alternatives to an absolute ban including risk (based on existing local limits) and proximity, in light of the information and issues set forth in this letter; (3) Provide the MFACA commenting parties with all data, including source test information, that CARB has failed to provide to date and (4) Re-do its analyses and justification for the Proposed Amendments based on the corrected/revised emissions data and permit hexavalent chrome plating facilities and other stakeholders a meaningful opportunity to review and provide comments on the revised analysis and justification for the Proposed Amendments.

Background

197-2 To properly frame our comments to the Supplemental Notice, some background information, which is only implied in the Record, needs to be established and stated explicitly concerning the total universe of annual hexavalent chromium emissions in pounds within California. The ISOR (produced within the Notice) describes the statewide annual emissions of hexavalent chromium as being generated by 91% mobile sources, and 9% from non-combustion sources (i.e., stationary sources). ISOR at pages 177, 182. Staff estimates 0.4 percent of the hexavalent chromium emissions from all emission sources originate in chrome plating facilities (and approximately 4% of the 9% non-combustion sources). ISOR at page 182. According to this same ISOR, all chrome plating facilities actually emit 2.2 pounds per year. ISOR at page 188, Table VI.1.

From this presented information in the ISOR, one may determine the universe of annual hexavalent chromium emissions in California to be as follows:

2.2 pounds per year/0.004 [0.4%] = 550 pounds per year

As stated in the ISOR, only 0.4% of all California hexavalent chromium emissions are deemed to originate from chrome plating facilities, meaning the universe of statewide hexavalent chromium emissions total a rather substantial 550 pounds per year.[1]

After completion of the ISOR and following the January 2023 hearing, CARB staff completed the Inventory and issued a new Table VI.1. in the Supplemental Notice. SN, Attachment 2, at page 24. In that new Table VI.1, the actual emissions from all chrome plating

[1] If CARB is applying a higher value to the chrome plating facilities based on *estimated* emissions, then the statewide universe of hexavalent chromium emissions is substantially larger too. For the purpose of this comparison in the ISOR, CARB staff used actual emissions, not hypothetical or potential emissions. If hypothetical emissions (e.g., 10.15 pounds of annual hexavalent chromium emissions) had been used as they were in other parts of the Record, the statewide hexavalent chromium emissions would have increased to over 2,537.5 pounds.

197-2 facilities total 0.19 pounds per year, not 2.2 pounds per year as previously reported. Id. This fundamental change in value, which is now revised to be more than 11 times lower, alters the prior evaluation of emissions explained in detail throughout the ISOR. Specifically, this lower emissions value must now be compared to the known statewide hexavalent chromium emissions (i.e., 550 pounds). The new value of annual hexavalent chromium emissions from chrome plating facilities is no longer 0.4 percent of the total as previously reported in the ISOR but is the following:

0.19 pounds per year/550 pounds per year = 0.00035 [.035%]

Considered another way, the annual emission value for all chrome plating facilities now represents approximately 0.35% of the total non-combustion sources. In other words, the focus of these Proposed Amendments, and their proposed ban, is focused upon a minute fraction of the total statewide emissions of hexavalent chromium, whether this fraction be considered for the total emissions or just emissions from non-combustion sources.

What is probably more troubling about this new information found in the Supplemental Notice is the failure to re-evaluate and correct the entire Record to reflect this fundamental change that alters every understanding of the risk and exposure found in the Record, from the original ISOR and subsequent CARB staff testimony, to the California Environmental Quality Assessment ("CEQA") determinations and the Standardized Regulatory Impact Assessment ("SRIA") evaluation. Without a complete and thorough re-evaluation and correction, it is impossible for the CARB decisionmakers to make a knowledgeable determination and decision on the Proposed Amendments. Any subsequent court action for abuse of discretion under a "substantial evidence" standard would by necessity consider this fundamental change carefully when reviewing a fatally flawed record.

This new emissions inventory and actual emissions are significant to the Record and require a re-evaluation of every aspect that has been prepared, including the assumptions that underlie the need for a ban of chrome plating facilities. These assumptions can be summarized with a pair of quotes from the ISOR:

> It [hexavalent chromium] was identified as a compound that has the potential to cause cancer with no associated threshold for cancer initiation. This means there is no level of emissions below which exposure to hexavalent chromium would be safe.
>
> …
>
> Due to the high toxicity level of hexavalent chromium, the health impacts of exposure to hexavalent chromium, the proximity of chrome plating facilities to sensitive receptors and disadvantaged communities, and following extensive evaluation of air monitoring data, a zero emission level is necessary to prevent an endangerment of public health. ISOR at pages 1-2, and 5.

As noted below, the first statement above is inconsistent with CARB's own posted information. Supra, at page 6. Concerning the second statement, each point can be considered and refuted based upon the new emission inventory (SN, Attachment 2, Table 1 at pages 3-22), revised Table VI.1 (SN, Attachment 2, Table VI.1) and further information produced in the Supplemental Notice. For the reason sets forth herein, a zero-emission level is neither necessary, nor warranted.

Statutory Framework

197-3

Health & Safety Code Chapter 3.5, Toxic Air Contaminants (H&S Code Sections 39650-39675) establish the basis to prepare the Proposed Amendments and provide mechanisms to consider various aspects of toxic air contaminants. Section 39666 provides the two mechanisms to consider toxic air contaminants based on whether (or not) the substance has a threshold exposure level. It provides in relevant part as follows:

> (b) For toxic air contaminants for which the state board has determined, pursuant to Section 39662, that there is a threshold exposure level below which no significant adverse health effects are anticipated, the airborne toxic control measure shall be designed, in consideration of the factors specified in subdivision (b) of Section 39665, to reduce emissions sufficiently so that the source will not result in, or contribute to, ambient levels at or in excess of the level which may cause or contribute to adverse health effects as that level is estimated pursuant to subdivision (c) of Section 39660.
>
> (c) For toxic air contaminants for which the state board has not specified a threshold exposure level pursuant to Section 39662, the airborne toxic control measure shall be designed, in consideration of the factors specified in subdivision (b) of Section 39665, to reduce emissions to the lowest level achievable through application of best available control technology or a more effective control method, unless the state board or a district board determines, based on an assessment of risk, that an alternative level of emission reduction is adequate or necessary to prevent an endangerment of public health.

Section 39655 provides the criteria for the "appropriate degree of regulation for each substance" and states in relevant part:

> (a) Following adoption of the determinations pursuant to Section 39662, the executive officer of the state board shall, with the participation of the districts, and in consultation with affected sources and the interested public, prepare a report on the need and appropriate degree of regulation for each substance which the state board has determined to be a toxic air contaminant.
>
> (b) The report shall address all of the following issues, to the extent data can reasonably be made available:
>
> (1) The rate and extent of present and anticipated future emissions, the estimated levels of human exposure, and the risks associated with those levels.
>
> (2) The stability, persistence, transformation products, dispersion potential, and other physical and chemical characteristics of the substance when present in the ambient air.
>
> (3) The categories, numbers, and relative contribution of present or anticipated sources of the substance, including mobile, industrial, agricultural, and natural sources.
>
> (4) The availability and technological feasibility of airborne toxic control measures to reduce or eliminate emissions, the anticipated effect of airborne toxic control measures on levels of exposure, and the degree to which proposed airborne toxic control measures are compatible with, or applicable to, recent technological improvements or other actions which emitting sources have implemented or taken in the recent past to reduce emissions.
>
> (5) The approximate cost of each airborne toxic control measure, the magnitude of risks posed by the substances as reflected by the amount of emissions from the source or

197-3

> category of sources, and the reduction in risk which can be attributed to each airborne toxic control measure.
>
> (6) The availability, suitability, and relative efficacy of substitute compounds of a less hazardous nature.
>
> (7) The potential adverse health, safety, or environmental impacts that may occur as a result of implementation of an airborne toxic control measure.
>
> (8) The basis for the finding required by paragraph (3) of subdivision (b) of Section 39658, if applicable.

Of note in Section 39665, the regulation is directed at the substance, not the industry, and must be based upon the numbers and relative contributions from all sources. Id at (a) and (b)(3). From these statutory directions one must more carefully consider the 550 pounds of California statewide hexavalent chromium emissions, especially when attempting to compare them to the new information derived from revised Table VI.1 that show actual hexavalent chromium emissions from chromium plating facilities are limited to 0.19 pound per year.

Section 39660 [Health effects; Submission to state board], provides an additional mechanism by which to determine whether the toxic air contaminant should be considered for an ATCM per Sections 39666(b) or 39666(c) by coordination with the Office of Environmental Health Hazard Assessment (OEHHA).[2] It states in relevant part:

> (a) Upon the request of the state board, the office, in consultation with and with the participation of the state board, shall evaluate the health effects of and prepare recommendations regarding substances, other than pesticides in their pesticidal use, which may be or are emitted into the ambient air of California and that may be determined to be toxic air contaminants.
>
> (b) In conducting this evaluation, the office shall consider all available scientific data, including, but not limited to, relevant data provided by the state board, the State Department of Health Services, the Occupational Safety and Health Division of the Department of Industrial Relations, the Department of Pesticide Regulation, international and federal health agencies, private industry, academic researchers, and public health and environmental organizations. The evaluation shall be performed using current principles, practices, and methods used by public health professionals who are experienced practitioners in the fields of epidemiology, human health effects assessment, risk assessment, and toxicity.

---

[2] OEHHA mission is to be California's leading scientific organization for evaluating risks to human and ecological health. OEHHA's goals as a governmental agency include: (1) Improving the quality of the public's health and the environment; (2) Advancing the science for the evaluation of risks posed to the public health and environment, and (3) Providing risk assessment leadership for the State of California.

197-3

(c)(1) The evaluation shall assess the availability and quality of data on health effects, including potency, mode of action, and other relevant biological factors, of the substance, and shall, to the extent that information is available, assess all of the following:

(A) Exposure patterns among infants and children that are likely to result in disproportionately high exposure to ambient air pollutants in comparison to the general population.

(B) Special susceptibility of infants and children to ambient air pollutants in comparison to the general population.

(C) The effects on infants and children of exposure to toxic air contaminants and other substances that have a common mechanism of toxicity.

(D) The interaction of multiple air pollutants on infants and children, including the interaction between criteria air pollutants and toxic air contaminants.

(2) The evaluation shall also contain an estimate of the levels of exposure that may cause or contribute to adverse health effects. If it can be established that a threshold of adverse health effects exists, the estimate shall include both of the following factors:

(A) The exposure level below which no adverse health effects are anticipated.

(B) An ample margin of safety that accounts for the variable effects that heterogeneous human populations exposed to the substance under evaluation may experience, the uncertainties associated with the applicability of the data to human beings, and the completeness and quality of the information available on potential human exposure to the substance. In cases in which there is no threshold of significant adverse health effects, the office shall determine the range of risk to humans resulting from current or anticipated exposure to the substance.

(3) The scientific basis or scientific portion of the method used by the office to assess the factors set forth in this subdivision shall be reviewed in a manner consistent with this chapter by the Scientific Review Panel on Toxic Air Contaminants established pursuant to Article 5 (commencing with Section 39670). Any person may submit any information for consideration by the panel, which may receive oral testimony.

(d) The office shall submit its written evaluation and recommendations to the state board within 90 days after receiving the request of the state board pursuant to subdivision (a). … .

Based upon the Record, it does not appear OEHHA was consulted on any specific issues relevant to this Record, nor were other hexavalent chromium emission and risk values previously determined by OEHHA factored into any evaluation in the Record.

A determination on substances is also a consideration of Section 39660 and CARB has a webpage describing information on certain substances as follows:

197-3

> [CARB] has found there to be a threshold exposure level below which no significant adverse health effects are anticipated from exposure to the identified substance, that level is specified as the threshold determination. If [CARB] has found there to be no threshold exposure level below which no significant adverse health effects are anticipated from exposure to the identified substance, a determination of "no threshold" is specified. If [CARB] has found that there is not sufficient available scientific evidence to support the identification of a threshold exposure level, the "Threshold" column specifies "None identified."
>
> https://ww2.arb.ca.gov/resources/documents/carb-identified-toxic-air-contaminants
>
> (Emphasis added).

CARB has identified 21 substances, including hexavalent chromium, at the referenced website above. None of these 21 substances is designated as having "no threshold," meaning that a "zero" threshold for exposure has not been established for these substances. In other words, none of these chemicals would be unsafe at any value.

Instead, "no determination" on chemical carcinogenicity has yet been identified, meaning that CARB has no conclusive information to establish a zero or higher threshold at this time. While this categorical distinction might appear subtle, it is relevant to the Proposed Amendments that have concluded that a ban (i.e., zero exposure) is the only solution for hexavalent chromium from chrome plating facilities only. Such a ban makes little sense because a "no threshold" standard has not been established by CARB.

No other industry is banned by the Proposed Amendments. All other existing hexavalent chromium sources wherever located will continue to be regulated in the same manner.

More appropriately, and consistent with the ongoing statutory approach allowed by CARB and followed by the local air districts, when considering a "no determination" threshold for any chemical, risk evaluation, an area clearly occupied by OEHHA, should be considered for all hexavalent chromium uses, including chrome plating facilities.

The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (Health & Safety Code Section 44300-44394) ("Hot Spots") provides an additional mechanism for CARB to coordinate with OEHHA. Under Hot Spots, OEHHA has prepared, as part of its Technical Support Document for Cancer Potency Factors, an "Appendix A: Hot Spots Unit Risk and Cancer Potency Values, updated April 2023) ("OEHHA Update")." The unit risk as set forth in the ISOR of 1.5 x 10-1 (micrograms/m3)-1 is also listed in the OEHHA Update. See ISOR, Table ES.1 at page 2. It is not a zero value; instead, it is a number by which risk can be assessed.

Hot Spots also evaluates what is ultimately determined by the local air agency to be a "significant health risk." In the instance of one agency, as an example, a significant health risk is based on the Maximum Individual Cancer Risk ("MICR") exceeding ten excess cancer cases per one million assuming a 70-year continuous exposure.[3] See https://avaqmd.ca.gov/files/e6073cf25/Air+Toxics+Public+Notification+Guidelines.pdf at page

[3] Such a value is consistent with California's "Proposition 65" (Health & Safety Code Sections 25249.5 et seq.), for which OEHHA is also involved. Under that law, an acceptable "no significant risk" exposure for hexavalent chromium is 0.001 micrograms per day. See Title 27 CCR Section 25705(b)(1). It is a number greater than zero and is based directly on proximity.

197-3 3. See also, https://www.mdaqmd.ca.gov/home/showpublisheddocument/584/636305695929370000 (significant health risk is a MICR of 100 excess cancer cases per million).

Of especial import, because of the many chrome plating facilities located in the South Coast Air Quality District (SCAQMD), is SCAQMD's Rule 1402 that applies to existing stationary sources of toxic air contaminants, including hexavalent chromium. Under that Rule 1402, a "significant health risk" is described for a MICR of 100 excess cancer cases per million. Id at (c)(19). Other threshold values are also applicable, including a MICR of 25 for an action risk level ((c)(2)) that facilities must attempt to achieve, and a MICR of 10 for a notification risk level ((c)(12)) that triggers the preparation of a report under Hot Spots.[4]

Thus, when considering the statutes as implemented, there is nothing mandating a ban on any substances or industry if it can comply with the relevant risk standards set forth in existing law. Based upon the Proposed Amendments if approved, CARB is selectively banning a single industry while potentially allowing all other industries and uses of hexavalent chromium wherever located that may have higher risk and be more harmful. Any action to ban an industry without effective consideration of these standards appears arbitrary and, further, is not supported by actual emissions information as set forth in revised Table VI.1. Something quite notable in its omission from the Record is the lack of risk evaluation prepared based on the actual emission information at each source. That deficiency will be discussed further herein, infra.

The SRIA Evaluation Must Be Altered and Is Presently Irreconcilable

197-4 The SRIA document evaluates the costs associated with the adoption of the Proposed Amendments as originally prepared in the Notice. The SN provides some update to the costs within its text. See SN, generally at Attachment 2. The SN does not re-evaluate the costs by considering actual emissions being reduced to 0.19 pounds per year as provided in revised Table VI.1. See SRIA, Table 2.1, section 2.1 at pages-22-23.

The SRIA was originally prepared by calculating the removal of all potential (not actual) hexavalent chromium emissions from chrome plating facilities over a twenty-year period assuming an artificial and worst-case default rate established over 16 years ago (2007). These calculations, which apply two hypothetical and unrealistic variables, found a reduction of 132 pounds of hexavalent chromium derived from unrealistic assumptions found in the ISOR. See SRIA, pages 1 and 23, Table 2.3. These values appear to be derived from Table VI.1 (at column 2), the column associated with 2007 ATCM limits.[5]

The SRIA improperly evaluated hypothetical unrealistic information that has never actually existed in practice, applying pure assumptions, not actual, factually determined use and

---

197-3 [4] In addition to the standard set forth in Proposition 65 and within Hot Spots, OEHHA has incorporated risk values for inhaled hexavalent chromium as part of its review of hexavalent chromium in drinking water. See, *Public Health Goals for Chemical in Drinking Water, Hexavalent Chromium, July 2011.*

197-4 [5] Notably, this Column 2 dramatically conflates the actual emissions by taking higher hypothetical default 2007 ATCM limits, then multiplying this artificially high number with potential (not actual) throughput. For comparison, Column 3 applies one actual number (real 2019 throughput) and Column 4 applies real data, i.e., actual 2019 throughput and actual 2019 emissions.

197-4 emissions. With this sleight of hand, the otherwise significant revisions for Table VI.1 as a whole might be ignored.

The revised Table VI.1, Column 2 finds little change in the hypothetical assumptions (a 0.01-pound total reduction, reducing the final amount of emissions over twenty years by 0.08 pounds from 132.37 pounds to 132.29 pounds). However, the change to actual emissions is dramatic. For column 4, when calculated as provided in the SRIA, the actual hexavalent chromium emissions over twenty years would result in only a 3.1 pound reduction over these same twenty years. See Attachment 1 (SRIA Table 2.3 (revised) for column 3 and column 4 emissions reduced).[6]

The reason that hypothetical numbers cannot be used (and especially not multiplied together) in the SRIA evaluation becomes quite apparent when comparing a *hypothetical* 132.3-pound reduction versus an *actual* 3.1-pound reduction. The scale of difference between 132.3 and 3.1, is a factor of 42.68 times.[7]

The overall SRIA evaluation of emissions is troubling when looking back to the mandate of Health & Safety Code Section 39665(b), which directs the information to consider to be based upon (1) the rate of present emissions (not hypothetical emissions), and (5) the approximate cost of the [Proposed Amendments] as reflected by the amount of emissions (not hypothetical emissions) from the category of sources. Id at (b)(1) and (b)(5). With the introduction to actual emissions reported in the revised Table VI.1, this error in the record should be corrected.

The cost-effectiveness of the Proposed Amendments is part of the evaluation of the SRIA. When applying 132.1 pounds to the total assumed cost of $585,919,503,[8] the cost savings is valued at $4,426,377 per hexavalent chromium pound reduced. See SRIA, Table 6.7. While this numeric value appears high at first blush, it pales to the higher costs per pound once considering actual throughput and actual emissions of 3.1 pounds over twenty years using the data from revised Table VI.1. As applied with the same SRIA formula to column 4 data, the cost-effectiveness increases to $189,006,291 per hexavalent chromium pound reduced![9]

The SRIA fails to evaluate the costs and benefits by reflecting on the inherent exposure caused by the existing baseline of hexavalent chromium within California, i.e., 550 pounds of annual emissions. Moreover, the costs and benefits do not reflect on the existence of ambient hexavalent chromium throughout the state.

The SRIA imposes a pre-ordained benefit resulting from the removal of potential emissions that never existed. It couples that inflation with a failure to observe pre-existing

---

[6] Column 3, which is inflated by one variable (using the 2007 ATCM default emission rate), would still find total hexavalent chromium emissions saved over twenty years reduced to 35.12 pounds.

[7] Another way to consider this information is by observing that permitted use vastly exceeds actual use, and that 2007 ATCM regulatory limits are vastly higher than actual emission results 16 years later based on advances in control technology and imposition of more stringent limits at the local (District) level.

[8] This figure assumes CARB's cost estimates were correct, but they are more likely substantially under-estimated.

[9] $585,919,503 / 3.1 pounds.

197-4 conditions that already expose the average California residents to some amount of hexavalent chromium exceeding the one in one million risk threshold. See General Health Impact, supra.

General Health Impact of Hexavalent Chromium in California

197-5 According to EPA's Integrated Risk Information System ("IRIS"), the average mean rate of hexavalent chromium present in the ambient air is 0.037 nanograms per cubic meter, with a maximum of 0.5 nanograms per cubic meter. See EPA, IRIS, Toxicological Review of Hexavalent Chromium, June 2022, Table 1-2 at page 1-9. These described values exceed the EPA Regional Screening Levels for hexavalent chromium in residential air, which provides a one in one million excess cancer risk of 1.2 x 10-5 micrograms per cubic meter (i.e., 0.012 nanograms per cubic meter).[10] See https://semspub.epa.gov/work/HQ/403640.pdf at page 2 of 10.

The benefits of a reduction of 0.19 pounds per year hexavalent chromium should be compared against 550 pounds throughout the state. If the average mean rate of hexavalent chromium in the environment is used, then the reduction is negligible (a reduction of 0.00035 from an average mean of 0.037, or 0.0000128 nanograms per cubic meter). While such a comparison may not reflect real-world conditions, it does demonstrate the minimal overall health impact the removal of 0.19 pounds of actual hexavalent chromium emission would cause to the state as a whole.

SB 535 requires the California Environmental Protection Agency (CalEPA) to identify disadvantaged communities for investment opportunities based on geographic, socioeconomic, public health, and environmental hazard criteria. To implement this statute, the CalEnviroScreen 4.0 tool identifies disadvantaged communities as those that receive scores of 75 percent to 100 percent. Unlike AB 617, the statute does not require further action against any facility located in its boundaries.[11] Only AB 617 should be considered for any evaluation in the Record since only it requires local air districts and the state Air Resources Board to reduce air pollution in these most impacted communities.[12]

CEQA

197-6 CEQA requires that CARB have prepared a document to determine whether a project is a discretionary action. See generally, Public Resources Code Sections 21000 et seq.; Title 14 CCR Sections 15000 et seq (the "CEQA Guidelines"). The statute and the CEQA Guidelines provide a framework for agencies to tier from a "program" EIR prepared for a program, plan, policy, or ordinance (PRC Sections 21093, 21094; CEQA Guidelines Sections 15168, 15152). The program EIR will cover "general matters and environmental effects" for the overarching

---

197-5 [10] A simple linear evaluation of the average mean amount of ambient hexavalent chromium in the air to the one in one million risk level produces the following 0.37 / 0.12 = 3 excess cancer cases per million for hexavalent chromium in the ambient air. As discussed in the CEQA section in this letter, supra, this ambient level (and the cancer risk) will increase should the Proposed Amendments be approved.

[11] The removal of chrome plating facilities within those communities represents the opposite of an investment into the community since it takes high-paying jobs away from the area.

[12] Of 47 MFACA members evaluated, only 18 of 47 (38%) are located in an AB 617 area.

197-6 program, plan, policy, or ordinance, and the agency will prepare "narrower or site-specific [EIRs] which incorporate by reference the discussion" in the program EIR (PRC Section 21068.5). The document may also take the form of an Environmental Assessment ("EA"), as it did in this Record.

The data reported in revised Table VI.1. identifies the latest compiled information of actual annual emissions of hexavalent chromium from chrome plating facilities equaling 0.19 pounds, which when converted to grams (453.6 grams per pound) amounts to 86.2 grams for the entire state. As discussed herein, infra, the total universe of hexavalent chromium emissions in California is 550 pounds annually (i.e., 249,480 grams).

The EA describes the increase of transportation resulting from the ban of hexavalent chromium use by chrome plating facilities.[13] There is a general discussion about diesel particulate material ("DPM") emissions and a conclusion that this impact is significant and cannot be mitigated for construction purposes. CITE

It is well known and recognized that DPM, along with brake dust and tire wear from trucks used in intrastate and interstate commerce all contribute hexavalent chromium into the California environment. A prior document produced for CARB staff for consideration in these Proposed Amendments identified the amount of hexavalent chromium emissions that would be attributed to a single roundtrip in a diesel-equipped truck (at 7.5 miles per gallon) to the nearest out-of-state location (from Los Angeles), Mojave Valley, AZ (260 total miles one way).[14] That total is 3.14 grams of hexavalent chromium emitted for the one roundtrip. While a single trip is not consequential, many of the same roundtrips trips (only about 28 or more) would result in hexavalent chromium emissions ***increasing*** in the state as a result of the proposed action! For purposes of this simplified assessment, known sources of DPM criteria for toxic air contaminants were identified from public agency records at the SCAQMD.

The following calculation provides the number of miles necessary for the hexavalent chromium emissions annually from trucking mobile sources only to exceed the actual amount emitted by all chrome plating facilities in the state:

86,200 mg * 0.006048 mg hexavalent chromium /mile[15] = 14,253 miles

If just one excess trip is made daily due to the Proposed Amendments, the amount of annual hexavalent chromium emissions increases in California as follows:

(3,140 mg/trip x 365 days) – 86,200 mg (all chrome plating activities) = 1,146,100 mg – 86,200 mg = 1,059,900 mg / 1,000 mg/g / 453.6 g/lb = 2.337 pounds increase of hexavalent chromium in California

---

[13] The EA suggests that there is an as yet undetermined amount of transportation occurring presently as a result of hexavalent chromium plating activities. EA at page 19. While there may be a minimal amount, the principal reason for the concentration of these chrome plating facilities in California is the close distance to their customers in various manufacturing industries.

[14] Attachment 3 - Increased Hexavalent Chromium Emissions from Mobile Sources. The information is based upon DPM only, not brake and tire wear. Supporting agency weblinks are found within Attachment 3.

[15] See Attachment 3.

197-6 The number of miles identified as needing to occur (14,253 miles) is dramatically lower than what would otherwise transpire with the loss of hexavalent chromium plated parts in California, which, as the CEQA document acknowledges, represents an issue that will increase transportation. EA at page 10.[16] The increase in mileage will also result in *increases* statewide of emissions for many other toxic air contaminants including, benzene, formaldehyde, arsenic, cadmium and nickel, among others. None of the increases of these toxic air contaminants nor their cumulative detriment to the state was considered in the EA.

The EA is based entirely is upon the following assumption: "the Proposed Amendments are meant to reduce toxic air emissions associated with hexavalent chromium." EA at page102. If the newly described actual emissions of 0.19 pounds per year are equitably compared with the increases in transportation use (and their concurrent and substantial increase in hexavalent chromium emissions) that will directly flow from the Proposed Amendments, then the EA evaluation is wrong at its core.

The CEQA document does not analyze the direct increase of hexavalent chromium emissions across the state. It merely notes air quality impacts for construction, but not for transport. For Air Quality, the EA concludes: "Therefore, the Proposed Amendments would result in a cumulatively beneficial contribution to reducing air toxic emissions during operations." EA at page 90.

The EA fails to discuss the ambient hexavalent chromium conditions throughout the state and the relative health exposure resulting from these ambient conditions. See discussion in this letter, infra. It does not account for the increase in hexavalent chromium emissions resulting from the increased transportation that will necessarily result from the increased truck and rail traffic. It also does not account for increases in fuel, brake and tire emissions at California's ports that may result from the increased importation of hexavalent chromium parts.[17]

The cumulative detrimental contribution of hexavalent chromium that will result, if the Proposed Amendments are adopted, could be avoided by an alternative that was not considered in the EA. That alternative would allow the continued operation of chrome plating facilities in California, which would provide a cumulatively beneficial contribution to statewide hexavalent chromium emissions by reducing the amount of truck and rail traffic. The failure to properly consider such a reasonable and obvious alternative is a further defect in the EA.

Proximity

197-7 The revised emissions values found in revised Table VI.1 go directly to another point of concern; specifically, the issue of proximity of these emissions. If assumptions on exposure are

197-6 [16] The EA also references the use of trains trips. For simplicity purposes, the comment herein has focused on truck trips; however, train trips will also result in the additional emission of hexavalent chromium, which was not evaluated in the EA.

[17] As the Proposed Amendments note, 91% of the hexavalent chromium emissions in the state are from mobile sources that would include interstate transportation, which is outside the state's ability to directly regulate. As discussed herein, emissions from these same and (significantly greater) hexavalent chromium mobile sources will increase further with the ban of chrome plating facilities.

197-7 based upon the potential emissions as opposed to the actual emissions, then the assumptions on risk are erroneous as they dramatically overstate the actual risk.

Taken one step further, the ISOR takes pains to identify the percentage of facilities that are close (in staff's view) to schools and sensitive receptors. There is much said in the Record about the percentages of chrome plating facilities located near these receptors, as well as being generally in locations identified per AB 617.[18] The resultant conclusion, and the Proposed Amendments proposal is to ban all chrome plating facilities.

What is lost in this rush to a complete ban is both an evaluation of the lower emissions of revised Table VI.1 at all locations, and equally important, a further consideration of the chrome plating facilities that do not trigger any of the sensitivities noted by CARB staff. The Record does not conclude that 100% of the facilities are exposing anyone, let alone a sensitive receptor or disadvantaged community. The idea of an absolute ban that makes no consideration for facilities that, by the Proposed Amendment's own evaluation, are not causing any risk to the public, seems arbitrary and beyond the basis of substantial evidence.

Actual Risk and the Non-Existent Facility

The ISOR identified a serious concern reflecting the proximity of a major hexavalent emission source to a sensitive receptor. Specifically, the ISOR states:

> Figure V.2., below, summarizes the progressive reductions of potential individual resident cancer risks from the 2019 baseline to year 2039, under the Proposed Amendments. The estimated cancer risks associated with emissions of hexavalent chromium are calculated at near-source receptors downwind from the edge of facility building. In 2019, the potential cancer risk from large functional platers is estimated at about 213 chances per million… . ISOR at page 174.

CARB staff reported to the MFACA in December 2022 that the emission inventory in Appendix B was incorrect and that it would be amended. The amended emission inventory was posted along with the proposed rule modifications that are subject to the SN. See SN, Attachment 2, Table 1, pages 3-22. At the time of the January 2023 hearing, no one, including the Board, was able to effectively evaluate actual emissions because there was no correct emissions inventory.

A further evaluation of 42 MFACA member chrome plating facilities, including the largest by amp-hours, was made based on known proximities to the nearest sensitive receptors at each of these locations.[19] Once the math is applied to these facilities, none of them are remotely close to the 213 in one million cancer risk asserted in the ISOR, even assuming the default 2007 ATCM emission rate. Despite having an amended emission inventory, the Record has not been corrected to reflect the changes that would result from that information including the dramatic decrease in actual risk.

As stated, 42 facilities (37% of the total universe of 113 facilities at issue) were evaluated by considering the total amp-hours used, the distance to a receptor, the default 2007 ATCM rate

[18] See footnote 11, supra.
[19] See Attachment 4 - Facility-Specific Risks and Proximity for Actual Hexavalent Chromium Usage

197-7 and the actual or assumed actual tested emission rate at the facility. When applying the 2007 ATCM default emission rate, the worst-case exposure resulted in a 155 in a million exposure, a value significantly less than 213, but also purely a hypothetical result. However, once actual emissions were determined from source test results, the worst-case exposure level for 39 of 42 facilities was less than one in one million.[20] The three remaining facilities would have results of 1.24, 1.93 and 4.54 excess risks per one million at the nearest receptor, respectively, all below the generally accepted triggering value of ten excess risks per one million.[21] Thus, all evaluated facilities have risk values that comport with California's Air Toxics Hot Spots requirements and SCAQMD standards for toxic air contaminants.

The SN includes the corrected emission inventory but fails to correct the Record on this egregious error. This fact is a critical one for the public and, due to the enormous size of the risk, it has become a primary focal point that not only affects the public but has been broadcast in the media. Because the Record lacks any of the corrected information within it, decisionmakers are affected by the erroneous information and are without the substantial evidence needed to make an unbiased and impartial decision.

Alternatives for Proposed Amendments

197-8 As stated in ISOR at page 222:

> Government Code section 11346.2, subdivision (b)(4) requires CARB to consider and evaluate reasonable alternatives to the proposed regulatory action and provide reasons for rejecting those alternatives. This section discusses alternatives evaluated and provides reasons why these alternatives were not included in the proposal. As explained below, no alternative proposed was found to be less burdensome and equally effective in achieving the purposes of the regulation in a manner than ensures full compliance with the authorizing law. (Emphasis added).

As discussed previously, the purpose of the regulation is "to reduce the emissions to the lowest level achievable through application of available control technology **or** a more effective control method, **unless** the state board or a district board determines, based on an assessment of risk, that an alternative level of emission reduction is adequate or necessary to prevent an endangerment of public health." Emphasis added. The latter portion of the section appears to be the one CARB is seeking to apply since the Record states the zero threshold is necessary due to the endangerment of public health. This conclusion flies in the face of the information provided in revised Table VI.1 concerning the total of actual hexavalent emissions being only 0.19 pounds per year and the known (but otherwise unanalyzed in the Record) lessened risk associated with

---

197-7 [20] Cf. the EPA IRIS ambient air excess cancer risk from hexavalent chromium of three in one million discussed, supra.

[21] Notably, the facility with the highest amount of amp-hrs and the highest assumed risk, dropped to a risk of 1.24 in one million once actual information was applied. The actual source test data found the tested facility emission rate to be 0.000012 mg/amp-hr (and lower). **Thus, a 213 hypothetical excess cancer risk is now a 1.24 actual excess cancer risk, a value which is below existing ambient hexavalent chromium levels!**

197-8 this lower amount. The public endangerment finding requires and must be based upon an assessment of risk, particularly if the toxic air contaminant is designated as "no determination versus "no threshold". That risk assessment appears in this letter and finds that public endangerment does not exist, and that all the facilities would meet existing requirements for risk in their respective local air districts. The SN does not contain any form of updated risk assessment necessary to support the public endangerment finding.

If CARB has not updated its risk assessment, the statute provides an alternative solution. The purpose of the regulation can be met by either the use of available control technology **or** a more effective control method. Because this statutory choice is discretionary, CARB is not mandated to institute a ban and will still be able to achieve the purposes of the regulation in a manner than ensures full compliance with the authorizing law. CARB may decide to apply available control technology, especially in light of the new emission inventory information and the significantly reduced actual emissions reported in Table VI.1. Thus, the alternatives can be viewed both as less burdensome and equally effective with the purposes of the authorizing law.

Government Code Section 11346.2(b)(4) provides the requirements for alternatives:

> (4)(A) A description of reasonable alternatives to the regulation and the agency's reasons for rejecting those alternatives. Reasonable alternatives to be considered include, but are not limited to, alternatives that are proposed as less burdensome and equally effective in achieving the purposes of the regulation in a manner that ensures full compliance with the authorizing statute or other law being implemented or made specific by the proposed regulation. In the case of a regulation that would mandate the use of specific technologies or equipment or prescribe specific actions or procedures, the imposition of performance standards shall be considered as an alternative.
> (B) A description of reasonable alternatives to the regulation that would lessen any adverse impact on small business and the agency's reasons for rejecting those alternatives.
> (C) Notwithstanding subparagraph (A) or (B), an agency is not required to artificially construct alternatives or describe unreasonable alternatives.

The ISOR takes pains to identify multiple times concerns about proximity, sensitive receptors and disadvantaged communities. Through these continuous assertions, it *indirectly* acknowledges: (1) there is a distance at which exposure is effectively "zero", and (2) that some percentage less than 100% is not near a sensitive receptor or in a disadvantaged community. See ISOR, Figure V.1 at page 174 [zero at 500 meters]; and page 3 [9% within 300 meters of schools (i.e., 91% are not) and 14% within AB 617 communities (i.e., 86% are not)].

An alternative based upon proximity should have been automatic, and cannot be considered an artificially constructed alternative, or otherwise unreasonable. Such a reasonable alternative would have lessened any adverse impact on small businesses. The evaluation could have identified a sufficient distance, appropriate technology and allowed for no future prohibition on new facilities if the requirements were met.

197-8 Instead, the ISOR discussed three alternatives: (1) Short Phase Out and (2) No Phase Out and (3) Extended Phase Out. See ISOR, Section X (page 222 et al). These alternatives were based upon the original assumptions found in the ISOR and not based upon the updated emission inventory and lower actual emissions as found in revised Table VI.1. This new information requires these alternatives be re-evaluated; however, no discussion on revised alternatives exists in the SN, and the Record presently contains the original analysis in the ISOR only, which lacks the new information. As discussed above, the reduced actual risk overall, coupled with the existence of facilities that are not near sensitive receptors or in disadvantaged communities, strongly suggests that existing alternatives must be re-evaluated. Because the emissions values have dramatically decreased under Table VI.1., the subsequent evaluation of risk derived from that information finds that existing risk based upon proximity is likely to be acceptable under present statutory guidelines. Nevertheless, an alternative evaluation should be reconsidered, particularly for the No Phase Out alternative, in light of additional control technologies that could further reduce risk including the zero-emission alternative of Permanent Total Enclosures.

An additional alternative based solely on risk and proximity should also be considered. Without this new emissions inventory, such a consideration would not have been possible; however, given the new information and the apparent need to consider risk, rather than a zero threshold, based upon a proper reading of the statutes, the failure to include and consider such an alternative represents an abuse of discretion.[22]

Errors in the New Emissions Inventory

197-9 The SN provides an amended emissions inventory (ISOR, Appendix B, revised Table 1) as well as a summary of that information at Table VI.1. Much of the issues set forth in this letter consider the significant downward revision of actual emissions from 2.2 pounds per year to 0.19 pounds per year. A further review of the detailed data, however, finds that the new information is also incorrect.

We note the amended emissions inventory includes at least one calculation where a value appears to have been incorrectly included as 0.0000588 as opposed to 0.000588. Cf. SN, Attachment 2, Table 1 at pages 17-22, Average Source Tested Emission Rate (Facility Type - Hard) at pages 17-22 versus ISOR, Appendix B, Table 2 page 15, Test Emission Rate, (Hard with Add-on). That single error alone has significance. There are other figures as well as arbitrary default assumptions that should not have been applied.

The information, if revised to the original ISOR number, alters the actual emissions total to a higher value, coming closer to one pound. The value remains more than two times lower than the ISOR reported amount, but five times higher than the SN reported amount in Table VI.1 for actual emissions. This additional change in the data confounds any understanding of what the information should really mean. This issue is exacerbated by the inability of the MFACA to obtain source test and other public data that would provide meaningful evaluation of actual

---

197-8 [22] One must carefully consider that the Proposed Amendments are solely for chrome plating facilities and do not affect mobile sources (which will increase if the Proposed Amendments are approved), nor do they alter existing stationary sources outside the universe of chrome plating facilities that may have much higher risk due to their emissions and proximity.

197-9 emissions. Taken in light of the issues mentioned previously in this letter, it strongly suggests that CARB start at the beginning to re-evaluate the Proposed Amendments for chrome plating facilities. The Record is hopelessly deficient and defective. No cogent decision could be made upon it and any attempt to do so would be the basis of a legal challenge.

PFOS Improperly Considered

197-10 The Record improperly considers PFOS. The Record cites to ancillary benefits being the supposed entire removal of PFOS from chrome plating facilities once hexavalent chromium is banned. It is noted in both CEQA and the SRIA documents.

The costs and consequences of the removal of PFOS are under-reported and lack a level of understanding concerning the existence of PFOS throughout a chrome plating facility. As known by users, PFOS remains in operational equipment well beyond the equipment exclusively used with hexavalent chromium, which is contrary to the comments suggested in the Record. With that affect, there is a need to remove much more equipment than was considered in the CEQA and SRIA analysis if the intended outcome is to remove PFOS entirely. The costs of disposal for the equipment are based upon their contamination with hexavalent chromium, not PFOS, and the additional costs associated with the disposal of PFOS-contaminated equipment have not been analyzed. Even the removal of tanks and pipes that contain PFOS materials is known to not result in a total removal of PFOS, leaving legacy issues. Thus, these environmental and financial impacts have not been adequately or completely considered in the Record.

Conclusion

197-1 Based upon the foregoing presentation, new information published as part of the Supplemental Notice identified problems with the Proposed Amendments as the Record currently exists. New data showing dramatically lower actual emissions has been noted, but the analysis in the Record has not been updated. Moreover, the lower values have not been evaluated and compared to the significant increase in excess hexavalent chromium emissions that would be generated due to increased transportation. The accuracy of the Record currently is in question, particularly since there appears to be errors in the emissions inventory.

We believe the issues as outlined in this letter fundamentally affect the legality of the Proposed Amendments as they presently exist. The MFACA believe it appropriate to withdraw the Proposed Amendments at this time from the scheduled hearing as well as meet with the MFACA commenting parties to discuss pathways to move this issue forward and to provide available data. We believe that analysis on these Proposed Amendments must be re-done based on accurate emissions data so that the regulated community and other stakeholders are provided the most accurate information possible to protect human health and the environment in California.

* * * *

We appreciate the opportunity to prepare these comments concerning this important regulatory measure having such significant impacts upon the State of California. We look forward to your careful review and consideration of the many issues we have brought to your attention. We ask for the opportunity to discuss this matter with CARB, its staff and legal counsel before final consideration of the Proposed Amendments to ban hexavalent chrome

plating facilities in California. Please feel free to contact the undersigned should you wish to discuss this matter further.

Sincerely,

CHARLES H. POMEROY
StilesPomeroy LLP

cc: Ellen M. Peter, Esq., Chief Counsel, CARB (via email: Ellen.Peter@arb.ca.gov)

Attachments
(1) SRIA Table 2.3 Corrected to Actual Emissions
(2) Increased Hexavalent Chromium Emissions from Mobile Sources
(3) Data Requests, June 2021 to April 2023.
(4) Facility-Specific Risks and Proximity for Actual Hexavalent Chromium Usage (42 Facilities)

Attachment 1
SRIA Table 2.3 Corrected to Actual Emissions

Table 2.3 Estimated Annual Hexavalent Chromium Emission Reductions Resulting from the Proposed Amendments from 2024 to 2043 (column 3, Revised Table VI.1)[1]

Year	Hexavalent Chromium from Decorative Chrome Plating Operations (lbs/yr)	Hexavalent Chromium from Hard Chrome Plating Operations (lbs/yr)	Hexavalent Chromium from Chromic Acid Anodizing Operations (lbs/yr)
2024	0.0	0.0	0.0
2025	0.21	1.24	.01
2026	0.21	1.24	.01
2027	0.21	1.24	.01
2028 to 2037	0.21	1.24	.01
2038	0.21	2.47	.02
2039 to 2042	0.21	2.47	.02
2043	0.21	2.47	.02
Total	**3.99**	**30.88**	**0.25**

Table 2.3 Estimated Annual Hexavalent Chromium Emission Reductions Resulting from the Proposed Amendments from 2024 to 2043 (column 4, Revised Table VI.1)[2]

Year	Hexavalent Chromium from Decorative Chrome Plating Operations (lbs/yr)	Hexavalent Chromium from Hard Chrome Plating Operations (lbs/yr)	Hexavalent Chromium from Chromic Acid Anodizing Operations (lbs/yr)
2024	0.0	0.0	0.0
2025	0.093	0.048	0.005
2026	0.093	0.048	0.005
2027	0.093	0.048	0.005
2028 to 2037	0.093	0.048	0.005
2038	0.093	0.096	0.01
2039 to 2042	0.093	0.096	0.01
2043	0.093	0.096	0.01
Total	**1.77**	**1.20**	**0.13**

[1] Actual usage multiplied by assumed 2007 ATCM default Amp-hr emission limits.
[2] Actual usage multiplied by actual Amp-hr emission limits.

Attachment 2

Increased Hexavalent Chromium Emissions from Mobile Sources[1]

Los Angeles, CA to Mojave Valley, AZ	260	miles	(each direction)
Fuel economy Heavy duty Diesel Trucks	7.5	mpg	

http://www.aqmd.gov/docs/default-source/planning/annual-emission-reporting/combustion-emission-factors-2021.pdf

Toxic Emission Factors from Stationary and Portable Internal Combustion Engines (ICE), Turbines and Micro Turbines

Diesel / Distillate Oil (lb/1000 gallons) All Sizes

Toxic Compound	CAS No.	lbs./1,000 gals	lbs./gal	lbs./mile	mg/mile	mg/trip	mg/roundtrip
Benzene	71432	0.1863	0.0001863	0.00002484	11.26723	2,929.48	5,859
1,3-Butadiene	106990	0.2174	0.0002174	2.89867E-05	13.14813	3,418.51	6,837
Cadmium	7440439	0.0015	0.0000015	0.0000002	0.090718	23.59	47
Formaldehyde	50000	1.7261	0.0017261	0.000230147	104.3928	27,142.12	54,284
Hexavalent chromium	18540299	0.0001	0.0000001	1.33333E-08	0.00605	1.57	**3.14**
Arsenic	7440382	0.0016	0.0000016	2.13333E-07	0.096766	25.16	50
Lead	7439921	0.0083	0.0000083	1.10667E-06	0.501976	130.51	261
Nickel	7440020	0.0039	0.0000039	0.00000052	0.235868	61.33	123
PAHs(polycyclic aromatic hydrocarbons)	1151	0.0559	0.0000559	7.45333E-06	3.380775	879.00	1,758
Diesel exhaust particulate	9901	33.5	0.0335	0.004466667	2026.046	526,771.94	1,053,544
Ammonia	7664417	2.9	0.0029	0.000386667	175.389	45,601.15	91,202
Organic Gases		37.5	0.0375	0.005	2267.962	589,670.08	1,179,340
NOx		469	0.469	0.062533333	28364.64	7,374,807.15	14,749,614
Sox		0.21	0.00021	0.000028	12.70059	3,302.15	6,604
CO		102	0.102	0.0136	6168.856	1,603,902.62	3,207,805
PM		33.5	0.0335	0.004466667	2026.046	526,771.94	1,053,544

[1] Emission metric based upon readily available public data. Assumes estimates for truck use only.

https://www.bts.gov/content/estimated-national-average-vehicle-emissions-rates-vehicle-vehicle-type-using-gasoline-and

Diesel,Heavy Duty Truck 2020	g/mile	mg/mile	mg/trip	mg/roundtrip
Total HC	0.269	269	69,940	139,880
Exhaust CO	2	2000	520,000	1,040,000
Exhaust NOx	4.169	4169	1,083,940	2,167,880
Exhaust PM2.5	0.106	106	27,560	55,120
Brakewear PM2.5	0.009	9	2,340	4,680
Tirewear PM2.5	0.004	4	1,040	2,080

Attachment 3
Data Requests - (Email String)

197-11

From: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Sent: Tuesday, April 11, 2023 8:43 AM
To: Brian Ward <brian@aaaplating.com>
Cc: Harris, Greg@ARB <greg.harris@arb.ca.gov>
Subject: RE: Chrome plating/anodizing facilities.

Hi Brian,

I will look into this this week and get back to you soon.

Eugene Rubin (he/him)
(916) 287-8214

From: Brian Ward <brian@aaaplating.com>
Sent: Monday, April 10, 2023 11:41 AM
To: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Cc: Harris, Greg@ARB <greg.harris@arb.ca.gov>
Subject: Re: Chrome plating/anodizing facilities.

Eugene-

Do you have the source test data that we spoke of?

-Brian Ward
AAA Plating & Inspection, Inc.

Fw: Chrome plating/anodizing facilities.

From: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Sent: Wednesday, March 15, 2023 10:36 AM
To: Brian Ward <brian@aaaplating.com>
Cc: Harris, Greg@ARB <greg.harris@arb.ca.gov>
Subject: RE: Chrome plating/anodizing facilities.

HI Brian,

Yes I was able to get some data. Let me look into how best to share it with you.

Best,

Eugene Rubin (he/him)
(916) 287-8214

197-11

From: Brian Ward <brian@aaaplating.com>
Sent: Monday, March 13, 2023 2:07 PM
To: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Cc: Harris, Greg@ARB <greg.harris@arb.ca.gov>
Subject: Re: Chrome plating/anodizing facilities.

Eugene-

Have you been able to get facility source test data from the air districts?

If so, could you share that?

Thank you.

-Brian Ward
AAA Plating & Inspection, Inc.
(310)637-1066 ext. 224

From: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Sent: Thursday, July 1, 2021 8:35 AM
To: Brian Ward <brian@aaaplating.com>
Cc: Harris, Greg@ARB <greg.harris@arb.ca.gov>
Subject: RE: Chrome plating/anodizing facilities.

Yes source test results are public data that can be requested from the air districts. I have been gathering source test data, but any that can come from MFA directly is helpful as well as it may be easier for a facility to share a single test report.

Fw: Chrome plating/anodizing facilities.

From: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Sent: Thursday, July 1, 2021 8:35 AM
To: Brian Ward <brian@aaaplating.com>
Cc: Harris, Greg@ARB <greg.harris@arb.ca.gov>
Subject: RE: Chrome plating/anodizing facilities.

Yes source test results are public data that can be requested from the air districts. I have been gathering source test data, but any that can come from MFA directly is helpful as well as it may be easier for a facility to share a single test report.

Eugene Rubin

197-11

From: Brian Ward <brian@aaaplating.com>
Sent: Wednesday, June 30, 2021 4:30 PM
To: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Cc: Harris, Greg@ARB <greg.harris@arb.ca.gov>
Subject: Re: Chrome plating/anodizing facilities.

Eugene-

Can you get emission factors (source test results) from the respective air districts in the same way?

Thank you.

-Brian Ward
AAA Plating & Inspection, Inc.
(310)637-1066 ext. 224

From: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Sent: Thursday, June 17, 2021 7:39 AM
To: Brian Ward <brian@aaaplating.com>
Cc: Harris, Greg@ARB <greg.harris@arb.ca.gov>
Subject: RE: Chrome plating/anodizing facilities.

Amp-hr data was provide by the local District from data submitted by the facility.

Eugene Rubin

From: Brian Ward <brian@aaaplating.com>
Sent: Wednesday, June 16, 2021 5:06 PM

Fw: Chrome plating/anodizing facilities.

Eugene Rubin

From: Brian Ward <brian@aaaplating.com>
Sent: Wednesday, June 16, 2021 5:06 PM
To: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Cc: Harris, Greg@ARB <greg.harris@arb.ca.gov>
Subject: Re: Chrome plating/anodizing facilities.

197-11

Eugene-

Thank you.

Do you know how the amp-hr data was gathered?

-Brian Ward
AAA Plating & Inspection, Inc.
(310)637-1066 ext. 224

From: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Sent: Wednesday, June 16, 2021 3:32 PM
To: Brian Ward <brian@aaaplating.com>
Cc: Harris, Greg@ARB <greg.harris@arb.ca.gov>
Subject: RE: Chrome plating/anodizing facilities.

Hello Brian,

Sorry for the delay in getting this to you. Attached you will find the facility inventory we are using for our amendments. It includes the data we have on 2019 annual amp-hr usage. This one doesn't include emissions calculations but we use the amp-hr and the ATCM limit (0.0015mg/amphr or 0.01mg/amphr) to calculate the emissions. Give me a call if you want to discuss this further or if you were looking for something different.

Eugene Rubin
916-287-8214

From: Brian Ward <brian@aaaplating.com>
Sent: Wednesday, June 2, 2021 3:05 PM
To: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Subject: Chrome plating/anodizing facilities.

Fw: Chrome plating/anodizing facilities.

Subject: RE: Chrome plating/anodizing facilities.

Hello Brian,

Sorry for the delay in getting this to you. Attached you will find the facility inventory we are using for our amendments. It includes the data we have on 2019 annual amp-hr usage. This one doesn't include emissions calculations but we use the amp-hr and the ATCM limit (0.0015mg/amphr or 0.01mg/amphr) to calculate the emissions. Give me a call if you want to discuss this further or if you were looking for something different.

Eugene Rubin
916-287-8214

197-11

From: Brian Ward <brian@aaaplating.com>
Sent: Wednesday, June 2, 2021 3:05 PM
To: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Subject: Chrome plating/anodizing facilities.

Eugene-

It was mentioned that 141 facilities are affected by this rule.

Can we get a list of these facilities so we can reach out to them for data pertaining to this issue?

Thanks.

-Brian Ward
AAA Plating & Inspection, Inc.
(310)637-1066 ext. 224

Reply Forward

Attachment 4
Facility-Specific Risks and Proximity from Actual Hexavalent Chromium Usage

Excess Risks in one million @ different source test emission factors[1]

			Assume		Actual
Facility Type	Meters to Receptor	Amp-hrs.	0.0015	0.000000029	0.000000029
Anodizing	0	104,168	0.21	0.0000040	0.0000040
Anodizing	0	50,460	0.10	0.0000020	0.0000020
Anodizing	0	484,349	0.97	0.0000187	0.0000187
Anodizing	0	117,689	0.24	0.0000046	0.0000046
Anodizing	18	388,833	0.94	0.0000183	0.0000183
Anodizing	62	23,658	0.21	0.0000040	0.0000040
Anodizing	67	74,681	0.24	0.0000046	0.0000046
Anodizing	111	14,425	0.20	0.0000038	0.0000038
Anodizing	139	288,742	0.29	0.0000057	0.0000057
Anodizing	158	655,289	0.40	0.0000077	0.0000077
Anodizing	198	43,683	0.04	0.0000008	0.0000008
Anodizing	455	163,507	0.20	0.0000040	0.0000040

			Assume		Actual
Facility Type	Meters to Receptor	Amp-hrs.	0.0015		0.000188
Decorative	0	982,191	13.10		0.20
Decorative	0	57,395	0.77		0.01
Decorative	10	29,378	1.26		0.02
Decorative	19	233,010	4.75		0.07
Decorative	61	206,929	2.24		0.03
Decorative	71	937,659	5.09		0.08
Decorative	76	250,952	2.21		0.03
Decorative	95	27,248	1.36		0.02
Decorative	148	3,729,115	9.60		0.15
Decorative	167	1,485,252	4.20		0.06
Decorative	172	108,398	1.47		0.02
Decorative	208	8,423	0.20		0.00
Decorative	273	15,391	0.98		0.01
Decorative	311	4,185	0.53		0.01
Decorative	390	639,660	1.75		0.03

[1] Assumes continuous 24-hour per day exposure over seventy years.

Excess Risks in one million @ different source test emission factors[2]

Facility Type	Meters to Receptor	Amp-hrs.	Assume 0.0015	Assume 0.000588	Actual 0.0000588
Hard	0	57,942,267	115.88	45.43	4.54
Hard	17	1,418,916	2.57	1.01	0.10
Hard	18	6,298,513	10.29	4.03	0.40
Hard	18	5,560,000	9.11	3.57	0.36
Hard	29	10,380,000	15.69	6.15	0.62
Hard	41	116,476,081	155.11	60.80	1.24[3]
Hard	69	78,104,109	49.16	19.27	1.93
Hard	116	10,195,736	4.49	1.76	0.18
Hard	152	12,710,000	4.33	1.70	0.17
Hard	344	3,774,586	0.69	0.27	0.03
Hard	366	4,071,963	0.69	0.27	0.03
Hard	449	203,876	0.21	0.08	0.01
Hard	483	14,752,086	1.36	0.53	0.05

Facility Type	Meters to Receptor	Amp-hrs.	Assume 0.0015	Assume 0.000588	Actual 0.0000588
Multiple (Hard chrome/Anodizing)	210	107,434,648	25.41	9.96	1.00

[2] Assumes continuous 24-hour per day exposure over seventy years.
[3] Source test data from location reported at 0.000012 mg/amp-hr.

Comment 21 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-1.

First Name: Jerry
Last Name: Desmond
Email Address: Jerry@desmondlobbyfirm.com
Affiliation: MFASC-MFANC-NASF

Subject: Chromeatcm2023
Comment:

Attachment: www.arb.ca.gov/lists/com-attach/136-chromeatcm2023-UTIAZwNwAzJXDgNg.pdf

Original File Name: CARB CrVI ATCM Letter Enc 2-10-23 web.pdf

Date and Time Comment Was Submitted: 2023-04-11 16:54:08

No Duplicates.

Via email to steven.cliff@arb.ca.gov

February 10, 2023

Hon. Steven S, Cliff, Ph.D., Executive Officer
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: CARB CrVI ATCM Update – Follow-up to January 27 Board Meeting

198

Executive Officer Cliff –

The Metal Finishing Association of Southern California [MFASC], the Metal Finishing Association of Northern California [MFANC] and the National Association for Surface Finishing [NASF] appreciate the consideration the members of the California Air Resources Board are giving to our industry's concerns with the current draft of the update to the air toxic control measure for hexavalent chromium [CrVI] for chromium electroplating and chromic acid anodizing operations.

Our industry does not propose to avoid regulation for chromium plating and anodizing facilities. We remain committed to emissions-based regulations that will result in meaningful emissions reductions and believe that the update to the air toxic control measure [ATCM] for CrVI plating can be crafted to achieve this objective.

Board Member Comments

We offer to engage in furtherance of the comments and requests the Board made in its January 27 hearing, and note the comments made by individual board members. These include Chair Randolph's concern that the smallest facilities with the smallest emissions face the earliest ban, Board Member Balmes' emphasis on the low emissions from decorative plating and the necessity for more time for decorative plating to transition to alternatives, and Board Member Berg's support for the update providing decorative CrVI platers with a choice between a ban or SCAQMD Rule 1469 – type requirements.

Decorative Applications that Require Hexavalent Chromium Applications

As we have confirmed with the CARB team subsequent to the board meeting, we offer this information as staff responds to the board's request that it consider decorative plating for products where CrVI provides functionality, health and safety protection, or compliance with customer specifications.

There are applications that the current draft defines as "decorative" where CrVI is needed for purposes that trivalent cannot provide, including functionality, corrosion protection, wear resistance, hardness, product performance or health and safety protection based on customer specifications and industry standards. We have identified the following categories to-date and there are certainly more:

- Medical equipment
- Dental equipment
- HVAC
- Food surfaces
- Golf clubs
- Scuba gear
- Breathing apparatus
- Kitchen and restaurant equipment

Many of these critical applications and others address significant health and safety concerns posed by particularly corrosive environments or product quality performance demands.

- continued

198

Customer and Industry Specifications

Our discussions with a number of our member facilities confirm that, unfortunately, the details of the engineering specifications are not available to us as they are prohibited pursuant to customer-required nondisclosure agreements [NDAs].

However, support for the necessity of decorative CrVI plating can be confirmed by customer specifications that necessitate CrVI plating such as: AMS 2460[1], B650[2], B456[3], and B177[4], and QQC-320[5].

Support is also found in a number of publicly available documents including: two analyses of alternatives to CrVI plating that support the statement that trivalent chromium plating is an inadequate replacement[6][7]; and four certificates of conformance that confirm the product performance requirements that plating must meet and necessitate CrVI[8][9][+o].

The necessity for decorative CrVI plating is also evidenced by the specific decorative CrVI plating exemptions the European Union [EU] has provided as it works aggressively to ban CrVI processes. The EU still provides numerous exemptions for many decorative applications. For example, a reference in a document that is in the EU REACH docket states that:

> *"The majority of the European sanitary ware manufacturing sector has already applied for, and in some cases received, authorisation under EU REACH to continue using Cr(VI) for another 10+ years, due largely to quality problems with the principal alternatives and the time needed to remedy them. Manufacturers outside of the EU are free to use Cr(VI) without similar regulatory controls and already supply a significant proportion of the GB and EU markets. This means that any switch to inferior alternatives to Cr(VI)-based electroplating would result in a loss of customers and market share to those firms still supplying higher quality Cr(VI)-based products."*

Source: TCL Manufacturing Ltd, Analysis of Alternatives and Socio-Economic Analysis, June 28, 2022, Page 112: https://consultations.hse.gov.uk/crd-reach/reach-afa-022-01/supporting_documents/REACH%20%20AFA02201%20CrO3%20Analysis%20of%20Alternatives%20%20%20Socioeconomic%20Analysis%20Public.pdf

Suggested Revisions to CrVI ACTM

Definition of Decorative Chrome Plating

With this information, we suggest that the definition of "decorative chrome plating" in Section 93102.3 of the draft update should be revised to accurately state the purpose of the process. It is not limited to the terms of the current draft: "provide a bright surface with wear and tarnish resistance." The revised section would read as follows:

> (30) "Decorative Chrome Plating" means the process by which a thin layer of chromium (typically 0.003 to 2.5 micrometers) is applied to provide functionality, corrosion protection, wear resistance, hardness, product performance, or health and safety protection and is electrodeposited on that Base Material. In this process, the Base Material serves as the cathode in the electrolytic cell and the solution serves as the electrolyte. Typical current density applied during this process ranges from 540 to 2,400 Amperes per square meter (Amp/m²) for total plating times ranging between 0.5 to 5 minutes."

Additional Time for Decorative Hexavalent Chromium Plating

The draft update should also be revised so that decorative chrome plating as now defined would be subject to each of the numerous requirements that are proposed for Functional Chrome Plating. The key revision would be to Section 93102.3, as follows:

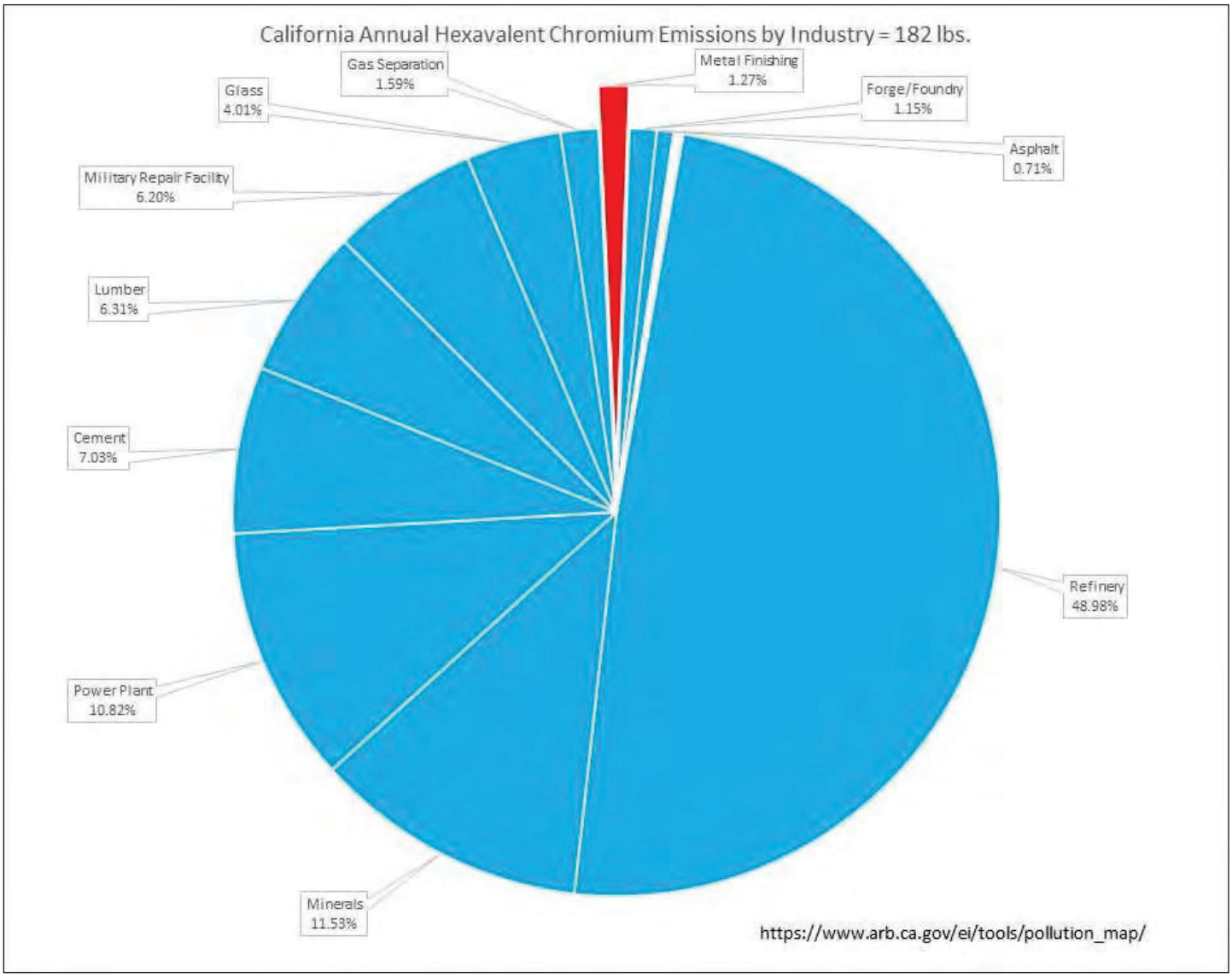
> (46) "Functional Chrome Plating" means Hard Chrome Plating~~, and~~ Chromic Acid Anodizing ***and Decorative Chrome Plating***.

- continued

198 The Board on January 27 also requested that staff consider an appropriate period of time that would enable decorative CrVI plating to transition to alternatives while the environment is protected from fugitive emissions.

The approximately 50 facilities in this category pose a relatively small risk compared to hard chromium and chromic acid anodizing. Decorative CrVI plating represents only 3.7% of total CrVI emissions from the surface finishing industry, which itself is less than 1% of total statewide CrVI emissions.

Decorative Chrome Plating is only 3.7% of this 1.27% Slice of the CrVI Stationery Source Emissions



- continued

198 These are the smallest facilities with the smallest emissions. Most of them are subject to SCAQMD Rule 1469 and have been investing tens of thousands of dollars to comply with the requirements of that rule and prevent fugitive emissions.

The necessity for additional time beyond the proposed July 1, 2027 ban date is supported by information submitted into the record through written public comments as well as testimony at the January 27 hearing. These demonstrate that customers are not at present willing to accept alternatives to CrVI and that there needs to be a focused effort to overcome this obstacle. Our industry commits to work with CARB and our customers to continue the transition to alternatives where appropriate. The well-intentioned offers of financial assistance for facilities unfortunately will not change customer demand.

New Requirements for Decorative Chromium Plating

The draft update should be revised to address these concerns by revising Section 93102.4, as follows:

> (b) Phase out that applies to all Existing Facilities that use Hexavalent Chromium.
> (1) Decorative Chrome Plating. No Person shall use any Hexavalent Chromium for the purposes of Decorative Chrome Plating in California after ~~***January 1, 2027***~~ ***January 1, 2039.***

In addition, the draft update should be revised so that the requirements proposed for hard chrome plating would apply to decorative chrome plating until January 1, 2039. These include the operation requirements of Section 93102.5, source test requirements of Section 93102.7, chemical fume suppressant provisions of Section 93102.8, parameter monitoring requirements of Section 93102.9, inspection and maintenance requirements of Section 93102.10, operation and maintenance plan requirements of Section 93102.11, recordkeeping requirements of 93102.12, and reporting requirements of Section 93102.13.

Technology Review for Decorative Chromium Plating

Also, the technology review proposed in subdivision (3) of Section 93102.4 should be revised to specifically include decorative chrome plating:

> Technology Reviews. CARB shall conduct two technology reviews that evaluate the development of technologies to replace Hexavalent Chromium in ***Decorative Chrome Plating***, Hard Chrome Plating and Chromic Acid Anodizing operations. Each technology review shall include a summary of the status of the development and availability of alternative technologies.
> CARB staff will complete first technology review by January 1, 2032, and the second technology review by January 1, 2036.

Source Testing

Finally, as our industry has been stating throughout the development of the update, the two-year frequency mandated by the source test requirements of Section 93102.7 is not supported by the record. The SCAQMD Rule 1469 appropriately sets forth a frequency based on the facility's permitted annual ampere hours, either 60 months or 84 months following a source test that demonstrates compliance with all applicable requirements.

The revisions would be:

> (3) All Functional Chrome Plating Facilities that use Hexavalent Chromium must conduct a Source Test on all Tier III Tanks every ~~***2 calendar years after the previous source test***~~:
> - ***For facility-wide permitted annual ampere hours over 1,000,000: 60 months from the day of the most recent source test that demonstrates compliance with all applicable requirements after the date of the previous Source Test.***
> - ***For facility-wide permitted annual ampere hours over 1,000,000 or less: 84 months from the day of the most recent source test that demonstrates compliance with all applicable requirements after the date of the previous Source Test.***

198 In conclusion, we look forward to discussing these issues and suggested revisions at your convenience. They are intended to be specific to, and responsive to, the direction the board provided to staff on January 27 to consider products that are decorative CrVI plated for functionality and health and safety purposes, and to consider a reasonable period of time for decorative chrome plating to transition to alternatives while providing for the protection of health, safety and the environment.

Sincerely,

Bobbi Burns

Bobbi Burns, MFANC President, 510-659-8764

Bryan Leiker

Bryan Leiker, MFANC & MFASC Executive Director, 818-207-1021

Vince Noonan

Vince Noonan, MFASC President, 800-227-9242

Jeff Hannapel

Jeff Hannapel, The Policy Group, on behalf of NASF, 202-257-3756

Enclosures

C: Members, California Air Resources Board

Footnotes:

[1] AMS 2460 [Attachment One]

[2] AMS B650: https://www.astm.org/b0650-95r18.html

[3] AMS B456: https://www.astm.org/b0456-17.html

[4] AMS B177: https://www.astm.org/b0177_b0177m-11r21.html

[5] QQC-320 [Attachment Two]

[6] Analysis [Attachment Three – Analysis – Dornbracht]

[7] Analysis [Attachment Four – Analysis: Ideal Standard]

[8] Certificate of Conformance [Attachment Five – COC: eu compliant 2000R]

[9] Certificate of Conformance [Attachment Six – COC: eu compliant 1180R]

[+] Certificate of Conformance [Attachment Seven – COC: eu compliant 21600]

[o] Certificate of Conformance [Attachment Eight - COC: eu compliant 826026]

SAE Aerospace
An SAE International Group

AEROSPACE MATERIAL SPECIFICATION

SAE AMS2460 | REV. A

Issued 2007-07
Revised 2013-03

Superseding AMS2460

Plating, Chromium

RATIONALE

AMS2460A results from a Five Year Review and includes additional details for basis metal quality and for stress relief of steel parts before plating.

NOTICE

ORDERING INFORMATION: The following information shall be provided to the plating processor by the purchaser:

1) Purchase Orders shall specify not less than the following:
   - AMS2460A
   - Part number and quantity of pieces to be plated
   - Class of plating. See 1.4.1.
   - For Class 1 plating, type of surface luster. See 1.4.2 and 3.5.1.2.
   - Plating thickness. See 3.4.1.
   - Underplating, if different from 3.3.2
   - Basis metal to be plated
   - Tensile strength or hardness of the basis metal
   - Pre-plate stress relief (time and temperature) if different from 3.2.1, or instructions that pre-plate stress relief has already been performed prior to submitting parts to the plating processor, or statement that pre-plate stress relief is not required
   - Plating coverage; special features, geometry or processing present on parts that requires special attention by the plating processor
   - Hydrogen embrittlement relief to be performed by the plating processor (parameters or requirements document), if different from 3.3.4
   - Peening requirements, if peening is required to be performed by the plating processor. See 3.1.3 and 8.4.1.
   - If tests for hardness, porosity, or hydrogen embrittlement are required for lot acceptance. See 4.2.1.
   - If adhesion is to be evaluated by grinding. See 3.4.2.1. and responsibility (plating processor or part fabricator) to perform this evaluation.

2) Parts manufacturing operations such as heat treating, forming, joining, and media finishing can affect the condition of the substrate for plating, or if performed after plating, could adversely affect the plated part. The sequencing of these types of operations should be specified by the cognizant engineering organization or purchaser and is not controlled by this specification, except as noted herein. Requirements for basis metal quality (3.1.1), peening (3.1.3), and preplating stress relief (3.2.1) require special coordination with the plating processor.

TO PLACE A DOCUMENT ORDER: Tel: 877-606-7323 (inside USA and Canada)
Tel: +1 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
SAE WEB ADDRESS: http://www.sae.org

SAE values your input. To provide feedback on this Technical Report, please visit
http://www.sae.org/technical/standards/AMS2460A

1. SCOPE

1.1 Purpose

This specification covers the requirements for electrodeposited chromium plating.

1.2 Application

This plating has been used typically as a decorative finish, to improve corrosion resistance, to increase wear resistance, to extend tool and die life, to maintain accuracy of gauges, and to recondition worn or undersized parts, but usage is not limited to such applications. While this document is primarily intended to address electrodeposition on steels, the process has been performed on aluminum, heat resistant alloys, high nickel alloys, super alloys, and other metals. The requirements of this specification are equivalent to AMS-QQ-320 but generally more stringent than AMS2406A. Thin Dense Chrome plating should be specified by reference to AMS2438.

1.2.1 Restriction

Application of chromium plating to steel parts having a hardness of 48 HRC (ultimate tensile strength of 238 ksi [1641 MPa]) or higher shall not be performed unless authorized by the design documentation of the cognizant engineering organization. (See 4.2.3.1 and 8.4.2.) Application of chromium plating for repair of steel parts having a hardness of 48 HRC(ultimate tensile strength of 238 ksi (1641 Mpa) or higher requires a special design evaluation and shall not be performed unless specific approval has been received from the cognizant engineering organization

1.3 Safety-Hazardous Materials

While the materials, methods, applications and processes described or referenced in this specification may involve the use of hazardous materials, this specification does not address the hazards which may be involved in such use. It is the responsibility of the user to ensure familiarity with the safe and proper use of any hazardous materials, to take precautionary measures to ensure the health and safety of all personnel involved.

1.4 Classification

1.4.1 Classes

Electrodeposited chromium plating shall be one of the following classes.

Class 1 - Corrosion protective plating. See 8.4.3.

Class 2 - Engineering plating. See 8.4.4.

1.4.2 Appearance

Class 1 plating shall have one of the following types of lusters, as specified.

Type I - Bright finish

Type II - Satin finish.

2. APPLICABLE DOCUMENTS

The issue of the following documents in effect on the date of the purchase order forms a part of this specification to the extent specified herein. The supplier may work to a subsequent revision of a document unless a specific document issue is specified. When the referenced document has been cancelled and no superseding document has been specified, the last published issue of that document shall apply.

2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), www.sae.org.

AMS2403	Plating, Nickel, General Purpose
AMS2406	Plating, Chromium, Hard Deposit
AMS2438	Plating, Chromium, Thin, Hard, Dense Deposit
AMS2759/9	Hydrogen Embrittlement Relief (Baking) of Steel Parts
AMS-QQ-C-320	Chromium Plating, Electrodeposited
AMS-QQ-N-290	Nickel Plating (Electrodeposited)

2.2 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

ASTM B 253	Standard Guide for Preparation of Aluminum Alloys for Electroplating
ASTM B 487	Measurement of Metal and Oxide Coating Thickness by Microscopic Examination of a Cross Section
ASTM B 499	Measurement of Coating Thick nesses by the magnetic Method: Nonmagnetic Coatings on Magnetic Base Metals
ASTM B 504	Measuring the Thickness of Metallic Coatings by the Coulometric Method
ASTM B 556	Thin Chromium Coatings by the Spot Test, Guideline for Measurement of
ASTM B 567	Method for Measurement of Coating Thickness by Beta Backscatter Method
ASTM B 568	Measurement of Coating Thickness by X-Ray Spectrometry
ASTM B 571	Qualitative Adhesion of Metallic Coatings
ASTM B 748	Measurement of Thickness of Metallic Coatings by Measurement of Cross Section with a Scanning Electron Microscope
ASTM B 764	Simultaneous Thickness and Electrochemical Potential Determination of Individual Layers on the Multilayer Nickel Deposit (STEP Test)
ASTM E 384	Test Method for Microhardness of Materials
ASTM F 519	Mechanical Hydrogen Embrittlement Testing of Plating Processes and Service Environments

2.3 Aerospace Industries Association Publications

Available from Aerospace Industries Association, 1000 Wilson Boulevard, Suite 1700, Arlington, VA 22209-3928, Tel: 703-358-1000, www.aia-aerospace.org.

NASM1312-12	Fastener Test Methods, Thickness of Metallic Coatings

3. TECHNICAL REQUIREMENTS

3.1 Material

3.1.1 Basis Metal Quality

The basis metal (parts) shall be submitted to the plating processor free from visible defects such as blemishes, prior pitting from corrosion, nicks, scratches, burrs or other geometrical or base metal defects that could be detrimental to the appearance or performance of the plating. The plating processor shall perform such cleaning and plating procedures as necessary to yield a deposit that conforms to the specified requirements.

3.1.2 Parts dimensions should be such that, after plating, specified tolerances will be met (See 8.2).

3.1.3 Peening

When specified, parts shall be peened prior to plating. Unless otherwise specified, such peening shall be accomplished on all surfaces for which the plating is required and on all immediately adjacent surfaces that contain notches, fillets or other abrupt changes of section size (See 8.4.1). Peening shall be performed by or on behalf of the part fabricator, unless specifically delegated to the plating processor

3.2 Preparation

3.2.1 Stress Relief Treatment

Unless otherwise specified, steel parts 34 HRC (ultimate tensile strength 152 ksi [1048 MPa]) and higher and that have been machined, ground, cold formed, or cold straightened after heat treatment shall be cleaned to remove surface contamination and thermally stress relieved before plating. Acid cleaning shall not be used. See 8.4.2.3. (Residual tensile stresses have been found to be damaging during electrofinishing.) Temperatures to which parts are heated shall be such that maximum stress relief is obtained while still maintaining hardness of parts within drawing limits. Unless otherwise specified, the following treatment temperatures and times shall be used:

3.2.1.1 For parts, excluding nitrided parts, having a hardness of 55 HRC and above, including carburized and induction hardened parts, stress relieve at 275 °F ± 25 (135 °C ± 14) for 5 to 10 hours.

3.2.1.2 For parts having a hardness less than 55 HRC, stress relieve at 375 °F ± 25 (191 °C ± 14) for a minimum of 4 hours. Nitrided parts fall into this category. Higher temperatures shall be used only when specified or approved by the cognizant engineering organization.

3.2.1.3 For peened parts: If stress relief temperatures above 375 °F (191 °C) are elected, the stress relieve shall be performed prior to peening or the cognizant engineering organization shall be consulted and shall approve the stress relief temperature.

3.2.2 Cleaning

The plating shall be applied over a surface free from water breaks. The cleaning procedure shall not produce pitting, intergranular attack, or hydrogen embrittlement of the basis metal and shall preserve dimensional requirements. See 8.4.2.

3.2.3 Electrical Contact Points

For parts which are to be plated all over, locations shall be acceptable to purchaser. For parts which are not to be plated all over, locations shall be in areas on which plating is not required.

3.2.4 Aluminum alloys shall be zincate treated in accordance with ASTM B 253 or other method acceptable to purchaser prior to plating.

3.3 Procedure

3.3.1 Parts shall be plated by electrodeposition of chromium plating onto a properly prepared surface. Procedures and operating parameters shall be adequate to meet the properties and quality requirements of this specification.

3.3.2 Underplating

Unless otherwise specified, the following apply:

3.3.2.1 Class 1 plating shall be applied over an intermediate plating of nickel in accordance with AMS2403 or AMS-QQ-N-290 on steel, zinc, and copper alloys.

3.3.2.2 Class 2 plating shall be deposited directly on the basis metal without a preliminary plating of another metal, except parts made from maraging steel, or corrosion resistant steel, or aluminum alloy may receive a preliminary deposit of nickel or other suitable metal to a thickness not greater than 0.0002 inch (5 μm).

3.3.2.3 Underplate shall not be substituted for any portion of the specified chromium plate thickness.

3.3.3 Plating re-start procedures, if used, shall be approved by the cognizant engineering organization. See 4.4.3.

3.3.4 Hydrogen Embrittlement Relief (Baking)

Hydrogen embrittlement relief baking applies only to steel alloys unless otherwise specified by the cognizant engineering authority. At the option of the processor, hydrogen embrittlement relief baking may be performed on other families of alloys. If performed on other alloy families, all hydrogen embrittlement relief baking operations shall be documented. Hydrogen embrittlement relief baking shall be in accordance with AMS2759/9, except as shown in Table 1. Depending on the metallurgical condition of the parts at time of plating (i.e., alloy, hardness, prior heat treatment - carburized, induction hardened, etc.), the cognizant engineering authority may elect to prescribe hydrogen embrittlement relief baking temperatures and times different from those shown in Table 1.

TABLE 1 - HYDROGEN EMBRITTLEMENT RELIEF (BAKING) REQUIREMENTS (1)

Ultimate Tensile Strength Inch/Pound Units	Ultimate Tensile Strength SI Units	Hardness	Time in Hours at 375 °F (191 °C)
160 ksi to 182 ksi, excl.	1103 MPa to 1255 MPa, excl.	36 to 39 HRC	3
182 ksi to 221 ksi, excl.	1255 MPa to 1518 MPa, excl.	40 to 45 HRC	8
221 ksi, and higher	1518 MPa, and higher	46 HRC and higher	23

(1) NOTE: All times shown are minimum times. For high strength steels 40 HRC (ultimate tensile strength 182 ksi [1255 MPa]) and higher, it may be beneficial, and the processor is permitted, to extend the baking time to 23 hours to ensure complete relief from hydrogen embrittlement.

3.4 Properties

The plating shall conform to the following requirements:

3.4.1 Thickness

Thickness shall be as specified on the drawing, determined in accordance with any of the following methods as applicable: ASTM B 487, ASTM B 499, ASTM B 504, ASTM B 556, ASTM B 567, ASTM B 568, ASTM B 748, ASTM B 764 or by other method acceptable to the purchaser. NASM1312-12 may be used for thickness measurement of plated fasteners. ASTM B 556 (spot test) may be used for Class 1 plating, when a destructive procedure is applicable.

3.4.1.1 All surfaces of the part, except those which cannot be touched by a sphere 0.75 inch (19 mm) in diameter, shall be plated to the specified thickness. Unless otherwise specified, surfaces such as holes, recesses, threads and other areas where a controlled deposit cannot be obtained under normal plating conditions, may be under the specified limit provided they show visual plating coverage. The plate shall be substantially uniform in thickness on significant surfaces except that build-up at exterior corners or edges shall be permitted provided finished drawing dimensions are met.

3.4.1.2 Class 1

Unless otherwise specified, the minimum thickness of Class 1 chromium plating shall be 0.00001 inch (0.25 μm).

3.4.1.3 Class 2

The thickness of Class 2 plating shall be as specified by the purchaser. If the as-plated thickness is not specified, the minimum thickness shall be 0.002 inches (51 μm) plus any grinding or finishing allowance such that the minimum thickness of the finished part is 0.002 inches (51 μm).

3.4.2 Adhesion

The plating and any underplate shall be tightly adherent to the substrate as determined in accordance with ASTM B 571, knife-chisel or bend test with no mandrel. When examined at a magnification of approximately 4X, neither the chromium plating nor any electrodeposited underplate(s) shall show separation from the basis metal or from each other. The formation of cracks in the plating or the basis metal which do not result in flaking, peeling, or blistering of the plating shall not be cause for rejection.

3.4.2.1 Class 2 Adhesion Evaluation – Optional Method

When specified, Class 2 plating may be evaluated by grinding as an alternative to the bend test or knife-chisel test. The plating shall withstand the grinding operations with no evidence of delamination of plated layers or separation from the basis metal.

3.4.3 Hardness (Class 2 Only)

When tested in accordance with ASTM E 384 using a Vickers indentor and 100 gram load, the minimum hardness of a cross section Class 2 plating shall be 600 Vickers Hardness Number (HVN) if the plating is finished to a semi-bright or matte luster. If the plating is finished to a bright pebbly bright lusters, the minimum hardness shall be 850 HVN. Any Alternative hardness requirement or test method shall be as specified by the cognizant engineering organization. There is no hardness requirement for Class 1

3.4.4 Porosity (Class 2 Only)

Class 2 plating shall be porosity free to the extent that it protects the basis metal from corrosion due to pits, pores, or cracking. Criteria for evaluating this characteristic shall be as shown in 3.4.4.1 and 3.4.4.2. There is no porosity requirement for Class 1 – (See 8.4.3)

3.4.4.1 Class 2 plating, when subjected to the test specified in 3.4.4.2, shall show no more than 15 isolated blue spots or pits, none larger than 0.03 inch (0.8 mm) in diameter, in a total of 150 square inches (967 cm^2) of test area. In addition no more than five isolated spots or pits are permitted, none larger than 0.03 inch (0.8 mm) in any 30 square inches (193 cm^2) of test area. Isolated linear indications are acceptable. Linear cracking or crazing indications occurring over 5% or more the surface area are not acceptable. Panel edges, identification markings, and electrical contact locations are exempt from these requirements.

3.4.4.2 Potassium Ferricyanide (Ferroxyl) Porosity Test

Plated low alloy steel parts or low steel specimens shall be evaluated. See 4.3.3.2. Note: Panels subjected to distortion or flexing during processing can exhibit cracking or crazing type indications, so care should be exercised to prevent such false indications. All specimen surfaces shall be cleaned to remove any oil or grease. Contamination removal shall be accomplished with a solvent acceptable to the purchaser. A sheet of filter paper or other suitable adsorbent paper, saturated in the ferroxyl solution shall be applied for 10 minutes to the flat surface of the specimen or the article. Complete contact of the filter paper with the chrome plated test specimen shall be ensured using strokes with a soft bristle brush. Filter paper shall be kept saturated during the duration of the 10 minute test. Pits, pores, or cracking of the chrome are revealed by dark blue spots or lines. For a permanent record, the filter paper may be dried. The approximate solution composition shall be as follows:

Potassium ferricyanide ($K_3Fe(CN)_6$) 1 gm
Sodium Chloride (NaCl) 10 gm
Water (distilled or deionized) to make 1 liter

3.4.5 Hydrogen Embrittlement

The plating process shall not cause hydrogen embrittlement in steel parts determined in accordance with 4.3.3.3 or alternative acceptable to the cognizant engineering organization. Control of and testing for hydrogen embrittlement shall include all aspects of the process including stripping, surface preparation, reagent or electro cleaning, electrodeposition of the chromium onto the basis steel using acceptable bath chemistries, and the subsequent hydrogen embrittlement relief (baking) operation. Care should be exercised to control all aspects of the chromium plating process. See 8.4.2 and 4.6.1.1.

3.5 Quality

3.5.1 Plating, as received by purchaser, shall be smooth, continuous, adherent, free from delamination within the plating, uniform in appearance, fine grained, and shall be free from blisters, nodules, excessive pits, and other imperfections detrimental to usage of the plate. Slight staining or discoloration is permissible. The plating shall show no indication of contamination or improper processing such as excessively powdered or darkened plating, excessive edge build up, or other defects.

3.5.1.1 Boundaries of Class 2 plating between plated and unplated area shall be free from beads, nodules, jagged edges or other irregularities.

3.5.1.2 Luster

Class 1, Type I plate shall be fully bright in appearance. Class 1, Type II plate shall be a satin finish in appearance. Unless otherwise specified either a fully bright or a dull matte finish shall be acceptable for Class 2 plate. See 8.4.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for Inspection

The processor shall supply all samples for processor's tests and shall be responsible for the performance of all required tests. When parts or special specimens are to be tested, the parts or special test specimens shall be provided by the purchaser. Purchaser reserves the right to sample and perform any testing deemed necessary to ensure that processing conforms to specified requirements.

4.2 Classification of Tests

4.2.1 Acceptance Tests

Thickness (3.4.1), adhesion (3.4.2), and quality (3.5) are acceptance tests and shall be performed on parts or samples representing parts from each lot. When specified by the purchaser, hardness of Class 2 plating (3.4.3), porosity of Class 2 plating (3.4.4), and hydrogen embrittlement (3.4.5) are also acceptance tests.

4.2.2 Periodic Tests

Periodic (Production Control) are tests performed on a regular monthly basis and are intended to control the quality of the production process. Thickness (3.4.1), adhesion (3.4.2), hardness of Class 2 plating (3.4.3), porosity of Class 2 plating (3.4.4), and tests of cleaning and plating solutions are periodic tests and shall be performed at least monthly on each plating bath. Hydrogen embrittlement (3.4.5) is a periodic test and shall be performed at least once each month on each plating bath in which steel parts 36 HRC (ultimate tensile strength 161 ksi [1110 MPa]) and higher are plated.

4.2.2.1 Process Control Records

The supplier shall maintain a record of each processing bath, showing all additions of chemicals or treatments to the bath, the results of all tests and chemical analysis performed, and the quantity of parts plated during operation. These records shall be maintained and made available for review for not less than one year after completion of the contract or purchase order.

4.2.2.2 Interruption of Production

If continuous month to month production ceases for a particular plating bath, the processor is not required to continue periodic production control testing (4.2.2.1). However, all property verification tests of section 3.4 shall be performed on the idled plating bath prior to processing of production parts.

4.2.3 Preproduction Tests

All property verification tests of section 3.4 are preproduction tests and shall be performed prior to production and when the purchaser deems confirmatory testing is required.

4.2.3.1 Steel parts 40 HRC (ultimate tensile strength 182 ksi [1255 MPa]) and higher shall not be plated until approval has been received from the purchaser concerning acceptance of hydrogen embrittlement test results. See 4.4 and 8.4.2.

4.3 Sampling

Sampling for testing shall be not less than the following; a lot shall be all parts of the same part number processed in a continuous operation to the same thickness range, in the same set of solutions, in not longer than 24 consecutive hours, and presented for processor's inspection at one time. Adhesion verified by grinding on parts, thickness, and quality are classified as non-destructive tests. Adhesion verified by knife-chisel or bend test, hardness, porosity, and hydrogen embrittlement render actual parts not useable after testing and are classified as destructive tests.

4.3.1 Nondestructive Tests

Samples shall be randomly selected from all parts in the lot. The minimum number of parts tested shall be as indicated in Table 2.

TABLE 2 - SAMPLING FOR NONDESTRUCTIVE ACCEPTANCE TESTS

Number of Parts in the Lot	Number of Parts to be Tested
15 or less	7 [1]
16 to 40	10
41 to 110	15
111 to 300	25
301 to 500	35
501 and over	50

[1] If the number of parts in the lot is less than 7, then all parts shall be tested.

4.3.2 Destructive Tests

Sample quantities shall be as shown in Table 3.

TABLE 3 - SAMPLING FOR DESTRUCTIVE TESTS

Test	Class of Coating	Number of Samples to be Tested	Requirement Paragraph	Specimen Paragraph	Test Method Paragraph
Thickness	1 & 2	4	3.4.1	4.3.3.1	3.4.1
Adhesion	1 & 2	4	3.4.2	4.3.3.1	3.4.2
Hardness	2	4	3.4.3	4.3.3.1	3.4.3
Porosity	2	5	3.4.4	4.3.3.2	3.4.4.1
Hydrogen Embrittlement	1 & 2	4	3.4.5	4.3.3.3	4.3.3.3

4.3.3 Sample Configuration

Separate test specimens may be used under the following circumstances: When plated parts are of a configuration, size, quantity or value as to not be readily adaptable to a specified tests, when nondestructive testing is not practical on actual parts, or when it is not economically acceptable to perform destructive tests on actual parts. When used, separate test specimens shall be made of the same generic class of alloy as the parts as defined in 8.6, distributed within the lot of parts to be cleaned, plated and post treated with the actual parts.

4.3.3.1 Separate test specimens for thickness, adhesion, and hardness tests shall be four (4) samples approximately 1 × 4 × 0.040 inches (25 × 100 × 1 mm).

4.3.3.2 Separate test specimens for porosity test shall be five (5) samples of low alloy steel and approximately 3 × 10 × 0.040 inches (75 × 250 × 1 mm).

4.3.3.3 Hydrogen Embrittlement Test

Test shall be in accordance with the requirements of ASTM F 519 Type 1a.1 using round notched specimens, unless a different specimen is specified by the purchaser, stressed in tension under sustained load. For test purposes, the plating thickness shall be a minimum of 0.002 inch (51 μm) measured on the smooth section of the test specimen, but with visual plating at the root of the notch. Testing beyond the 200 hour test period is not required. The test samples shall be exposed to all steps of the documented plating process including surface preparation (reagent, electro-cleaning or abrasive blasting as applicable), underplate, electrodeposition of the chromium onto the basis metal, and the prescribed baking schedule per Table 1 and AMS2759/9.

4.3.3.4 Periodic and Preproduction Test Specimens for Thickness, Adhesion, Hardness, and Porosity

When Class 2 plating is performed, separate test specimens shall be chromium plated onto bare steel to a nominal thickness of 0.002 inch (51 μm).

4.4 Approval

4.4.1 The process and control factors or a preproduction part, or both, whichever is specified, shall be approved by the cognizant engineering organization before production parts are processed.

4.4.1.1 When specified, records of process control and all pre-production control test results shall be approved by the cognizant engineering organization before production parts are processed.

4.4.2 If the processor makes a significant change to any material, process, or control factor from that which was used for process approval, all preproduction tests shall be performed and the results submitted to the purchaser for process reapproval unless the change is approved by the cognizant engineering organization. A significant change is one which, in the judgment of the cognizant engineering organization, could affect the properties or performance of the parts.

4.4.3 Control factors shall include, but not limited to the following:

Stress relief performed by plating processor (temperature and time)
Surface preparation and cleaning methods
Plating material trade name and manufacturer
Plating bath composition and composition control limits
Plating bath temperature limits and controls
Plating interruption and restart procedures, when applicable
Stripping procedure, when applicable
Rack locations
Current density (amps per part or amps per total surface area of the parts plated at one time in each tank)
Hydrogen embrittlement relief (bake) temperature and time, when applicable
Periodic test plan for process solutions and records. See 4.2.2, 8.5, and 4.2.2.1.

4.5 Reports

The processor shall furnish with each shipment a report stating that the parts have been processed and tested in accordance with the specified requirements and that they conform to the acceptance test requirements. This report shall include the purchase order number, AMS2460A, the part number, lot identification, and quantity.

4.6 Resampling and Retesting

4.6.1 If any acceptance test for quality or thickness, and when specified, adhesion, hardness, or porosity fails to meet specified test requirements, the parts in that lot may be stripped, pretreated, plated and post treated as defined herein and retested. Alternatively, all parts in the lot may be inspected for the non-conforming attribute, and the non-conforming parts may be stripped, pretreated, plated, and post treated as defined herein and then retested. When specified for acceptance testing, if hydrogen embrittlement fails to meet test requirements, retesting in accordance with the procedures of ASTM F 519 is permitted

4.6.1.1 When stripping is performed, the method shall be acceptable to the purchaser and shall not roughen, pit, or embrittle the basis metal or adversely affect part dimensions. When parts have been stripped and replated, the reprocessing shall be documented and the purchaser shall be informed.

4.6.2 If any periodic test fails to meet specified requirements, the process is nonconforming. No additional parts shall be plated until the process is corrected and new specimens are plated and tested. Results of all tests shall be recorded and, when requested, reported. Purchasers shall be notified of all parts coated since the last acceptable periodic test.

5. PREPARATION FOR DELIVERY

5.1 Plated parts shall be handled and packaged in such as manner as will ensure that the required physical characteristics and properties of the plating are preserved.

5.2 Packages of plated parts shall be prepared for shipment in accordance with commercial practice and in compliance with applicable rules and regulations pertaining to the handling, packaging and transportation of the plated parts to ensure carrier acceptance and safe delivery.

6. ACKNOWLEDGEMENT

The processor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.

7. REJECTIONS

Parts on which plating does not conform to this specification or to modifications authorized by purchaser will be subject to rejection.

8. NOTES

8.1 A change bar (|) located in the left margin is for the convenience of the user in locating areas where technical revisions, not editorial changes, have been made to the previous issue of this document. An (R) symbol to the left of the document title indicates a complete revision of the document, including technical revisions. Change bars and (R) are not used in original publications, nor in documents that contain editorial changes only.

8.2 This plating process alters the product dimensions. Compliance with dimensional tolerances affected by the plating process requires communications of manufacturing planning information between the part fabricator and the plating processor. The cognizant engineering organization should specify the stage at which the plating thickness and the product dimensions (e.g., threads, features) apply such as before plating, as-plated, or after metal removal operations that are to follow plating.

8.3 The purchaser is expected to provide the processor with a properly dimensioned part that allows for the change in dimensions expected from this process. The purchaser should also provide any special instructions that may need to be observed concerning plating thickness or plated part dimensions.

8.4 The information in this section is provided for guidance, but does not alter the requirements of this specification.

8.4.1 Peening

A reduction in the fatigue life of chromium plated parts attributed to the chromium adhesion, physical characteristics, mechanical properties, and state of stress, should be expected. Parts designed for unlimited fatigue life under dynamic loads (including Class 2c and 2e of AMS-QQ-C-320) should be peened prior to plating, particularly surfaces for which the plating is required and on all immediately adjacent surfaces that contain notches, fillets or other abrupt changes of section size where stresses may be concentrated. AMS2430, AMS2432, AMS2546, or AMS-R-81841 are recommended peening specifications. eening is normally performed by the part fabricator or their subcontractor, and, unless specifically directed, is not the responsibility of the plating processor.

8.4.2 Hydrogen Embrittlement

Chromium plating and the associated precleaning processes can produce a cracking condition in the base metal known as hydrogen embrittlement. Hydrogen embrittlement sensitivity increases with increasing hardness or strength. Plating of steel parts 48 HRC (ultimate tensile strength 238 ksi [1641 MPa]) and higher requires specific authorization from the cognizant engineering organization that the item is suitable and intended for chromium plating. Plating of steel parts 40 HRC (ultimate tensile strength 182 ksi [1255 MPa]) and higher requires preproduction process approval of hydrogen embrittlement test results. See 4.2.3.1 Plating of steel parts 36 HRC (ultimate tensile strength 161 ksi [1110 MPa]) and higher requires post plating hydrogen embrittlement relief baking. See 3.3.4. Plating of steel parts 34 HRC (ultimate tensile strength 152 ksi [1048 MPa]) and higher with residual stresses requires thermal stress relief prior to plating. See 3.2.1. Additional guidance follows:

8.4.2.1 Control of and testing for hydrogen embrittlement includes all aspects of the process including surface preparation, reagent or electro cleaning, electrodeposition of the chromium onto the basis steel using acceptable bath chemistries, and the subsequent embrittlement relief (baking) operation. Care should be exercised to control all aspects of the chromium plating process.

8.4.2.2 Steel parts 40 HRC (ultimate tensile strength 182 ksi [1255 MPa]) or higher may be alkaline cleaned using anodic current, but cathodic or periodic reverse current should not be used.

8.4.2.3 An acid dip may be used for surface activation or neutralization of residual alkaline cleaner, however the immersion should be minimized, as measured in seconds, to preclude pitting or hydrogen embrittlement.

8.4.2.4 Except as noted in 8.4.2.2, the final step in cleaning should consist of anodically etching the parts in a chromic acid solution of a concentration approximately to that of the chromic acid solution used in the plating bath.

8.4.2.5 For plating nickel alloys, and for plating other alloys on which a deposit of nickel is used as an undercoating for chromium, the final step in cleaning should consist of electrolytically etching the parts in a sulfuric-hydrofluoric acid solution (25% by volume H_2SO_4 and 4.5% by volume HF) or in a 40% by volume solution of sulfuric acid. Current density should not exceed 3 amps per square inch to prevent base metal attack.

8.4.3 Class 1 Chromium Plating

8.4.3.1 The function of the under layer of nickel for Class 1 plating is to provide a pore free continuous underplate for the chromium outer layer. Generally, the thicker the nickel layer, the better the corrosion resistance. The system of an outer layer of chromium over the combined plated nickel and copper are generally used in a combined total thickness of 0.0001 to 0.002 inches (2.5 to 51 μm) depending upon service conditions and the basis metal.

8.4.3.2 Class 1 plating may be processed in the following forms of deposition:

R = Regular or conventional
MP = Microporous
MC = Microcracked

8.4.3.2.1 Generally, a nominal plating thickness, approximately 0.00001 inch (0.25 μm) is used for all forms of the Class 1 chromium deposit. The thickness of Form R plating should not exceed 0.0002 inch (5.1 μm) as the resultant chromium plate tends to crack spontaneously. Form MP deposits should contain a minimum of 64 500 pores per square inch (100 pores per square mm), invisible to the unaided eye. For MC deposits should have more than 750 cracks per inch (80 cracks per millimeter) in any direction over the significant surfaces. MP and MC forms are typically used for applications where retention of oil or lubrication is desired on the chrome surface.

8.4.3.2.2 The determination and acceptance of deposit Form should be accomplished by a method acceptable to the purchaser.

8.4.4 Class 2 Chromium Plating

8.4.4.1 Class 2 plating, also known as "engineering chromium", "industrial chromium", or "hard chromium" is typically used for wear resistance, abrasion resistance, improved frictional properties (lower), and such incidental corrosion barrier protection of parts as the specified thickness of the plating may afford. Class 2 plating is usually applied directly to the basis metal and is finished by grinding to the specified dimensions. It lacks the brightness of Class 1 plating. Additional corrosion resistance can be obtained by use of an undercoat of electrodeposited nickel in thickness of 0.001 to 0.002 inch (25 to 51 μm) on ferrous parts, the minimum thickness to be determined by service conditions. Heavy deposits of the Class 2 plating have been used for buildup of worn or undersized parts, or for salvage purposes, and to provide protection against corrosive chemical environments. Final grinding of the chromium plating can increase the incidence of cracking in the deposit. For greater corrosion resistance, based upon equal thickness, unground deposits should be selected rather than ground deposits. See 8.4.4.4. A reduction in fatigue life of chromium plated parts can be expected and is attributed to the physical and adhesion characteristics of the chromium plate and its state of stress. Plating bath temperature and embrittlement relief (baking) temperature have been found to affect the fatigue performance of Class 2 plating.

8.4.4.2 The following designations are provided for correlation with AMS-QQ-C-320 and QQ-C-320:

Class 2b - Parts below 40 HRC for which shot peening is not required
Class 2c - Parts below 40 HRC for which shot peening is required prior to plating
Class 2d - Parts 40 HRC and higher for which shot peening is not required
Class 2e - Parts 40 HRC and higher for which shot peening is required prior to plating.

8.4.4.3 For Class 2 plating, parts should be plated by electrodeposition of chromium from a chromic acid solution containing added sulfate, fluoride ions, or organic sulfonate catalysts.

8.4.4.4 Recommended maximum thickness of Class 2 plating is 0.015 inches (0.38 mm) except on tools and dies. Recommended minimum thickness of chromium, when used for protection against corrosion is 0.002 inches (51 um) however this does not imply any minimum corrosion resistance. Chromium plating 0.0005 inches (13 μm) or more in thickness is likely to crack the nickel underplating on brass basis metal.

8.4.4.5 When grinding chromium plate, it should be done with a soft wheel, proper coolant, (not dry. Excessive stock removal per pass is to be avoided. Recommended removal rate is 0.0001 inch (2.5 μm) per pass. AMS2440 is recommended to establish proper techniques for grinding of chromium plate.

8.5 ARP4992, "Periodic Test Plan for Process Solutions" is recommended to satisfy the requirements for control of processing solutions.

8.6 Test Specimen Material

When plating basis metals of the following types, the following criteria shall be used for selection of an acceptable generic alloy to represent parts for test purposes. The thickness to be applied to the test specimen shall be either:

1. The nominal thickness range (class or type) specified herein or

2. The thickness range specified by the purchaser or cognizant engineering authority.

8.6.1 Transformation Hardening Steels

These steels include, but are not limited to: (1) Plain carbon steels such ads AISI-SAE 10xx, 11xx, 12xx 15xx types, (2) Low and medium alloy steels (AISI-SAE 1300, 4000, 5000, 6000, 8000, 9000 series alloys and other transformation hardening steels where sufficient carbon or alloy is present to effect a martensitic phase transformation during heat treatment (applicable when martensitic phase transformation properties are the dominate hardening mechanism), and (3) Bearing steels such as 52100. Test specimen material shall be a low alloy steel such as AISI-SAE 4xxx, or 8xxx series. Alternative alloys may be used when agreed upon by purchaser and vendor.

8.6.2 CRES (Corrosion Resistant Steels)

Alloys containing primarily iron and chromium with or without nickel (ferritic, austenitic and martensitic grades) Includes 200, 300, 400 series stainless steels and PH grades stainless steels. Test specimen material shall be a stainless steel of a type and condition at the discretion of the processor.

8.6.3 High Alloy Steels

To include, but not limited to Maraging grades, AF 1410, Aero-Met 100, Hy-Tuf, HP alloys, etc. which rely on multiple strengthening mechanisms. Test specimen material shall be as agreed upon between purchaser and vendor.

8.6.4 Tool Steels

To include by not limited to W, S, F, O, L, D, A, H, and M series tool steels. Test specimens shall be of the same alloy as being plated. Alternative alloys may be used as test samples when agreed upon by purchaser and vendor.

8.6.5 Heat Resistant Alloys

To include Inconels, Hastelloys, René, Waspaloy, AM350, Custom 45x series, Incoloys, Greek Ascoloy, A286, etc. Test specimens shall be from the same alloy as being plated. Alternative alloys may be used when agreed up by purchaser and vendor.

8.6.6 Aluminum Alloys

Test specimens shall be from the same alloy and heat treat condition as being plated.

8.6.7 Titanium Alloys

Test specimens shall be from the same alloy and heat treat condition as being plated.

8.6.8 Copper Alloys

Includes brass, bronze and beryllium copper alloys. Test specimens shall be from the same alloy and temper condition as being plated.

8.7 Note that steel parts 34 HRC (ultimate tensile strength 152 ksi [1048 MPa]) and higher which have been ground, machined, cold formed, or cold straightened after heat treatment, but which have not been stress relieved, are susceptible to hydrogen embrittlement during the plating process. See 3.2.1 and 8.4.2. Failure to stress relieve such parts could result in cracking during cleaning and or plating. Note that the stress relief treatment is different and distinct from post plating hydrogen embrittlement relief (baking) treatment. See 3.3.4.

8.8 Terms used in AMS documents are clarified in ARP1917. ASTM B 374 "Terminology Relating to Electroplating" should be utilized as a reference and referee document when areas of design definition or technical interpretation arise.

8.9 Dimensions and properties in inch/pound units and the Fahrenheit temperatures are primary; dimensions and properties in SI units and Celsius temperatures are shown as the approximate equivalents of the primary units and are presented for information only.

PREPARED BY AMS COMMITTEE "B"

QQ-C-320B
June 17, 1974
SUPERSEDING
Fed. Spec. QQ-C-320A
July 25, 1967

FEDERAL SPECIFICATION

CHROMIUM PLATING (ELECTRODEPOSITED)

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration for use of all Federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers the requirements for electrodeposited chromium plating.

1.2 Classification.

1.2.1 Classes. Electrodeposited chromium plating shall be of the following classes, as specified (see 6.2):

Class 1 - Corrosion protective plating (see 3.3.1)
Class 2 - Engineering plating (see 3.3.2)

1.2.2 Finish. Class 1 plating shall be of the following types of finish, as specified (see 6.2):

Type I - Bright finish
Type II - Satin finish

2. APPLICABLE DOCUMENTS

2.1 The following documents of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

Federal Specifications

QQ-N-290	Nickel Plating (Electrodeposited)
QQ-S-624	Steel Bar, Alloy, Hot Rolled and Cold Finished (General Purpose)

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards and Handbooks as outlined under General Information in the Index of Federal Specifications and Standards and at the prices indicated in the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

(Single copies of this specification and other Federal Specifications required by activities outside the Federal Government for bidding purposes are available without charge from Business Service Centers at the General Services Administration Regional Offices in Boston, New York, Washington, DC, Atlanta, Chicago, Kansas City, MO, Fort Worth, Denver, San Francisco, Los Angeles, and Seattle.

(Federal Government activities may obtain copies of Federal Specifications, Standards, and Handbooks and the Index of Federal Specifications and Standards from established distribution points in their agencies.)

Military Specifications:

MIL-S-5002	Surface Treatments and Inorganic Coatings for Metal Surfaces of Weapons Systems
MIL-S-13165	Shot Peening of Ferrous Parts
MIL-R-81841	Rotary Flap Peening of Metal Parts

Military Standards:

MIL-STD-105	Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-1312	Fasteners, Test Methods

(Copies of Military Specifications and Standards required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless a specific issue is identified, the issue in effect on date of invitation for bids or request for proposal shall apply.

American Society for Testing and Materials (ASTM) Standards:

ASTM B-487	Measurement of Metal and Oxide Coating Thickness by Microscopic Examination of a Cross Section

ASTM B-499	Measurement of Coating Thicknesses by the Magnetic Method: Nonmagnetic Coatings on Magnetic Basis Metal
ASTM B-504	Measuring the Thickness of Metallic Coatings by the Coulometric Method
ASTM B-556	Thin Chromium Coatings by the Spot Test, Guideline for Measurement of
ASTM B-578	Measurement of Microhardness of Electrplated Coatings
ASTM E-8	Tension Testing of Metallic Materials

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.)

3. REQUIREMENTS

3.1 Materials. The materials used shall be such as to produce platings which meet the requirements of this specification.

3.2 General requirements.

3.2.1 High tensile steel parts. Unless otherwise specified (see 6.2), steel parts having an ultimate tensile strength greater than 240,000 psi (1655 MPa) shall not be plated without specific approval of the procuring activity.

3.2.2 Stress relief treatment. All steel parts having an ultimate tensile strength of 150,000 psi (1034 MPa) and above, which are machined, ground, cold formed or cold straightened, shall be baked at a minimum of 375 ±25°F (191 ±14°C) for three hours or more prior to cleaning and plating for the relief of damaging residual tensile stresses. When peening is required (see 3.3.2.3 and 3.3.2.5), thermal stress relief shall be performed prior to shot or rotary flap peening.

3.2.3 Cleaning. Unless otherwise specified (see 6.2), all steel parts shall be cleaned in accordance with MIL-S-5002. Other basis metals shall be cleaned by methods which shall not damage the substrate and shall not interfere with adhesion of the deposit.

3.2.4 Plating application. Unless otherwise specified (see 6.2), the plating shall be applied after all basis metal heat treatments and mechanical operations, such as machining, brazing, welding, forming and perforating of the article, have been completed.

3.2.5 Underplating. Unless otherwise specified (see 6.2), class 1 plating shall be applied over an intermediate plating of nickel in accordance with QQ-N-290 on steel, zinc and zinc-based alloys or copper and copper-based alloys. Unless otherwise specified (see 6.2), class 2 plating shall be deposited on the basis metal without a preliminary plating of another metal. In no case shall any underplate be substituted for any part of the specified chromium thickness.

3.2.6 Embrittlement relief. All coated steel parts having a hardness of Rockwell C40 and higher shall be baked at a minimum of 375 ±25°F (191 ±14°C) for three hours or more, within four hours after plating, to provide hydrogen embrittlement relief (see 6.4). The baked parts, when tested in accordance with 4.5.5, shall not crack or fail by fracture (see 4.4.3.5). Plated springs and other parts subject to flexure shall not be flexed prior to hydrogen embrittlement relief treatment.

3.2.7 Coverage. Unless otherwise specified (see 6.2), the plating shall cover all surfaces including roots of threads, corners and recesses.

3.2.8 Boundaries. Boundaries of class 2 plating which covers only a portion of the surface shall be free from beads, nodules, jagged edges and other irregularities.

3.2.9 Finish. For class 1 plating, the finish or luster shall be as specified (see 1.2.3 and 6.2). Type I of class 1 shall be a fully bright finish, smooth, uniform in appearance and free from frosty areas. Type II of class 1 shall be a satin finish, smooth and uniform in appearance. Unless otherwise specified (see 6.2), either a fully bright or a dull matte finish, smooth and free from frosty areas shall be acceptable for class 2 plating finish.

3.3 Processing.

3.3.1 Class 1 processing. Parts for class 1 deposition shall be plated to specific dimensions as specified (see 3.4.1.1). When specified (see 6.2), parts shall be processed in accordance with procedural instructions for form of chromium deposit (see 6.5).

3.3.2 Class 2 processing. Parts for class 2 deposition shall be plated to specific dimensions as specified (see 3.4.2.1). Unless otherwise specified (see 6.2), steel parts shall be processed in accordance with the procedural instructions of the procuring activity as follows:

3.3.2.1 Class 2a. Parts plated or plated and processed to specific dimensions in accordance with procedures and criteria specified by the procuring activity. Parts not covered by procedural instructions which do not specify baking procedures shall be baked in accordance with 3.2.6 after plating.

3.3.2.2 Class 2b. Plated parts below Rockwell C40 hardness, which are subjected to static loads or designed for limited life under dynamic loads or combinations thereof, need not be peened prior to plating.

3.3.2.3 Class 2c. Plated parts below Rockwell C40 hardness, which are designed for unlimited life under dynamic loads, shall be peened in accordance with MIL-S-13165 or MIL-R-81841 prior to plating. Unless otherwise specified in the applicable drawings, the peening shall be accomplished on all surfaces for which the plating is required and on all immediately adjacent surfaces when they contain notches, fillets or other abrupt changes of section size where stress will be concentrated.

3.3.2.4 Class 2d. Plated parts, Rockwell C40 hardness or above, which are subjected to static loads or designed for limited life under dynamic loads or combinations thereof, shall be baked in accordance with 3.2.6 after plating. The load for the static load test (see 4.5.5, the embrittlement relief test) shall be as specified in the contract, order or applicable drawing (see 6.2).

3.3.2.5 Class 2e. Plated parts, Rockwell C40 hardness or above, which are designed for unlimited life under dynamic loads, shall be peened in accordance with MIL-S-13165 or MIL-R-81841 prior to plating. Unless otherwise specified in the applicable drawings, the peening shall be accomplished on all surfaces for which the plating is required and on all immediately adjacent surfaces when they contain notches, fillets or other abrupt changes of section size where stress will be concentrated. The plated parts shall be baked in accordance with 3.2.6 after plating. The load for the static load test (see 4.5.5, the embrittlement relief test) and the dynamic load conditions shall be as specified in the contract, order or applicable drawing (see 6.2).

3.4 Detail requirements.

3.4.1 Class 1.

3.4.1.1 Thickness. Unless otherwise specified (see 6.2), the minimum thickness of class 1 chromium plating shall be 0.00001 inch or 0.01 mil (0.25 micrometre) on all visible surfaces which can be touched by a ball 0.75 inch (19 mm) in diameter. Unless otherwise specified (see 6.2), holes, deep recesses and other openings, bases of angles, and articles with internal threads from which the external environment is completely excluded and where a controlled deposit cannot be normally obtained shall not be subjected to a thickness requirement but shall show evidence of plating. There shall be no bare areas.

3.4.1.2 Underplating. Class 1 plating is normally used with an underplate system of nickel or copper. Where such requirements exist (see 3.2.5), the underplate thickness shall be in accordance with QQ-N-290. The thickness of the underplate shall not be used in determination of the specified chromium plating thickness.

3.4.1.3 Adhesion. The adhesion of the plating and any underplate shall be such that, when examined at a magnification of approximately 4 diameters, neither the chromium plating nor any electrodeposited underplate(s) shall show separation from the basis metal or from each other at their common interface(s) when subjected to the test described in 4.5.2. The interface between a plating and the basis metal is the surface of the basis metal before plating. The formation of cracks in the plate or the basis metal which does not result in flaking, peeling or blistering of the plate shall not be cause for rejection.

3.4.2 Class 2.

3.4.2.1 Thickness. The minimum, maximum or range of thickness for class 2 plating shall be as specified in the contract, purchase order or on the applicable drawing (see 6.2). If a thickness is not specified, the minimum thickness for the finished part shall be 0.002 inch or 2 mils (51 μm). The thickness requirement for class 2 plating shall apply after all metal finishing and post-plating grinding operations have been completed.

3.4.2.2 Adhesion. The adhesion of the plating and any underplate shall be such that when examined at a magnification of approximately 4 diameters, neither the plating, nor any electrodeposited underplate shall show separation from the basis metal or from each other at their common interface(s) when subjected to the test described in 4.5.2. The interface between a plating and the basis metal is the surface of the basis metal before plating. The formation of cracks in the basis metal or the plate which do not result in flaking, peeling or blistering of the plate shall not be cause for rejection.

3.4.2.3 Hardness. The minimum hardness of a cross-section class 2 plating, when subjected to the microhardness test detailed in 4.5.3, shall be 600 Vickers Hardness Number (VHN) or equivalent if the plating is finished to a semi-bright or matte luster (see 3.2.9). If the plating is finished to a bright or bright pebbly luster, the minimum hardness shall be 850 Vickers Hardness Number (VHN) or equivalent.

3.4.2.4 Porosity. The class 2 plating, by being as free from porosity as possible, shall be capable of protecting the basis metal from corrosion due to pits, pores or cracking. When subjected to the test detailed in 4.5.4, specimens shall show no more than a total of 15 isolated spots or pits, none larger than 1/32 inch (0.79 mm) in diameter, in a total of 150 square inches (967.8 sq. cms) of test area grouped from five or more test pieces; nor more than five isolated spots or pits, none larger than 1/32 inch (0.79 mm) in a total of 30 square inches (193.6 sq. cms) from one or more test pieces, except those areas within 1/16 inch (1.59 mm) from identification markings and contact marks after processing.

3.5 Workmanship.

3.5.1 Basis metal. The basis metal shall be free from visible defects that will be detrimental to the appearance or protective value of the plating. The basis metal shall be subjected to such cleaning and plating procedures as necessary to yield deposits herein specified.

3.5.2 Plating. The plating shall be smooth, fine grained, adherent, uniform in appearance, free from blisters, pits, nodules, excessive edge build-up and other defects. The plating shall show no indication of contamination or improper operation of equipment used to produce the deposit, such as excessively powdered or darkened plating, build-up and other defects. The size and number of contact marks shall be at a minimum consistent with good practice. The location of contact marks shall be in areas of minimum exposure to service environmental conditions where important to the function of the part. Superficial staining which has been demonstrated as resulting from rinsing or slight discoloration resulting from baking operations to relieve embrittlement, as specified above (see 3.2.6), shall not be cause for rejection. All details of workmanship shall conform to the best practice for high quality plating.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the Inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

4.2 Classification of inspection. The inspection requirements specified herein are classified as follows:

a. Production control inspection (see 4.3).

b. Quality conformance inspection (see 4.4).

4.3 Production control inspection.

4.3.1 Control records. When specified in the contract or order (see 6.2), the supplier shall maintain a record of each processing bath, showing all additional chemicals or treatment solutions to the unit, the results of all chemical analyses performed, and the quantity of parts plated during operation. Upon request of the procuring activity, such records as well as reports of the test results shall be made available. These records shall be maintained for not less than one year after completion of the contract or purchase order.

4.3.2 Production control. The equipment, procedures and operations employed by a supplier shall be capable of producing high quality electrodeposited platings as specified in this document. When specified by the procuring activity (see 6.2), the supplier, prior to production, shall demonstrate the capability of the process used to show freedom from hydrogen embrittlement damage as indicated by satisfactory behavior of specimens prepared (see 6.2.2) and tested in accordance with 4.3.2.1 to comply to the requirements of MIL-S-5002 for preproduction process qualification.

4.3.2.1 Preproduction control. For preproduction control, four round notched steel specimens shall be prepared in accordance with 4.4.4.3 from four individual heats for a total of 16 specimens, using the specified steel alloy for which preproduction examinations of the process is to be demonstrated. Specimens shall be heat treated to the maximum tensile strength representing production usage. The specimens shall be given the same pretreatments and treatments proposed for production. The specimens shall be subject to the test detailed in 4.5.5. The process shall be considered satisfactory if all specimens show no indication of cracks or failure. The test results and production control information shall be submitted to the procuring activity for approval. Until approval has been received, parts shall not be plated.

4.3.3 Frequency of tests. To assure continuous control of the process as required by MIL-S-5002 and to prevent detrimental hydrogen embrittlement during production, the satisfactory behavior of specimens prepared and tested in accordance with table I shall be made once each month, or more frequently if required by the procuring activity. The results of tests made to determine conformance of electrodeposited platings to all requirements of this specification are acceptable as evidence of the properties being obtained with the equipment and procedures employed.

4.3.4 Production control specimens. Test specimens for production control shall be prepared in accordance with 4.4.4, 4.4.4.1 and 4.4.4.2, as applicable for the thickness, adhesion, hardness and porosity tests detailed in table I. Specimens for the production control embrittlement relief test shall be four round notched steel specimens of alloy steel 4340, conforming to QQ-S-624, heat treated to the maximum tensile strength from one or more heats, and prepared in accordance with 4.4.4.3.

4.4 Quality conformance inspection.

4.4.1 Lot. A lot shall consist of plated articles of the same basis metal composition, class, deposition form and finish, plated and treated under the same conditions and approximately the same size and shape submitted for inspection at one time.

4.4.2 Sampling for visual examination and nondestructive tests. Sampling for visual examination and nondestructive tests shall be conducted as directed by the procuring activity (see 6.2) in accordance with MIL-STD-105

or using table II. A sample of coated parts or articles shall be drawn by taking at random from each lot the number of articles in accordance with MIL-STD-105, Level II, Acceptable Quality Level (AQL) 1.5 percent defective or as indicated in table II. The lot shall be accepted or rejected according to the procedures in 4.4.2.1 for visual examination and 4.4.2.2 for plating thickness (nondestructive tests).

Table I. Production control tests and specimens

Test	For coating classes	Requirement paragraphs	Specimen preparation paragraph 1/	Test reference paragraphs
Thickness	1 and 2	3.4.1.1 and 3.4.1.2 or 3.4.2.1	4.4.4 and 4.4.4.1	4.5.1
Adhesion	1 and 2	3.4.1.3 or 3.4.2.2	4.4.4 and 4.4.4.1	4.5.2
Hardness	2	3.4.2.3	4.4.4 and 4.4.4.1	4.5.3
Porosity	2	3.4.2.4	4.4.4 and 4.4.4.2	4.5.4
Hydrogen embrittlement relief	1 and 2	3.2.6	4.4.4 and 4.4.4.3	4.5.5

1/ Standard alloy steels shall be used for production control specimens. The selection shall be at the option of the supplier; however, alloy steels such as AISI or SAE numbers 4130, 4135, 4140, 4145, 4340, 8645 and 8740 conforming to QQ-S-624 shall be used.

Table II. Sampling for visual examination and nondestructive tests

Number of items in lot inspections	Number of items in samples (randomly selected)	Acceptance number (maximum number of sample items nonconforming to any test)
15 or less	7 1/	0
16 to 40	10	0
41 to 110	15	0
111 to 300	25	1
301 to 500	35	1
501 and over	50	2

1/ If the number of items in the inspection lot is less than 7, the number of items in the sample shall equal the number of items in the inspection lot.

4.4.2.1 Visual examination. Samples selected in accordance with 4.4.2 shall be examined for compliance with the requirements of 3.2.7, 3.2.8, 3.2.9 and 3.5.2 after plating. If the number of nonconforming articles exceeds the acceptance number for the sample, the lot represented by the sample shall be rejected.

4.4.2.2 Thickness of plating (nondestructive tests). Samples selected in accordance with 4.4.2 shall be inspected and the plating thickness measured by the applicable test detailed in 4.5.1 at several locations on each article as defined in 3.4.1.1 and 3.4.1.2 or in 3.4.2.1; as applicable, for compliance with the requirement. Measurements on fastener hardware shall be made on location defined in MIL-STD-1213, Test 12. The part or article shall be considered nonconforming if one or more measurements fail to meet the specified minimum thickness. If the number of defective items in any sample exceeds the acceptance number for the specified sample, the lot represented by the sample shall be rejected. Separate specimens (see 4.4.4.1) shall not be used for thickness measurements unless a need has been demonstrated.

4.4.3 Sampling for destructive tests. A random sample of five plated parts or articles shall be taken from each lot for each destructive test or separately plated specimens shall be prepared in accordance with 4.4.4, 4.4.4.1, 4.4.4.2 and 4.4.4.3 to represent each lot. If the number of articles in the lot is five or less, the number of articles in the sample shall be specified by the procuring activity (see 6.2).

4.4.3.1 Thickness of plating (destructive tests). If sampling and testing for thickness of plating by nondestructive testing is not the option of the supplier, samples selected in accordance with 4.4.3 shall be measured for plating thickness by the applicable tests detailed in 4.5.1 at several locations as defined in 3.4.1.1 and 3.4.1.2 or in 3.4.2.1, as applicable, for compliance with the requirements. Measurements for fastener hardware shall be made at locations defined in MIL-STD-1312, Test 12. If the plating thickness at any place on any article or specimen is less than the specified minimum thickness, the lot shall be rejected. Separate specimens (see 4.4.4.1) shall not be used for thickness measurements unless a need has been demonstrated.

4.4.3.2 Adhesion (destructive tests). The articles or specimens used for the destructive thickness test (see 4.4.3.1), if of suitable size and form, may be used as the test pieces for the adhesion test to determine compliance with the requirements of 3.4.1.3 or 3.4.2.2. Failure of one or more of the test pieces shall constitute failure of the lot.

4.4.3.3 Hardness (destructive tests). When specified in the contract or order (see 6.2), compliance with the requirements for hardness shall be determined. The articles or specimens, used for the destructive thickness test (see 4.4.3.1) if of suitable size and form, may be used for the test pieces for examination to determine compliance with the requirement

of 3.4.2.3. Failure of one or more of the test pieces shall constitute failure of the lot.

4.4.3.4 Porosity (destructive tests). When specified in the contract or order (see 6.2), compliance with the requirements for porosity shall be determined. A set of five separate test specimens prepared in accordance with 4.4.4 and 4.4.4.2 in lieu of treated plated articles shall be used to determine compliance with the requirements for porosity (see 3.4.2.4). Failure of one or more of the test specimens shall reject the lot.

4.4.3.5 Hydrogen embrittlement relief (destructive tests). Unless otherwise specified in the contract or order (see 6.2), conformance to the requirements of 3.2.6 for hydrogen embrittlement relief of treated steel parts shall be determined for those parts, comprising a lot, having a tensile strength of or heat treated to a tensile strength level of 240,000 psi (1655 MPa) or above and which will be subjected to a sustained tensile load in use. A random sample of five plated articles shall be taken from each lot or five specimens, prepared in accordance with 4.4.4 and 4.4.4.3 shall be used to represent the lot. When tested as specified in 4.5.5, cracks or failure by fracture shall be cause for rejection. Failure of one or more of the test pieces shall reject the lot.

4.4.4 Quality conformance specimen preparation. When the plated articles are of such form, shape, size and value as to prohibit use thereof, or are not readily adaptable to a test specified herein, or when destructive tests of small lot sizes are required, the test shall be made by the use of separate specimens plated concurrently with the articles represented. The separate specimens shall be of a basis metal equivalent to that of the article represented. "Equivalent" basis metal includes chemical composition, grade, condition and finish of surface prior to plating. For example, a cold-rolled steel surface should not be used to represent a hot-rolled steel surface. Due to the impracticality of forging or casting separate test specimens, hot-rolled specimens may be used to represent forged and cast-steel articles. The separate specimens may also be cut from the scrap casting when ferrous alloy castings are being plated. These separate specimens may be introduced into a lot at regular intervals prior to the cleaning operations, prior to plating and shall not be separated therefrom until after completion of plating. Conditions affecting the plating of specimens, including the spacing, plating media, bath agitation, temperature, etc. in respect to other objects being plated shall correspond as nearly as possible to those affecting the significant surfaces of the articles represented. Separate specimens shall not be used for thickness measurements, however, unless the necessity for their use has been demonstrated.

4.4.4.1 Specimens for thickness, adhesion, and hardness tests. If separate specimens for thickness, adhesion, and hardness tests are required, they shall be strips approximately 1 inch (25 mm) wide, 4 inches (102 mm) long and 0.04 inch (1 mm) thick.

4.4.4.2 Specimens for porosity tests. If separate specimens for porosity tests are required, they shall be panels not less than 10 inches (254 mm) in length, 3 inches (76 mm) in width and approximately 0.04 inch (1 mm) thick.

4.4.4.3 Specimens for embrittlement relief. Separate specimens for embrittlement relief test shall be round notched specimens with the axis of the specimen (load direction) perpendicular to the short transverse grain flow direction. The configuration shall be in accordance with Figure 8 of ASTM E-8 for rounded specimens. Specimens shall have a 60 degree V-notch located approximately at the center of the gage length. The cross section area at the root of the vee shall be approximately equal to half the area of the full cross section area of the specimen's reduced section. The vee shall have a 0.010 ±0.0005 inch (0.254 ±0.0127 mm) radius of curvature at the base of the notch (see 6.2.2).

4.5 Tests.

4.5.1 Thickness. For nondestructive measurement of plating thickness, procedures in accordance with ASTM B-499 (magnetic test method) may be used. For destructive measurement of plating thickness, procedures in accordance with ASTM B-487 (microscopic) or ASTM B-504 (coulometric) may be used. In addition to the above, other procedures embodied in MIL-STD-1312, Test 12, may be used for thickness measurement of plated fastener hardware. Class 1 plating may be measured for thickness in accordance with ASTM B-556 (spot test) within its limitations, as a destructive procedure.

4.5.2 Adhesion. Adhesion may be determined by scooping the surface or shearing with a sharp edge, knife or razor through the plating down to the basis metal and examining at four diameters magnification for evidence of non-adhesion. Alternately the article or specimen may be clamped in a vise and the projecting portion bent back and forth until rupture occurs. If the edge of the ruptured plating can be peeled back or if separation between the plating and the basis metal can be seen at the point of rupture when examined at four diameters magnification, adhesion is not satisfactory.

4.5.3 Hardness. The hardness of class 2 plating shall be determined by a microhardness traverse in accordance with ASTM B-578, except that a Vicker indenter and 100 gram load shall be used. A minimum of three hardness readings shall be made to establish the basis metal hardness in an area at least 0.125 inch (3.175 mm) from the outer surface or at mid radius of the cross section which ever is less. Readings shall be taken at 0.0005 inch (0.013 mm) intervals starting at 0.001 inch (0.025 mm) from the outer surface in a staggered pattern until the pre-established basis metal hardness is reached. The hardness reading may be plotted versus distance from the outer surface. The point at which the hardness shows a vast decrease may be taken as the limits of chromium plating.

4.5.4 Porosity. Prior to determining porosity by the ferroxyl test, the specimen surface shall be cleaned to remove any oil or grease. Contamination removal shall be accomplished with any acceptable solvent in accordance with MIL-S-5002. A sheet of filter paper, saturated by dipping in a ferroxyl solution heated to 180 to 200°F (82 to 94°C), shall be applied to the flat surface of the specimen or of the article. The solution composition shall be as follows:

Potassium ferricyanide ($K_3Fe(CN)_6$)	1 gm.
Sodium chloride (NaCl)	10 gms.
Agar	10 gms.
Water (distilled or deionized) to make	1 litre

After 10 minutes, the heated filter paper shall be removed. Both the plated surface and the filter paper shall be examined. Where corrosion of the basis metal will occur at pores or other defects due to the plating, dark blue spots will have been developed. Contact may further be assured by the use of a soft bristle brush moistened with the reagent solution. For a permanent record, the filter paper can be dried.

4.5.5 Embrittlement relief. Compliance with 3.2.6 shall be determined with samples of plated parts taken as specified in 4.4.3.5. Parts such as spring pins, lock rings, etc., which are installed in holes or rods, shall be similarly assembled using the applicable parts specifications or drawings tolerances which impose the maximum sustained tensile load on the plated part. The selected samples shall be subjected to a sustained tensile load equal to 115 percent of the maximum design yield load for which the part was designed. Parts which require special fixtures, extreme loads to comply with the above requirements, or where the maximum design yield load is not known, may be represented by separate specimens prepared in accordance with 4.4.4.3. The notched samples shall be subjected to a sustained tensile load equal to 75 percent of the ultimate notch tensile strength of the material. The articles, parts or specimens shall be held under load for at least 200 hours and then examined for cracks or fracture.

5. PREPARATION FOR DELIVERY

5.1 Packaging and packing. Preservation, packaging and packing methods for electrodeposited plated parts or articles employed by a supplier shall be such as to preclude damaging during shipment and handling.

6. NOTES

6.1 Intended use.

6.1.1 Class 1 plating. Class 1 plating is applied as a decorative finish, usually over nickel, or copper and nickel, on basis metals such as iron and steel, copper and copper-base alloys, and zinc and zinc-base diecasting where necessary to protect the basis metal from corrosion and

wear and to provide a pleasing appearance. The function of the underlayers of nickel is to provide a pore-free continuous underplate for the chromium outer layer. Generally, the thicker the nickel layer, the better the corrosion resistance. The systems of an outer layer of chromium over the combined plated nickel and copper are generally used in a combined total thickness of 0.0001 to 0.002 inch (2.5 to 51 µm) depending upon service conditions and the basis metal.

6.1.1.1 Chromium platings 0.0005 inch (13 µm) or more in thickness are likely to crack nickel plating on brass basis metal. The minimum thickness of chromium should be obtained under conditions such that the maximum thicknesses are less than 0.00005 inch (1.3 µm).

6.1.2 Class 2 plating. Class 2 plating, also known as "industrial chromium" or "hard chromium", is used for wear resistance, abrasion resistance and such incidental corrosion protection of parts as the specified thickness of the plating may afford. Engineering chromium is usually applied directly to the basis metal and is finished by grinding to the specified dimensions. It lacks the brightness of class 1 plating. Additional corrosion resistance can be obtained by use of an undercoat of electrodeposited nickel in thickness of 0.001 to 0.002 inch (25 to 51 µm) on ferrous parts, the minimum thickness to be determined by service conditions. Heavy deposits of the class 2 plating may be used for buildup of worn or undersized parts, or for salvage purposes, and to provide protection against corrosive chemical environments. Final grinding of the chromium plating can increase the number of cracks in the deposit. For greater corrosion resistance, based upon equal thickness, unground deposits should be selected rather than ground deposits.

6.2 Ordering data. Purchasers should select the preferred options permitted herein and include the following information in procurement documents.

a. Title, number, and date of this specification.

b. Class of plating (see 1.2.1, 3.3.1, 3.3.2, 3.3.2.1, 3.3.2.2, 3.3.2.3, 3.3.2.4 and 3.3.2.5).

c. Deposition and finish, if applicable (see 1.2.2, 3.2.9 and 3.3.1).

d. When plating is to be applied, if other than specified (see 3.2.1, 3.2.4, 3.3.1, 3.3.2, 3.3.2.1, 3.3.2.2, 3.3.2.3, 3.3.2.4 and 3.3.2.5).

e. Cleaning of steel, if other than specified (see 3.2.3).

f. Underplating, if other than specified or required (see 3.2.5).

g. Coverage, if other than specified (see 3.2.7).

h. Surface finish; if particular finish required (see 3.2.9).

i. Thickness of plating, as specified (see 3.3.1, 3.3.2, 3.3.2.1, 3.4.1.1, 3.4.1.2, and 3.4.2.1).

j. Control record requirement (see 4.3.1).

k. Preproduction control examination (see 4.3.2).

l. Sampling plan (see 4.4.2).

m. Number of samples for destructive testing (see 4.4.3).

n. Hardness, porosity and hydrogen embrittlement tests, whether required for quality conformance inspection (see 4.4.3.3, 4.4.3.4 and 4.4.3.5).

6.2.1 The manufacturer of the basis metal parts should provide the plating facility with the following data:

a. Hardness of steel parts (see 3.2.1, 3.2.2, 3.2.6 and 3.3.2).

b. Heat treatment for stress relief, whether has been performed or is required (see 3.2.2).

c. Tensile loads required for embrittlement relief test, if applicable (see 3.2.6 and 4.5.5).

6.2.2 The manufacturer of the basis metal parts should provide the plating facility with notched specimens (see 4.4.4.3) to be plated for conformance with 3.2.6 required for production control (see 4.3.2.1 and 4.3.4) and for lot acceptance (see 4.4.3 and 4.4.3.5).

6.3 Stress relief. There is a hazard that hardened and tempered cold-worked or cold-straightened steel parts may crack during cleaning and plating. Such parts shall have a suitable heat treatment for stress relief prior to cleaning and plating (see 3.2.2).

6.4 Baking time. For high strength materials (Rockwell C40 and above), it may be beneficial to extend the baking time to 23 hours to insure complete hydrogen embrittlement relief (see 3.2.6).

6.5 Class 1 processing. Class 1 chromium plating may be processed for the following forms of deposition:

R- Regular or conventional
MP- Micro-porous
MC- Micro-cracked

Generally, a nominal coating thickness, approximately 0.00001 inch (0.01 mil or 0.25 µm) is used for all forms of the chromium deposition. The thickness of Form R plating should not exceed 0.00002 inch (0.02 mil or 0.51 µm) as the resultant chromium coating tends to crack spontaneously. Form MP deposition should contain a minimum of 64,500 pores per square inch (100 pores per square millimetre), invisible to the unaided eye. Form MC desposition should have more than 750 cracks per inch (80 cracks per millimetre) in any direction over the significant surfaces.

6.5.1 Correlation. The correlation between the chromium plating forms and the grades and forms of nickel deposition as detailed in QQ-N-290 are indicated in table III.

6.5.2 Determination of deposition form. The micro-porous or micro-cracked deposition characteristic can be determined by examination of electrodeposited copper at discontinuities in the unbuffed chromium plated surfaces. The color contrast between the smallest dot or streak of copper and the surrounding chromium can be readily observed.

6.5.2.1 Preparation. All cut edges and those surfaces of selected specimens which are not chromium plated should be masked with a pressure sensitive PVC tape conforming to HH-T-0025, Tape, Pressure-Sensitive Adhesion, Plastic (For Electroplating). The conductor (wire, rack or hook)which will carry the current to the specimen while copper plating should also be masked below the plating bath level, except where electrical contact is made with the specimen. The masked specimen should be cleaned by soaking in a hot alkali cleaner until the chromium plated surface is free from water breaks after thorough rinsing in cold water and dipping in a 5 percent sulfuric acid solution. Gentle brushing the plated surface with a soft brush, while in the cleaner, can be helpful.

6.5.2.2 Copper deposition. When the specimen is immersed in a solution whose composition is as follows, the current should be on:

Copper Sulfate ($CuSO_4 \cdot 5H_2O$)- 28 to 32 oz/gal (210 to 240 gm/1)

Sulfuric Acid (H_2SO_4) - 6 to 8 fl oz/gal (47 to 62 ml/1)

Table III. Correlationship of Class 1 chromium plating deposition and Class 1 nickel plating grades and deposition

Grades of Nickel Deposition (See QQ-N-290)	For Steels, Zinc and Zinc Alloys		For Copper and Copper Alloys	
	Nickel 1/ (See QQ-N-290)	Chromium	Nickel 1/ (See QQ-N-290)	Chromium
A	M and SD	R	-	
B	M	R, MP and MC	M and SB	R
	SD	MP and MC		
C	M	MP and MC	M	R, MP and MC
			SD	R
			SB	MP and MC
D	SB, M and SD 2/	R	M and SD	MP and MC
E	SB, M and SD 2/	MP and MC	SB, M and SD 2/	R
F	SB, M and SD 2/	R, MP and MC 3/	SB, M and SD 2/	MP
G	-	-	SB, M and SD 2/	R, MP and MC 3/

1/ Where a dull or satin-like finish is required unbuffed SD nickel may be substituted for SB nickel or for the bright layer of M nickel.

2/ SD or M nickel deposition may be substituted for SB nickel deposition where the nickel-chromium system is subjected to mild or moderate service conditions.

3/ MC or MP chromium deposition may be substituted for R chromium deposition where the nickel-chromium system is subjected to mild service conditions.

Brightness and additional agents should be used in the plating bath for the purpose of brightening the deposit as detailed above in 6.5.2. Operating conditions should be as follows:

Temperature - Room (65 to 75°F or 18 to 24°C)
Current density - 3 amperes per square foot (0.32 amperes per square decimetre)
Time - 15 minutes
Anode - Copper (conforming to QQ-A-673)

The specimen should be removed, carefully rinsed in cold water, then hot water and allowed to dry. Where the pores or cracks will be counted, the specimens should not be wiped. Copper nodules, deposited at the sites, are not firmly attached. Any physical contact after plating may remove some of the copper depositions and cause erroneous results. Photomicrographs may be used for determining the deposition forms and they could be prepared in accordance with ASTM E2, Micrographs of Metals and Alloys (Including

Recommended Practice for Photography as Applied to Metallography). The number of pores or the number of cracks may be estimated by counting on a ground-glass screen, on a photomicrograph of a representative field of the specimen, or on the specimen itself. A circle or rectangle of known area (such as 100 square mm to simplify calculations) on a micrograph or on the ground-glass screen of the metallograph can be inscribed. The selected magnficiation, usually about 100X, should be suitable to properly count the pores or cracks for observation of any limitations permitted for deposition.

Custodians:
Army - MR
Navy - AS
Air Force - 11

Review activities:
Army - EL, MI, ME, AV, MU, WC
Navy - OS
Air Force - 84, 70
Defense Supply Agency - IS

User activities
Army - AT, GL
Navy - SH

CIVIL AGENCY COORDINATING ACTIVITIES:
GSA - FSS
COM - NBS

Preparing activity:
Navy - AS
(Project No. MFFP-0078)

U S GOVERNMENT PRINTING OFFICE 1976 703-020 941

Orders for this publication are to be placed with General Services Administration, acting as an agent for the Superintendent of Documents. See section 2 of this specification to obtain copies and other documents referenced herein. Price 40 cents each.

INSTRUCTIONS: In a continuing effort to make our standardization documents better, the DoD provides this form for use in submitting comments and suggestions for improvements. All users of military standardization documents are invited to provide suggestions. This form may be detached, folded along the lines indicated, taped along the loose edge *(DO NOT STAPLE)*, and mailed. In block 5, be as specific as possible about particular problem areas such as wording which required interpretation, was too rigid, restrictive, loose, ambiguous, or was incompatible, and give proposed wording changes which would alleviate the problems. Enter in block 6 any remarks not related to a specific paragraph of the document. If block 7 is filled out, an acknowledgement will be mailed to you within 30 days to let you know that your comments were received and are being considered.

NOTE: This form may not be used to request copies of documents, nor to request waivers, deviations, or clarification of specification requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document*(s)* or to amend contractual requirements.

(Fold along this line)

(Fold along this line)

DEPARTMENT OF THE NAVY

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE $300

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 12503 WASHINGTON D. C.

POSTAGE WILL BE PAID BY THE DEPARTMENT OF THE NAVY

Commander, Naval Air Systems Command
Engineering Division
Standardization Section, Code: AIR 52021
Department of the Navy
Washington, DC 20361

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions – Reverse Side)

1. DOCUMENT NUMBER	2. DOCUMENT TITLE

3a. NAME OF SUBMITTING ORGANIZATION	4. TYPE OF ORGANIZATION *(Mark one)*
	☐ VENDOR
b. ADDRESS *(Street, City, State, ZIP Code)*	☐ USER
	☐ MANUFACTURER
	☐ OTHER *(Specify)*: _____

5. PROBLEM AREAS

a. Paragraph Number and Wording:

b. Recommended Wording:

c. Reason/Rationale for Recommendation:

6. REMARKS

7a. NAME OF SUBMITTER *(Last, First, MI)* – Optional	b. WORK TELEPHONE NUMBER *(Include Area Code)* – Optional
c. MAILING ADDRESS *(Street, City, State, ZIP Code)* – Optional	8. DATE OF SUBMISSION *(YYMMDD)*

DD FORM 82 MAR 1426

PREVIOUS EDITION IS OBSOLETE.

SUBSTITUTION PLAN

Public Version

Legal name of applicants:	Ideal Standard Produktions-GmbH Ideal Standard - Vidima AD
Submitted by:	Ideal Standard - Vidima AD
Date:	08.12.2020
Substance:	Chromium trioxide, EC No: 215-607-8, CAS No: 1333-82-0
Use title:	Electroplating of different types of substrates using chromium trioxide to achieve functional surfaces with high durability and a bright or matt silvery appearance for sanitary applications
Use number:	1

CONTENTS

TABLES

FIGURES

DECLARATION

The Applicants *Ideal Standard Produktions-GmbH* and *Ideal Standard – Vidima AD* are aware of the fact that evidence might be requested by ECHA to support information provided in this document.

Also, we request that the information blanked out in the public version of the Substitution Plan is not disclosed. We hereby declare that, to the best of our knowledge as of today (30.11.2020) the information is not publicly available, and in accordance with the due measures of protection that we have implemented, a member of the public should not be able to obtain access to this information without our consent or that of the third party whose commercial interests are at stake.

Signature: 

Date, Place: 30.11.2020, Witlich

Name: Stefan Thul

Titel: Technical Leader (TEF)

Company: Ideal Standard Produktions-GmbH

LIST OF ABBREVATIATIONS

ABS	Acrylonitrile-Butadiene-Styrene
AfA	Application for Authorization
AoA	Analysis of Alternatives
BAM	Federal Institute for Materials Research and Testing
Cr(III)	Trivalent Chromium, Chromium (III)
Cr(VI)	Hexavalent Chromium, Chromium (VI)
CrO3	Chromium Trioxide
CTAC	Chromium Trioxide Authorisation Consortium
ECHA	European Chemicals Agency
FuSchiDec	Working group Funktionale Schichten mit dekorativem Charakter
ISO	International Organization for Standardization
PL	Project Leader
PVD	Physical Vapour Deposition
R&D	Research and Development
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals, Regulation 1907/2006, as amended
SST	Salt Spray Test

1. INTRODUCTION

In 2018, the applicants, Ideal Standard Produktions-GmbH and Ideal Standard - Vidima AD (further referred to as Ideal Standard), submitted an Application for Authorisation (AfA) for the continued use of chromium trioxide (CrO_3) in electroplating of metal (brass) and plastic (Acrylonitrile-Butadiene-Styrene, ABS) substrates for sanitary applications. Chromium trioxide is currently used at the applicant's production sites in Wittlich (Germany), Sevlievo and Gradnitsa (Bulgaria).

The basic technology for functional chrome plating with decorative character comprises a process chain and can be divided in three sub-processes: the pre-treatment, the main process and the post- treatment (refer to the Analysis of Alternatives (AoA), chapter 3.2). Depending on the substrate treated, in either one or two process steps chromium trioxide is used. For metal substrates, only the main process is dependent on the substance, while for plastic substrates also the pre-treatment requires chromium trioxide for an adequate etching of the surface. Importantly, these two different steps in the electroplating process are strongly interlinked. Only the combination of an adequate pre-treatment together with the following electroplating steps guarantees the necessary coating performance of the final product. Hence, both were discussed in two different uses in the submitted AfA. An authorisation decision by the European Commission is still pending. In a letter dated from 8th June 2020 the European Commission has requested the applicant to submit a substitution plan which is hereby presented. According to the statement of the European Commission, use 2 describing the pre-treatment to electroplating processes has a different scope and associated analysis of alternatives and therefore is not affected by the request of the present letter.

In the sanitary sector, electroplating is used to achieve a high-quality surface with excellent durability in contact with aggressive and demanding environmental conditions and at the same time has a high aesthetic and decorative value. The finishes have a bright or matt silvery appearance. The metallic chrome layer is applied as final coating on top of a multi-layer system and the combination of underplates is responsible for the final appearance (bright or matt) of the top coating as well as for the even surface. The underplates vary depending on the different required functionalities of the final product and the used substrate.

The applicant is working toward a substitution and transition to hexavalent chromium (Cr(VI))-free surface treatment of sanitary applications. However, this is a complex and lengthy process where several factors need to be considered. The applicant's development and implementation process is separated in different phases presented and described in more detail in this substitution plan (chapter 3).

Identification of possible alternatives

The usage of chromium trioxide in electroplating for sanitary applications has multiple advantages, which are mainly based on the unique characteristics of the hexavalent chromium compound. These for example are the valuable properties of the metallic chrome layer for sanitary applications such as among others corrosion resistance, wear resistance, adhesion and chemical resistance (refer to AoA, chapter 3.3). These numerous beneficial properties of metallic chrome coatings created from chromium trioxide are critical for sanitary applications and have made this compound the state-of-the-art substance.

Importantly, all key functionalities mentioned in the AoA and related minimum requirements are highly interconnected with each other. Therefore, it is mandatory that a potential alternative sufficiently fulfils every single minimum requirement to achieve a high-quality surface under the conditions of use and subsequently to prove suitability of the alternative technology.

In the AoA which is part of the AfA submitted in 2018 by the applicant, a comprehensive assessment against the key functionalities was performed. The applicant presented detailed technical and economic information for three most promising alternative technologies for the Cr(VI)-based electroplating (refer to AoA, chapter 6.2). None of them were equipped with the required combination of technical performance at the current stage.

The most promising alternatives to the hexavalent chromium electroplating process found during the assessment were trivalent chromium electroplating (Cr(III)-based electroplating) and two variants of processes based on physical vapour deposition (PVD). However, these two technologies Cr(III)-based electroplating and PVD-based processes differ fundamentally. Cr(III)-based electroplating is a galvanic process similar to Cr(VI)-based electroplating. Importantly, an etching process was still required for this alternative, which is based on Cr(VI) so far. In order to develop a completely Cr(VI)-free method, a suitable etching alternative needs to be developed. Potential alternatives to etching of plastics were discussed in Use 2. The PVD-based processes do not require chemical etching pre-treatment but use a completely different coating technology based on vacuum process (refer to AoA, chapter 6.2.2 and 6.2.3 for process details). The outcome of the alternative assessment presented in the AfA submitted in 2018 is shown in the following Table 1.

Table 1: Most promising alternatives for the Cr(VI)-based electroplating with colour-coded technical assessment criteria with available information.

Alternative method	Technical key functionalities								
	Corrosion resistance	Wear resistance / abrasion resistance	Adhesion	Chemical resistance	Substrate compati-bility	Temperature change / heat resistance	Colour consistency	Surface appea-rance	Process conditions
Trivalent chromium electroplating		varying, mostly failed		varying, mostly failed					
PVD-based processes: PVD metal						depending on deposited metal	depending on deposited metal		
PVD-based processes: Lacquer + PVD + lacquer				depending on deposited metal	depending on substrate			depending on deposited metal	

Red = not sufficient; Yellow = parameters/assessment criteria fulfilment not yet clear; Green = sufficient; Colourless = no data.

As the applicant demonstrated in its AoA in 2018, none of the assessed technologies was able to compete with the performance of electroplating using chromium trioxide for applications in the sanitary sector. Hence, the applicant continued supporting R&D activities related to Cr(III)-based electroplating in close collaboration with the chemical supplier by testing the process and coated products to further improve the coating properties and fulfil the required key functionalities.

Although defined as shortlisted alternatives, both PVD-based processes already possessed several technical and economic limitations 2 years ago especially related to process conditions, corrosion and wear resistance. Further limitations were very high investment and production costs as well as uncertainties regarding availability of PVD machines and applicability to the broad product spectrum in the sanitary sector. Trivalent chromium electroplating already showed satisfying results for some of the key functionalities such as for adhesion and substrate compatibility. Furthermore, it is a similar galvanic process and has the potential of comparable performance. Hence, it was considered the most promising and favoured alternative for sanitary applications. The main focus of R&D efforts by the applicant has been placed on this alternative in order to replace chromium trioxide for functional chrome plating for its applications. PVD-based coatings will most probably only be used for niche products of small series possessing e.g. special colours and therefore being not the main topic of R&D activities according to the development of a suitable alternative to Cr(VI)-based electroplating.

Information on R&D activities since November 2018 and the impact of R&D results on the substitution of chromium trioxide in electroplating processes are given in chapter 2 of this substitution plan. Furthermore, the applicant elaborated a timeline comprising six different

phases describing substitution activities. Please note that these activities and the timelines are based on the assumption that an alternative is available and leads to satisfying coating properties sufficiently fulfilling the requirements for sanitary applications.

Importantly, in order to reach coating properties comparable with Cr(VI)-based coatings, more R&D effort both at the side of the applicant and the chemical supplier is necessary for achieving the key functionalities defined by the applicant for its products and demanded by its customer. With this substitution plan the applicant further wants to present its engagement regarding a future substitution towards Cr(VI)-free coatings.

2. FACTORS AFFECTING SUBSTITUTION

As already mentioned above, trivalent chromium electroplating is the most promising alternative for sanitary applications. Hence, the applicant spent a lot of effort in R&D activities in close collaboration with the chemical supplier ([redacted]) towards this alternative. Therefore, when describing factors affecting substitution (chapter 2) and later on the timeline of actions required for substitution (chapter 3), it will be focused on this type of alternative.

Trivalent chromium electroplating is based on the same technology as the currently used process based on hexavalent chromium where similar equipment with wet-in wet bath technology is used (though plating lines and wastewater treatment must be expanded). Therefore, this alternative is technically the closest drop-in alternative. Nevertheless, the transition from hexavalent to trivalent chromium electroplating cannot simply be performed by changing the electrolyte. Before, comprehensive analyses of the influence on quality and performance of the final multi-layer system including the chromium top layer when using different types of substrates must be performed.

The applicant has been very engaged in these testings and already presented several results in the AoA submitted in 2018. Trivalent chromium coatings were applied on plastic and metal substrates and tested against key functionalities for the assessment of alternatives to Cr(VI)-based electroplating described in the AfA.

At that time, test results showed that Cr(III)-based electroplating was not yet a technical feasible alternative for the substitution of chromium trioxide in the sanitary industry. Therefore, the applicant cooperated in further R&D activities with the supplier in order to improve the coating properties in the last 2 years. Although new insights and progress could be gained it was still not possible to sufficiently fulfil the requirements of several key functionalities compared to hexavalent chromium electroplating e.g. related to corrosion and chemical resistance or colour consistency. Furthermore, products [redacted]. One of the largest technical challenges, which still could not be solved in collaboration with the chemical supplier, is that Cr(III)-based coatings suffer from bath impurities. These mainly involve foreign metal ions coming for example from the racks, the brass substrate or the production surroundings. Foreign metal ions might be embedded in the coating and can influence the surface appearance (yellowish/brownish shade of the coating colour resulting from corroded iron ions). This inconsistency in colour makes the assembly of different parts more difficult especially for the

applicant's customers. Additionally, the longer the Cr(III)-based electrolyte solution is used, the more accumulation of impurities in the bath occurs, which have an influence on the final colour of the product. Finally, the yellowish colour may also appear for example after long transport times of plated parts, even though the products have left the production facility with an adequate colour.

Longevity, which is considered as well as a very important criterion, cannot be estimated correctly for "real" applications based on laboratory analyses. Hence, field tests are required. Due to the water's fundamental impact on public health, products being in contact with drinking water are subject to national and international regulation. Hence, nickel leaching is an important key functionality especially for the sanitary industry that manufacturers parts in contact with drinking water. Importantly, leaching occurs (if at all) over a longer period of time depending on corrosion effects of the coated surface. As long-term testings will first be started when the alternative coating fulfils the requirements, testing of nickel leaching can only be tested when the final Cr(III)-based coating has been identified. Generally, testing for nickel leaching takes approximately two years including subsequent testings of two parts (one year for each part considering waiting periods at laboratories, the actual testing of ca. 6 months and the finalization of the final reports).

Cr(III)-based electroplating techniques and different kinds of electrolytes have already been commercially available for several years and therefore also in 2018 when the applicant submitted the AfA for CrO_3. However, the Cr(III)-coated parts for sanitary purposes which are available on the market do not comply with the applicant's requirements and customer demands illustrated in the AoA, such as the longevity of parts. Despite the increasing efforts in R&D and performance improvements during the last years, Cr(III)-plated parts are still not qualitatively comparable to Cr(VI)-plated parts for sanitary applications. Critical quality requirements are not fulfilled for example in long-term high-quality applications such as hotels where installations are highly frequented and intensively cleaned regularly so that technical limitations become even more obvious after a short time. This is not acceptable for the applicant's customers. Importantly, it is not expected that customer will change their purchase behaviour in the near future especially when there is a demand for long-term stable and robust surfaces for sanitary products. It is more likely that, when Cr(VI)-coated parts are not available in the EU anymore, they will prefer to import products based on hexavalent chromium from non-EU-countries. Independently, products must comply with e.g. the drinking water directive. Furthermore, the applicant is bound to contracts and legal obligations. On the one hand, Ideal Standard underlays sales contracts stipulating a certain time period of guaranteed delivery. On the other hand, there are spare part obligations due to which it is forced to deliver parts of same quality for at least 5 years. At the current stage, this cannot be ensured with trivalent chromium electroplating.

Exchanging the Cr(VI)-based process with Cr(III) electrolytes comes along with important process changes that will influence the economic feasibility. Although Cr(III)-based electroplating is based on the same technology (i.e. galvanic process), extensive modification work on the current plating line will be required. Hence, additional plating and rinsing baths, additional wastewater treatment measures and additional process equipment for the cooling of Cr(III) baths must be acquired. Additionally, technical re-constructions for the automatic movement of parts along the galvanic baths must be considered (refer to AoA, chapter 6.2.1.3).

Operational costs such as higher chemical costs, lower production outputs, higher scrap rates and analytical efforts will arise when hexavalent chromium electroplating is replaced by trivalent chromium electroplating. Considering the whole process, costs per part are estimated to be [redacted] higher with Cr(III)-based coatings. Since organic complexing agents are used during this alternative technology additional wastewater treatment measures might be required because they are likely to interfere with the current system. It is worth mentioning that there are also some benefits when transition will be carried out such as less air emissions, less toxic mists (which is already at the limit of quantification) and reduced costs for disposal due to less sludge production. However, the significant investments should not be neglected (refer to AoA, chapter 6.2.1.3).

In conclusion, the applicant continued tests and supporting R&D activities in close collaboration with the chemical supplier to improve the coating properties of the most promising alternative Cr(III) electroplating. Considering the above described newer tests, Cr(III)-based coatings can still not be produced in the required quality and reveal limitations related to the process transition and the surface properties showing insufficient coating properties for applications in the sanitary sector. **Please note that in 2020 the Corona pandemic had a significant impact on the applicant's activities and investments** especially related to the research area and the efforts on development activities towards suitable alternatives for hexavalent chromium electroplating. External workers e.g. from the formulator or the plating line supplier were not allowed to enter the site and travelling to formulators was not allowed. To conclude, all activities and tasks described in the R&D plan for 2020 had to be shortly postponed and it cannot be predicted when this pandemic will be overcome. It will certainly throw the applicant’s R&D progress back and also depends on the circumstances present at the chemical supplier. The current situation therefore results in a shift of possible investments and hence to a prolongation of the time needed to fully replace chromium trioxide.

Therefore, more research activities to finally receive an adequate coating alternative to Cr(VI)-based electroplating are needed in the future. Testings with new developments from chemical suppliers and process development must continue. Thereby, development and potential

implementation of the alternative will be supported by the applicant, particularly with respect to the most promising sulphate-based Cr(III) electrolytes.

3. LIST OF ACTIONS AND TIMETABLE WITH MILESTONES

The substitution of hexavalent chromium electroplating is a lengthy process and comprises several different activities among others the development including several testing series, technical implementation and market introduction. Based on the current knowledge and its R&D activities, the applicant elaborated a timeline for the substitution of chromium trioxide in functional chrome plating with decorative character for sanitary applications (Figure 1). This timeline comprises six phases which refer to research activities up to the final market introduction of the currently most promising alternative being trivalent chromium electroplating. Importantly, as the timeline represents the best-case scenario, there are clear aspects that show that a review period of at least 12 years is needed until substitution of chromium trioxide in plating of sanitary goods can be achieved. Additionally, especially the first phase describing R&D activities does not only depend on the progress related to the plating of metal and plastic substrates, but also on the progress of R&D activities related to alternatives for the etching pre-treatment of plastic substrates (these two steps are strongly interconnected and should be considered together).

Phase 1: Development / Trials / Risk Analysis (at least 2 years)

Any potential alternative must sufficiently fulfil every key functionality to achieve a high-quality surface under the conditions of use. Therefore, the potential of the most suitable alternative and the accompanied risk regarding technical performance, market implementation and regulatory compliance is being evaluated carefully during this first phase of the timeline (at least 2 years including shifts and delays due to the Corona pandemic).

As the applicant in general is a downstream user of chromium trioxide and relevant alternatives, it strongly depends on the formulator and its development activities with respect to alternative chemicals and therefore being the driving force in this process. Nevertheless, the applicant strongly cooperates with the formulators and supports their activities where possible, e.g. by providing feedback on tests conducted with the alternative in-house.

During an extensive alternative assessment which was demonstrated in the AoA submitted in 2018, the applicant elaborated the general feasibility of three potential alternatives. While the two PVD-based technologies possessed limitations according to the key functionalities, costs and availability, these might most probably only be applicable for niche products. Therefore, further research in order to develop and improve the most suitable alternative for hexavalent chromium electroplating (Phase 1) will mainly focus on trivalent chromium electroplating.

In order to further improve the most suitable alternative (Cr(III)-based electroplating), the most common method is to vary different parameter (e.g. electrolyte composition, process parameter) and investigate the influence on the performance of the resulting coating. Variations in the past and planned for the future include for example the type and composition of the layer system, the composition of different electrolytes (e.g. chloride- and sulphate-based systems) and the process parameter. The latter one comprises for example the variation of exposure duration of parts to be coated in the plating bath, temperature, current density and electrolyte concentration. Different additives and the insertion of foreign metal ions into the final chromium layer must be considered as well. It is important to prove every type of variation by performing comparative tests. For the development of the Cr(III)-based plating alternative of plastics, which is one of the substrate types the applicant uses, some of the experiments are carried out in combination with a Cr(VI)-free pre-treatment alternative. With this, it is more complex to adjust the surface properties and simultaneously not being impaired by the alternative pre-treatment.

Beside cooperation with its formulators, the applicant further is member of several working groups like the FuSchiDec (Funktionale Schichten mit dekorativem Charakter) and CTAC (Chromium Trioxide Authorisation Consortium) groups (both founded in 2012, see AoA chapter 5.1). Within these groups it cooperates with other companies from the sanitary industry. Furthermore, the applicant is member of the European manufacturer’s association CEIR (The European Association for the Valve Industry) and works as well as with external and internal laboratories for analyses of test samples. In addition, the applicant is always interested in new cooperation in order to push the improvement of promising alternative coatings.

Although, risk analyses according to the transition from hexavalent chromium electroplating to an alternative technology are mostly finalized, development and optimization of coating properties needs more time.

It is again worth mentioning, that the Corona pandemic arising in the beginning of 2020 had a significant impact on the applicant's activities and investments especially related to the research area and the efforts on development activities towards suitable alternatives for hexavalent chromium electroplating (see chapter 2).

Phase 2: Process Development In-house (at least 4 Years)

The process has to be developed in-house in close collaboration with the alternative supplier. This step includes initial tests and process adjustments depending on results of the sample parts. Importantly, the applicant is only user of the alternative and strongly relies on input from the supplier (at least 4 years).

More precisely, the process development includes to produce a coating using the alternative technology in a pilot plating line or one of the present plating lines, if possible. As the implementation of a pilot line including rinsing baths, ion exchanger, laboratory analytics etc. accompanies with the need of free space, this might be a problem. Therefore, in order to avoid the construction of a cost-intensive new production hall, it might be possible to build up a smaller version. In general, this is a very time- and cost-consuming phase because on the one hand capacities such as staff, laboratories and test capacities, certifications and raw material must be provided and externally requested (which is challenging in times of the Corona pandemic). On the other hand, the development most likely comprises several rounds in order to finely adjust the process. The possible workflow might be as follows:

1. Set-up of process parameters	Including adjustments on the system and bath compositions
2. Definition of the current status	Including external analyses which entails additional costs and potentially long duration to receive results
3. Preparation of parts to be coated	Including trackable labelling
4. Test series of alternative coatings	Several tests might be required for simulation of e.g. production conditions, carryover effects from bath to bath and different product types
5. Testings of coating properties	Internal and external testings of key functionalities according to the testing strategy of the applicant (refer to AoA, chapter 3.3) first testing adhesion and wear / abrasion resistance and corrosion resistance
6. Evaluation	Assessment of results
7. Repeating of workflow	If necessary, parameters must be adjusted and workflow starts from the beginning

The time-determining step during this workflow and process development comprises external laboratory analyses and to verify the selection of an adequate formulation most suitable for the applicant's requirements identified in phase 1. According to the latter one, the selection of the right formulation is not a trivial task because their properties differ depending on the respective

supplier and therefore different efforts for the final switch-over of the plating systems come along with it.

In case of a transition to a Cr(VI)-free alternative, specialized staff is required. Own staff must be trained potentially generating staffing shortage at other working places, or specialists that are only rarely available on the market must be employed leading to additional costs, e.g. for training purposes. As soon as a pilot line is in place, the current technical staff will be introduced in the tasks on the alternative technology e.g. including analytics and maintenance work.

Phase 3: Long-term Testing – at Single Customer Level; for Certification for Conformity with Drinking Water Directive (2 – 4 Years)

The sanitary sector comprises a very time-consuming development and implementation process both from a technical and regulatory point of view. Long-term tests have to be developed for all parts, e.g. with respect to nickel leaching (drinking water directive) or new materials in contact with drinking water. "Real-life" tests in a small series at single customer level are performed in order to evaluate the performance of products under typical conditions of use and identify significant technical limitations. Depending on obtained results, the process is adapted, and re-testing is performed until sufficient performance to meet the requirements of the sanitary sector is obtained (2 – 4 years).

In general, long-term testings can be performed in two different ways, laboratory-based testings and field tests providing results under "real" conditions. Laboratory-based testings can already be performed during phase 1 when single key functionalities should be analysed over a longer period of time. Therefore, sample parts are prepared and both, internal and external laboratory analyses are carried out. In case of transition to trivalent chromium alternative and when several other competitors also need to switch to this technology, capacities from external laboratories might become less and time for receiving testing results might increase. Field tests are first started when laboratory testings provide satisfying results for the requirements of the different key functionalities. The advantage of this approach is to receive reliable results of the coatings under "real" conditions at an early stage of development and not when the coating was already introduced to the market. This would avoid customer complaints and a loss of image due to deficient parts placed on the market. Additionally, the applicant receives a certainty for decision-making processes prior to significant investments.

Despite the importance of long-term testings, the duration of these tests must be taken into account. While laboratory-based long-term testings only take several weeks to months, field tests generally take several years. Hence, it is of utmost importance that previous R&D

investigations were performed conscientious and precisely and the alternative process is operating very stable especially under series production conditions. Otherwise, the risk of time and economic losses increases significantly. The most critical aspect in this scenario would occur when requirements of key functionalities are not met under "real" conditions and larger adjustments in several runs have to be done in order to improve results.

For analyses of single properties, in case they fulfil the requirements sufficiently, it might be possible to start long-term testings at an earlier stage in order to stay on schedule. This will only be an option, when the applicant is convinced that one or more of the key functionalities has reached its maximum performance and possesses reliable and satisfying results during the R&D phase.

The number of tested products during a field test depends on the extent of the project. The best case for example is reflected by investigating parts in hotels where the number of tested products is large enough to receive reliable and comparable results. In general, larger projects also possess larger risks. This is because the applicant is bound to provide spare parts if required and their number as well as the probability that this happens increases with a larger number of test parts. However, only selected (and well pre-tested) products are used within field tests.

Within the long-term testings, either laboratory-based or field testings, compliance and certification for conformity with drinking water directive is very important. This includes binding specifications rather to material than to surface coatings, but is indispensable before products can be introduced to the market (the applicant, as a producer of sanitary products, is responsible for compliance of produced parts with legal obligations). This can only be verified officially at one of the responsible admission offices. In this context, it is important to mention that the drinking water directive is regularly revised implying uncertainties for the applicant with respect to future requirements.

Phase 4: Technical Modification of Production Site (4 – 6 Years)

Technical modification of the production site can be initiated gradually as soon as the process is under control and the coatings are accepted by customers. Besides the actual reconstruction measures of the production site this step may comprise approval procedures (permission) for the reconstruction of the production building, identification and development of suitable land and authority permission for the process start (4 – 6 years).

However, before any activities related to technical modifications of the production site can take place, a final proof of the current conditions and systems in place as well as the needs for a transition have to be carried out. For this, the applicant receives also information from the chemical supplier (formulator) and producer of the alternative coating system.

With respect to trivalent chromium electroplating, the finally chosen formulation requires different processes and workflows. Therefore, necessary conditions and connection points must be checked. It is very likely, that the new process cannot be implemented in the present plating lines without significant modifications and not all equipment can be reused. Additionally, it must be considered that the alternative Cr(III)-based coating system will most likely be run in parallel to the present one for a certain period of time (see phase 5 and 6) ensuring the required production capacities. Therefore, free space must be generated at the applicant's site and as a worst-case scenario, an additional production hall must be built taking up to 2.5 years. Prior to the construction of a new production hall 6-12 months must be considered for decisions of local authorities after all documents were submitted by the applicant.

Furthermore, for trivalent chromium electroplating the wastewater treatment might have to be extended or completely replaced and external disposal might be necessary, e.g. due to complexing agents used during the process requiring a special treatment. In any case, when running two different galvanic processes in parallel, wastewater treatment will have to be extended.

Beside all technical aspects, delivery time of the required electroplating system and equipment (e.g. steel construction, control unit) is estimated to be at least 2 years which might be increased depending on the demand of the applicant's competitors. When delivery times become too long, this might lead to a delay in this phase and therefore elongate the complete transition process. After the alternative system is delivered, implementation must be performed taking approximately 1 year which itself depends on the outcome of the previous phases and implies again that previous tasks were performed conscientiously and on time.

Phase 5: Market Introduction / Capacity Build-Up (at least 2 Years)

After internal and external quality tests (laboratory and field tests), when key functionalities were met, customers of the applicant checked and approved the alternative coating and modification of the production site took place, market introduction of newly developed and produced parts occurs and the production capacity can be increased. Further upscaling of the process depending on market needs is possible (at least 2 years).

It is worth mentioning that it won't be possible to switch the production process to the alternative technology on an existing product portfolio. As the products' structure must be considered during the plating process, it's design must be adapted to the new implemented plating system. The risk that quality characteristics cannot be met anymore is too large and might result in huge scrap rates and reclamations. Hence, although being time- and cost-consuming, the best possibility is to run the 'old' hexavalent chromium electroplating timewise in parallel with the

'new' alternative technology and make the switch series by series. While increasing the capacity for parts of new series plated by applying the alternative trivalent chromium electroplating, the capacity of Cr(VI)-plated parts from old series will be decreased.

The market introduction and build-up of the alternative plating technology will take at least 2 years. It must be considered that a shorter duration for this phase might lead to a premature switchover and might result in significant deficits including quality and delivery aspects. Additionally, marketing activities, advertisements and printed catalogues must be carried out at an early stage (at the best before market introduction started) in order to adequately campaign for the products plated via the alternative technology.

Phase 6: Phase-Out of Cr(VI) (at least 2 Years)

Phasing-out of Cr(VI) is expected to take at least 2 years. Aspects, such as sales contracts have to be considered. While contracts with customers normally take 2 years, the warranty period Ideal Standard grants normally to its customer during which the products must be free from defects related to material, production and construction is 5 years. However, customers expect much longer periods due to high-quality products and surfaces and therefore generally demand for at least 10 years.

To conclude, the best possibility for phasing-out Cr(VI) is to do this on series by series basis. While decreasing the capacity for 'old' Cr(VI)-based products, the capacity for 'new' alternative-plated products can be increased. In any case, with around [redacted] coated by the applicant, it is obvious that a phase-out of Cr(VI) is a lengthy process keeping in mind that it directly depends on the acceptance of clients.

Conclusion

In conclusion, based on a best-case situation for the substitution timeline considering the durations for the single phases, transition of hexavalent chromium electroplating to the trivalent chromium-based process is estimated to take **at least 12 years** (Figure 1). As unexpected situations and issues can always arise (especially in times of the Corona pandemic), the applicant's activities and therefore the transitions toward an alternative may be impeded. Hence, prolonged timelines for single phases or the whole transition period are likely as well.

The here presented timeline slightly differs from the one, described in the AoA submitted in 2018. In specific, additional time is needed for the first phase (R&D) as there are still technical limitations with respect to the Cr(III)-based alternative (e.g. colour consistency) and the fact that the Corona pandemic forced the applicant to postpone the planned R&D activities for 2020. This has set back it's engagement on the development of the alternative.

Please note that the described phases are not standalone processes but are interconnected with each other and also show a high degree of overlap.

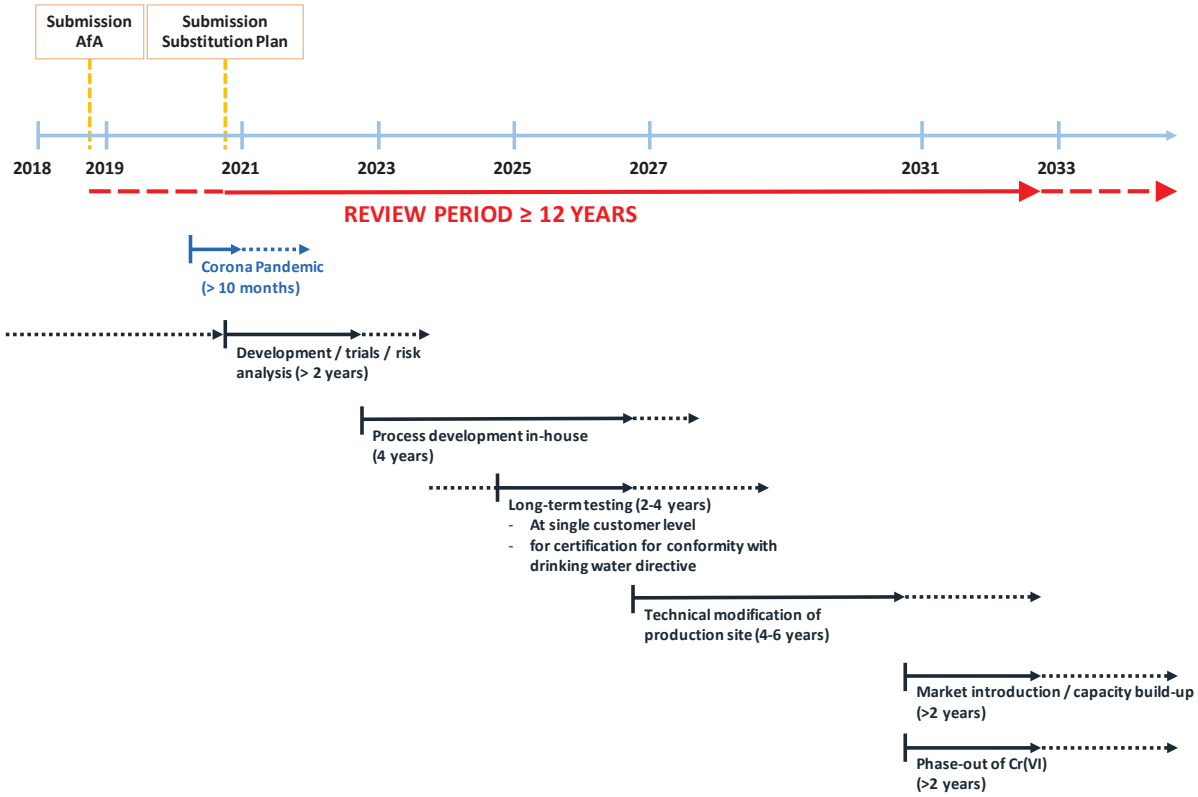


Figure 1: Substitution timeline for functional chrome plating with decorative character for sanitary applications.

4. MONITORING OF THE IMPLEMENTATION OF THE SUBSTITUTION PLAN

Ideal Standard is generally working under defined structures and has a project monitoring system in place being certified with the ISO 9001:2015 quality management system standard, ISO 14001:2015 environmental management system standard and OHSAS 18001:2007 safety management system standard. With this standard, the applicant provides an effective organizational system based on which various types of tasks and projects can be effectively managed. This is also related to complex change projects such as the development and implementation of the best-possible alternative to hexavalent chromium electroplating being and interdisciplinary, extensive and complex project. However, although parts of this such as the application of authorization are executed in projects, Ideal Standard is not exclusively organized in form of projects. They have various forms of management and organization in place. Hence, the preparation of sample parts and their evaluation regarding alternatives correspond to the scope of single departments and therefore must not necessarily underlay a project.

In each project a dedicated team (6-7 or 10-20 team members depending on the project's phase) is working on the achievement of the specific aim, i.e. the substitution of Cr(VI) for electroplating purposes. Related to the development and implementation of an alternative to hexavalent chromium electroplating, the project team can vary depending on the specific phase. Each project team comprises a project leader and team members coming from the specialized departments. While there are more technical experts from e.g. technology functions, quality management, research and testing and especially external chemical suppliers required during the first phase of alternative development and implementation (R&D), phase 5 (market introduction) will require more experts from the sales and marketing department (Table 2). In the course of the whole project, internal team members will come among others from the new production development, product management, marketing and sales department as well as from external and internal laboratories. External team members will comprise chemical suppliers with whom a close collaboration already exists, but also with the manufacturer of the alternative process system as well as the testing authorities (e.g. Federal Institute for Materials Research and Testing, BAM) being responsible for analyses and investigations. As the work packages are handled by the team members, it is worth mentioning that in each phase the responsibility is clearly assigned e.g. team members from the technical functions and production department are responsible for phase 1 and 2 of the substitution timeline. Additionally, there is the project leadership (PL) which is divided into strategic, financial and technical lead. Therefore, representatives from operations, finance and technical functions share this position in the project. The project leader generally pays attention that the project's rules and progress are

met. The PL is allowed to decide in strategic and technical changes of the project as well as to release a larger budget for well justified reasons (leadership and budget responsibilities are related to the scale of strategic influence or budget).

The budget is released from the respective departments involved in the project e.g. for activities during the R&D phase, costs will be covered by the departments at the affected production sites (Ideal Standard Produktions-GmbH, Ideal Standard Vidima AD). As the project on finding, developing and implementing an adequate alternative to hexavalent chromium electroplating is of high priority for Ideal Standard, resources for other tasks or projects will be reduced or even cancelled.

In order to stay on track, regular controlling was implemented. This is divided generally into three types. First, there are weekly team meetings including presentations, conference calls or correspondence via E-Mail among the team members (working groups). Topics are the current status of the project and phases including general aspects like safety, technology and economic aspects as well as recent results and potential issues e.g. regarding the set-up or test-methods. Here, discussions are more detailed and focused on technical aspects. Depending on the outcomes and new findings, smaller adaptions on the planned approach might be done during this type of meeting. Second, there are meeting or conference calls (frequency depending on ongoing activities and results) with the management. Here, topics are less technical and more focused on the general progress (activity- and result-oriented) of the project such as the degree of milestone fulfilment and financial aspects including required approvals. Third, there are meetings (frequency depending on ongoing activities and results) with external partners such as the formulators of Cr(VI)-free electrolytes.

Documentation is carried out on a centralized filing where all files such as meeting minutes, progress reports, testing results including evaluation and outcomes are placed.

Table 2: Overview on responsible and participating departments for the development and implementation of the best-possible alternative to CrO_3.

[redacted]		[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

[redacted]

5. CONCLUSIONS

According to the applicant Cr(III)-based electroplating is the most promising alternative to replace the use of chromium trioxide for the electroplating of parts for sanitary applications, although among others considerable challenges e.g. related to colour consistency still exist. Implementing several alternatives in parallel is not feasible due to economic, availability and capacity reasons. Importantly, the applicant is only user of the alternative and strongly relies on input from the supplier (formulator).

In conclusion, based on a best-case situation for the substitution timeline considering the durations for the single highly interconnected and overlapping phases and uncertainties arising from the current Corona pandemic, transition of hexavalent chromium electroplating to the trivalent chromium-based process in the sanitary sector is estimated to take **at least 12 years**. Thus, it is applied for a review period of 12 years.

Certificate of Conformance

Issue Date: 12/01/22

PO Number: 2000R

Part Number and Revision: 420-000162

Part/Process Description: COPPER-NICKEL-CHROME PLATE AMS2460A, TYPE I (BRIGHT FINISH), CLASS 1 (CORROSION PROTECTIVE FINISH).

Quantity Shipped: 60 ea

The undersigned states that "The articles furnished are in conformance with the purchase order requirements, engineering drawings and specifications and have been verified to meet RoHS (Directive 2011/65/EU) requirements & the amended European Delegated Directive (EU) 2015/863. The components have also been certified to not contain any Substances of Very High Concern (SVHCs) per EU REACH Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

Supplier Name: Sherms Plating

Supplier Address: 2140 Acoma Street, Sacramento, CA 95815

Representative Name (Print): ART HOLMAN

Title: GENERAL MANAGER

Signature:

Date:

Certificate of Conformance

Issue Date: 12/21/22

PO Number: 1180R

Part Number and Revision: SD000405

Part/Process Description: COPPER-NICKEL-CHROME PLATE AMS2460A, TYPE I (BRIGHT FINISH), CLASS 1 (CORROSION PROTECTIVE FINISH).

Quantity Shipped: 61 ea

The undersigned states that "The articles furnished are in conformance with the purchase order requirements, engineering drawings and specifications and have been verified to meet RoHS (Directive 2011/65/EU) requirements & the amended European Delegated Directive (EU) 2015/863. The components have also been certified to not contain any Substances of Very High Concern (SVHCs) per EU REACH Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

Supplier Name: Sherms Plating

Supplier Address: 2140 Acoma Street, Sacramento, CA 95815

Representative Name (Print): ART HOLMAN

Title: GENERAL MANAGER

Signature:

Date:

Certificate of Conformance

Issue Date: 10/27/22

PO Number: 21600

Part Number and Revision: 420-00100 Rev E

Part/Process Description: COPPER-NICKEL-CHROME PLATE AMS2460A, TYPE I (BRIGHT FINISH), CLASS 1 (CORROSION PROTECTIVE FINISH).

Quantity Shipped: 70 ea

The undersigned states that "The articles furnished are in conformance with the purchase order requirements, engineering drawings and specifications and have been verified to meet RoHS (Directive 2011/65/EU) requirements & the amended European Delegated Directive (EU) 2015/863. The components have also been certified to not contain any Substances of Very High Concern (SVHCs) per EU REACH Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

Supplier Name: Sherms Plating

Supplier Address: 2140 Acoma Street, Sacramento, CA 95815

Representative Name (Print): ART HOLMAN

Title: GENERAL MANAGER

Signature:

Date:

Certificate of Conformance

Issue Date: 1-24-2023

PO Number: 8262026

Part Number and Revision: 420-00100 Rev E

Part/Process Description: COPPER-NICKEL-CHROME PLATE AMS2460A, TYPE I (BRIGHT FINISH), CLASS 1 (CORROSION PROTECTIVE FINISH).

Quantity Shipped: 100 ea

The undersigned states that "The articles furnished are in conformance with the purchase order requirements, engineering drawings and specifications and have been verified to meet RoHS (Directive 2011/65/EU) requirements & the amended European Delegated Directive (EU) 2015/863. The components have also been certified to not contain any Substances of Very High Concern (SVHCs) per EU REACH Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

Supplier Name: Sherms Plating

Supplier Address: 2140 Acoma Street, Sacramento, CA 95815

Representative Name (Print): ART HOLMAN

Title: GENERAL MANAGER

Signature:

Date:

Comment 22 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-1.

First Name: James
Last Name: Goehring
Email Address: jrgjrgus@outlook.com
Affiliation: Manager

Subject: Proposed ATCM amendments
Comment:

199 During the public hearing in January CARB heard from many smart people who have worked with and around Cr6 for decades with no problem. I implore the Board to listen to their voices and make use of their expertise. The risk is manageable and as a regulatory agency that is CARB's job;
to manage and not propose bans for political purposes. Please do what's best for the majority of Californian's and not what would benefit only the wishes of a small special interest group. Please reject the proposed regulations.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-04-11 17:19:24

No Duplicates.

Comment 1 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-2.

First Name: Ted
Last Name: Ventresca
Email Address: tventresca@chemeon.com
Affiliation: CHEMEON Surface Technology / MFACA

Subject: Amendment to ATCM
Comment:

By Ted Ventrescsa President/COO CHEMEON Surface Technology

200

Due to time limitation for in person comments at the January 27th meeting, CHEMEON representative, Mr. Frank Aguilar was unable to present the following on behalf of CHEMEON.

CHEMEON is a proud member of the Metal Finishing Association of California and is regarded as a global expert in the alternative chemistries used to replace hexavalent chrome as a conversion coating on light metals and as a replacement for sodium dichromate/dilute chrome as an anodic seal. Our company mission and vision align with the CARB goal to reduce and ultimately remove the known carcinogen, hexavalent chrome.

Over the past year, we have followed the Proposed Amendments to the ATCM by CARB. We agree with the Metal Finishing Association that the recommendations and proposals put forth by CARB will have a severe impact on the metal finishing industry, the communities, people, and businesses of the state who rely on the essential work being done by the metal finishing industry, and unfortunately, it would not achieve your admirable goal regarding the reduction and ultimate removal of hexavalent chrome.

To truly rid California, the U.S., and the world of continued use of hexavalent chrome, the root cause of usage must first be addressed. And, to be clear, the Metal Finishing Industry of California is not the root cause.

The root cause of the continued use of hexavalent chrome for plating, finishing, conversion coating, and anodic seals is a direct result of legacy specifications that, for over 70 years, have required the use of hexavalent chrome by the manufacturers of these parts and products, including many of those used by the U.S. military and the Department of Defense.

Until specifications allow for safer alternatives or remove hexavalent chrome from the specification completely, the chemistry will still be used.

Why have some OEMs been slower to change specifications that still require the use of hex chrome on certain metal parts? Possibly due to their internal legacy systems and -- in some cases -- legacy

safety standards that may need extensive new testing and validation to deviate or change from legacy chemistry. Certainly, the state and federal governments understand the time involved in changing, modifying, or moving away from legacy or outdated procedures.

When CARB and other state and federal agencies address the root cause of the issue, change becomes possible, and solutions become clear.

In recent years, the DoD and the automotive industry have made great strides in the elimination of hexavalent chrome use at military bases, depots, and commercial vehicle production. We know this firsthand because CHEMEON products have provided some of the safer alternative solutions. Through collaboration with OEM's Prime Contractors -- and the DOD directly -- we have identified and developed military-specified alternative chemicals and process solutions to legacy hex chrome specifications. Hex chrome usage has been significantly reduced by the DoD.

How can CARB address the root cause of hexavalent chrome without the harm to the state economy and Metal Finishing Industry of California?

We ask you to consider the following steps for CARB to implement in an effort to truly help end the use of hex chrome for California and the world:

1. In the next six months, CARB and SCQAMD researchers will work with industry and metal finishers to identify all part specifications or industry coating standards that still call for the use of hexavalent chrome.

2. Take that information and begin collaborative work between the OEM and Prime Contractors, safe chemical solution providers, and metal finishing and process shops in a unified effort to test, validate, and amend the specifications or to allow process shops in California and across the U.S the ability for a "deviation" from the hex chrome specification to alternate safe chemistries like CHEMEON and other Tier 1 chemical manufacturers have created and are available right now.

3. CARB and SCQAMD may consider routing the funds slotted to enforce your proposed updates to the ATCM instead to support and incentivize collaborations between industry, safer chemical manufacturers, and process facilities to accelerate their work to identify, test, and implement existing alternatives to hexavalent chrome.

4. Work with the U.S. EPA and other federal agencies to require the elimination of hexavalent chromium at the root cause: the manufacturers who continue to require that this product be used instead of the alternatives that are already on the market.

This approach will not only save jobs, but it will ultimately save lives and the California economy.

Please consider CHEMEON a resource in helping you implement positive chemical and business solutions that protect the environment, communities, and jobs related to the Metal Finishing Industry of California and beyond.

Thank you.

Ted Ventresca
President/COO
CHEMEON Surface Technology
Chemeon.com/etcp

Attachment: www.arb.ca.gov/lists/com-attach/138-chromeatcm2023-AGMAbgBkBDpSMVc4.pdf

Original File Name: CHEMEON Public CARB Comment May 2023.pdf

Date and Time Comment Was Submitted: 2023-04-26 20:03:02

No Duplicates.

Public Comment 5/11/23

200

Amendment to ATCM

By Ted Ventrescsa President/COO CHEMEON Surface Technology

Due to time limitation for in person comments at the January 27th meeting, CHEMEON representative, Mr. Frank Aguilar was unable to present the following on behalf of CHEMEON.

CHEMEON is a proud member of the Metal Finishing Association of California and is regarded as a global expert in the alternative chemistries used to replace hexavalent chrome as a conversion coating on light metals and as a replacement for sodium dichromate/dilute chrome as an anodic seal. Our company mission and vision align with the CARB goal to reduce and ultimately remove the known carcinogen, hexavalent chrome.

Over the past year, we have followed the Proposed Amendments to the ATCM by CARB. We agree with the Metal Finishing Association that the recommendations and proposals put forth by CARB will have a severe impact on the metal finishing industry, the communities, people, and businesses of the state who rely on the essential work being done by the metal finishing industry, and unfortunately, it would not achieve your admirable goal regarding the reduction and ultimate removal of hexavalent chrome.

To truly rid California, the U.S., and the world of continued use of hexavalent chrome, the root cause of usage must first be addressed. And, to be clear, the Metal Finishing Industry of California is not the root cause.

The root cause of the continued use of hexavalent chrome for plating, finishing, conversion coating, and anodic seals is a direct result of legacy specifications that, for over 70 years, have required the use of hexavalent chrome by the manufacturers of these parts and products, including many of those used by the U.S. military and the Department of Defense.

Until specifications allow for safer alternatives or remove hexavalent chrome from the specification completely, the chemistry will still be used.

Why have some OEMs been slower to change specifications that still require the use of hex chrome on certain metal parts? Possibly due to their internal legacy systems and — in some cases — legacy safety standards that may need extensive new testing and validation to deviate or change from legacy chemistry. Certainly, the state and federal governments understand the time involved in changing, modifying, or moving away from legacy or outdated procedures.

When CARB and other state and federal agencies address the root cause of the issue, change becomes possible, and solutions become clear.

In recent years, the DoD and the automotive industry have made great strides in the elimination of hexavalent chrome use at military bases, depots, and commercial vehicle production. We know this firsthand because CHEMEON products have provided some of the safer alternative solutions. Through collaboration with OEM's Prime Contractors — and the DOD directly — we have identified and developed military-specified alternative chemicals and process solutions to legacy hex chrome specifications. Hex chrome usage has been significantly reduced by the DoD.

How can CARB address the root cause of hexavalent chrome without the harm to the state economy and Metal Finishing Industry of California?

We ask you to consider the following steps for CARB to implement in an effort to truly help end the use of hex chrome for California and the world:

1. In the next six months, CARB and SCQAMD researchers will work with industry and metal finishers to identify all part specifications or industry coating standards that still call for the use of hexavalent chrome.

2. Take that information and begin collaborative work between the OEM and Prime Contractors, safe chemical solution providers, and metal finishing and process shops in a unified effort to test, validate, and amend the specifications or to allow process shops in California and across the U.S the ability for a "deviation" from the hex chrome specification to alternate safe chemistries like CHEMEON and other Tier 1 chemical manufacturers have created and are available right now.

3. CARB and SCQAMD may consider routing the funds slotted to enforce your proposed updates to the ATCM instead to support and incentivize collaborations between industry, safer chemical manufacturers, and process facilities to accelerate their work to identify, test, and implement existing alternatives to hexavalent chrome.

4. Work with the U.S. EPA and other federal agencies to require the elimination of hexavalent chromium at the root cause: the manufacturers who continue to require that this product be used instead of the alternatives that are already on the market.

This approach will not only save jobs, but it will ultimately save lives and the California economy.

Please consider CHEMEON a resource in helping you implement positive chemical and business solutions that protect the environment, communities, and jobs related to the Metal Finishing Industry of California and beyond.

Thank you.

Ted Ventresca

President/COO

CHEMEON Surface Technology

Chemeon.com/etcp

Comment 2 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-2.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Source Test Average for Hard Chrome Platers
Comment:

201 The revised data posted on 4-26-23 refer to an average source test value for hard chrome platers of 5.88E-04. The footnote 3 in table 1 points the reader to the source of that number which is Table 2. Table 2 contains a line labeled Hard with Add-On that shows seven values which do computationally average 5.88E-04. How did CARB select those seven values as representative samples for the hard chrome population? I am particularly curious how the values 0.001 and 0.0013 were selected as they do not appear to be consistent with values that would be the result of HEPA Control System source tests. If they were not from HEPA control systems, can CARB why they have chosen to create an average from a sample in which 28% of hard chrome platers do not have HEPA controls. Is that representational. Why didn't CARB simply use actual source test values from all the facilities? Does CARB have source test data from all the facilities for which this rule is being proposed? If not, why not? Has CARB asked the air districts for the data necessary for this rule? Did the air districts comply with CARB's requests? Has CARB chosen to omit some source test data which it has in its' possession from the average? If CARB has omitted data from any particular facility from the average, why? Since a key element of this rule making is the analysis of BACT, how did CARB reach a conclusion about BACT efficiency? Dos CARB understand the efficiency of HEPA's? Clearly they have had some difficulty in applying and communicating the efficiency in this proposed rule. CARB staff proposes a ban, purportedly because emissions are too high even with BACT, so they should have done some studying of BACT efficiency. Observation of the emissions inventory and the changes to the emissions data to this point suggest that CARB staff did not understand BACT efficiency to this point in the process. What is the rationale for a ban in light of the HEPA efficiencies of each of the HEPA controlled facilities in California? I submitted my HEPA source test result to CARB at CARB's request prior to the rule proposal. CARB has not used my source test result to show the efficiency of my facility. Rather, it has used the much higher "average" that it has arbitrarily computed. CARB did not use my source test data to compute the average. My data has been ignored. My data would have reduced the average. My system was source tested in 2019. What was the time period of the source tests CARB used in the average they show here? My system tested at 0.000023. The average that CARB has used and applied to me and all the other hard chrome facilities in this inventory is 25 TIMES HIGHER than my actual test. Obviously, inclusion of my data would have affected that average. So, what was the logic that CARB used to exclude my

data? Did the logic used have anything to do with CARB's objectives for this rule making?

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-04-26 22:14:47

No Duplicates.

Comment 3 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-2.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Environmental Analysis needs to be changed
Comment:

202 In the Environmental Analysis section of the documents released last night, CARB staff states, DIRECT QUOTE "Since these values were not used in the evaluation of environmental impacts in the Draft EA, staff has determined that these changes would not require new or modified compliance responses and would not result in any new reasonably foreseeable significant environmental impacts or substantially increase the severity of an already identified environmental impact in he Draft EA."

Wow, we are talking about CARB's estimate of ACTUAL emission levels. Not baseline emission levels, not permitted emission levels, we are talking about CARB's estimate of ACTUAL emission levels so keep that in mind and re-read the quote above.

CARB is saying that they don't need to change the environmental analysis due to a change in ACTUAL emissions "since these values were not used in the evaluation of environmental impacts in the Draft EA." in the first place!

Did you know that the State can ignore actual current environmental conditions when preparing an Environmental Analysis? I didn't. But CARB admits here that they paid no attention to ACTUAL emissions when they prepared the Draft Environmental Analysis so they don't have to react when the estimate of ACTUAL emissions changes (in this case by 50%)!

Does CARB think this is legal?
Do any other attorneys out there think this is legal?

Every day of my life I learn something new. I am learning so much about environmentalism.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-04-27 14:21:00

No Duplicates.

Comment 4 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-2.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Source Test Data Submitted
Comment:

203 For the record - I submitted source test information for Aviation Repair Solutions, Inc. to Eugene Rubin on November 11, 2021 via email. The data is not shown on either Table 1 next to my facility (or any other) and it is not shown on Table 2.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-04-28 14:15:11

No Duplicates.

Comment 5 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-2.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Edit of previous questions to CARB re amended source test average
Comment:

204 Because we have observed some slippery behavior from CARB during this rule making I want to edit my earlier comment in this 15-2 comment period to make clear that I am asking a question which I expect CARB to answer. In my haste, I omitted some question marks and a key word.

So, when I said this...
"If they were not from HEPA control systems, can CARB why they have chosen to create an average from a sample in which 28% of
hard chrome platers do not have HEPA controls. Is that representational."

I meant this...
"If they were not from HEPA control systems, can CARB explain why they have chosen to create an average from a sample in which 28% of
hard chrome platers do not have HEPA controls? Is that representational? Please explain and show your work."

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-04-29 16:19:53

No Duplicates.

Comment 6 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-2.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Fugitive Emissions Cancer Risk Estimate
Comment:

205

A key accusation made by CARB against the metal finishing industry is that fugitive emissions may be equally or even more dangerous to the public than stack emissions. I have previously commented on the fiction that cancer risk from stack emissions equals 213 in a million from large chrome plating facilities. Now, it is time to examine the fiction that fugitive emission cancer risks can range to 1,000 chances in a million.

The section quoted below is taken directly from Pages F-49 and F-50 of CARB's posted materials.

BEGINNING OF QUOTE

"Based on the assumptions and model setup described above, staff estimated potential cancer risks ranging from one chance per million to greater than 1,000 chances per million.

4. Conclusion

Staff recognizes that this is a high-level directional analysis and is not intended to definitively estimate fugitive emissions rates from specific chrome plating facilities. Nevertheless, the assumptions made are reasonable and this analysis provides information regarding what the potential cancer risks from fugitive emissions might be. Based on these results, it is reasonable to conclude that fugitive emissions of hexavalent chromium from chrome plating facilities are likely to contribute to cancer risks in communities surrounding such facilities."

END OF QUOTE

The quote specifically states that "The assumptions made are reasonable". You can be the judge. The entire model is described on pages F-45 to F-51.

As you can see in the first sentence, CARB is describing the cancer risk model and the data they used to generate their estimate. It is a complex model, and they describe it over several pages. As with all models, it is sensitive to the assumptions made and it is particularly sensitive to the initial data inputs. In this case, CARB does not distinguish themselves. They first attempt to answer the question "how much hex chrome is emitted from an uncontrolled tank?" Surprisingly, CARB does not quote any electrochemical science to answer this question. There is no reference to any science that shows what amount of hex chrome would be dispersed during a plating operation. Are we to believe that in 100 years of chrome plating, no scientist or chemical engineer has ever documented (or computed) the amount of hex chrome mist that comes from uncontrolled tanks? Are we also to believe CARB and/or AQMD in over 30 years of regulating chrome plating tanks have never done any math to compute hex chrome emissions from uncontrolled tanks?

205

CARB should answer these questions because without answers a reasonable person could conclude that established scientific facts did not support CARB's pre-ordained conclusions and had to be dismissed.

So, in the absence of science fact, here is the method they used to deduce that uncontrolled tanks produce 1 mg per amp hour of hex chrome emissions. They assumed that emissions are a function of two variables: 1) The arbitrary rule limit for fume suppressant-controlled tanks, and 2) The top-end of the manufacturers stated control efficiency of fume suppressants. Both variables happen to equal 0.1. So, dividing one into the other CARB assesses that the physical chemical electroplating process produces 1 mg per amp hour (0.1 / 0.1 = 1.0). There it is, feed it into the cancer risk model. Some of you are getting the drift here. You can already see that if there was any actual emission science behind the suppressant rule limit of 0.1, CARB could (or would, or should) have used it. You might also question how they decided to use 99% efficiency as their fume suppressant value when they could have used 95%. The answer to that is simple, the 99% assumption drives a higher risk value and supports the desired answer to this "study".

But wait, perhaps I am too hasty in attributing to malice that which can be explained in other ways, it is possible that a summer intern performed this analysis and that perhaps the deficiency is a simple lack of quality assurance, audit function, and management oversight. I can't say.

Since I believe there are certain science facts relating to physical processes in nature, I don't buy into using the equation on page F-46 (and shown below) as the basis for the starting point to estimate fugitives. Neither should you.

"Uncontrolled tank emissions = 0.01 (mg / amp hr) / (1-0.99)" = 1 mg per amp hr

But let's give the intern the benefit of the doubt because maybe he only had a couple of hours to produce some data to back up the conclusions about fugitives that he was told to create.

QUESTION FOR CARB - WHAT IS THE HEX CHROME EMISSION RATE FROM UNCONTROLLED TANKS? You have been regulating these tanks for decades. Please cite scientific papers or AQMD studies to answer.

Wait, there is another troubling aspect to this. Because once we calculate uncontrolled tank emissions, we must figure out what percent of the emissions get past the control systems. CARB was able to locate a US EPA manual about hoods from 1986. They wiped the dust from it, sneezed a couple of times, and ignored the fact that it pre-dated even their first chrome ATCM back in 1988. Now, 36 years later, they chose to construct an estimate of hood capture efficiency by examining it. The book said capture efficiency ranged from 50% to 100%. Yes, that is a wide range. Yes, that range includes 100% - even in 1986. But the intern, or whoever wrote this section, or whoever reviewed the work, makes the following statement.

QUOTING

"The plating industry uses a different style of hood, but lacking better information about its performance, staff chose to evaluate fugitive emissions using a range of capture efficiency from 85 percent to 95 percent."

END QUOTE

Are you kidding me? Is CARB so unaware that the source tests that the air districts require, and that we pay $20,000 to execute, have rules about hood capture efficiency? Really? Is CARB aware that this very proposed rule I am commenting on, requires 100% hood capture efficiency by virtue of CARB finally adopting AQMD Rule 1469? Hey CARB, this is how it works. The air districts review and approve our test protocols prior to the test. Then they monitor the

205 test while it is performed. During the test, they observe the slot velocities, and we record them. We must perform video taped smoke tests as confirmation that they capture 100%. Only then, once 100% capture is assured, the HEPA source test is conducted. Following that, for the next few years until the next source test is performed, we are required to maintain the minimum slot velocities and perform ongoing video taped smoke tests to assure that we are always achieving a 100% capture rate. We must keep ongoing records of all this. Inspectors come and review our records and the smoke test videos.
The 1,000 chances in a million-cancer risk assertion from fugitive emissions is garbage. It is garbage because the two input variables to your cancer risk model are shown to be garbage.
Here is my question for CARB - Is this a case of simple ignorance by CARB? Maybe combined with a lack of management oversight, poor quality assurance, maybe no audit function? Or is it malicious?
I know it will be tempting for you to simply declare that this comment is out-of-bounds. That it is not relevant to the fact that you simply changed the decimal point on your computed average of a few source tests. But here is the situation. We are talking about truth and the lack of truth and where CARB stands with respect to the truth about emissions. CARB wants to portray itself as the premier air pollution regulator in the world. To be the leader you must have credibility. To have credibility, you must embrace truth. At this point, it is obvious, South Coast AQMD is the world's premier air regulator. If you do not embrace the truth, you will lose credibility in your other work, which, as I understand it, involves saving the world.

205 Please note also, that on April 14, 2023, two weeks prior to CARB release of the corrected source test numbers on April 27, I alerted Steven Cliff, PhD and Edie Chang to this issue in advance with a heads-up as follows:

BEGIN QUOTE
"SC AQMD Rule 1469 requires ongoing smoke test validation and periodic monitoring of slot velocities to assure the push/pulls are capturing 100%. We validate this in our source tests. Despite that, the CARB estimate is somewhere between 85% and 95% according to your text and the footnoted source is a tech manual from 1986. The assumption and math that was used to get to the 1 mg / amp hour tank rate is suspect since the rule limit used to start that equation is arbitrary to start with."
END QUOTE

By all appearances, CARB has chosen not to correct the record regarding the critical element of fugitive emissions.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-04-29 18:55:29

No Duplicates.

Comment 7 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-2.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: The "Do Nothing" Alternative
Comment:

206 The result of the State's business case for this rule proposal is found in the SRIA on page SRIA 2. It shows that rule implementation will achieve a cumulative benefit of 132 pounds of potential emissions over the next 20 years. The backup year by year savings that drive this number are found in Table 2.3 on page SRIA 23. You will need to total the values across the rows of Table 2.3 and multiply by the years represented and add them at the bottom. If you do that math, you will be rewarded. The numbers will add up and support CARB's assertion of a 132 pound reduction in potential chrome emissions over the next 20 years. It is important to note that the baseline CARB uses to support this calculation is set at 10.15 pounds per year.

CARB's re-computation of the actual emissions by chrome platers was recently made available on April 26. It tells us in Table VI.1 on page 21 of the 15 day 2nd release that actual industry emissions from all sources are 1.05 pounds per year (see the lower right corner of the table). If we look to the left by two columns on the same table we can see that CARB is still using the 10.15 pound annual baseline. If the baseline is 10.15 and the actual emission is 1.05, then the difference between these values is 9.1 pounds. So, we are getting 9.1 pounds of chrome reduction per year already. If we extend our current savings for the next 20 years, we will achieve 182 pounds of benefit.

It is possible to put this on a table for easier understanding...

	Do Nothing	ATCM
Reduced Potential Hex Chrome	132 lbs.	182 lbs.
Cost to the California Economy	$ 688 Million	$ 0

CARB data and logic support the case that doing absolutely nothing is preferable to the proposed ATCM with a ban.

This analysis was enabled by the flawed assumptions and faulty logic that CARB (with cooperation from the California Department of Finance) has employed regularly throughout this rulemaking. It should be apparent to the reader that CARB's estimate of actual industry emissions proves a ban is not necessary.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-05-05 19:18:13

No Duplicates.

Comment 8 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-2.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Source Test Averages not used in Baseline?
Comment:

207 SRIA 1.6, pages 14-16 describe the construction of CARB's baseline for this rule. CARB has stated that the annual baseline is 10.15 pounds per year. On page SRIA 15, the last sentence of the third paragraph states, and I quote:

"Considering BASELINE EMISSIONS CALCULATIONS WERE BASED ON SOURCE TESTING INFORMATION in 2019 or earlier, outside of the pandemic timeframe, staff estimates that emissions will remain the same in future years in the baseline scenario".

Again, the SRIA states that the "BASELINE EMISSIONS CALCULATIONS WERE BASED ON SOURCE TESTING INFORMATION".

But this is not true.

As clearly shown on the third version of the still incorrect Table 1, the computation of the baseline in Column 6 is:

"(permitted annual throughput) X (2007 emission factor) = (Potential to emit) = 10.15 pounds"

Do you see any reference to source test information in that formula? I do not.

Because of this explicit statement "BASELINE EMISSIONS CALCULATIONS WERE BASED ON SOURCE TESTING INFORMATION", Along with our reasonable expectation that computation of a baseline should incorporate consideration of actual conditions, the metal finishing community had an expectation that the third correction of Table 1 would incorporate a comprehensive review of the entire data set and the computations and assumptions used within it. We expected two-way communication from a staff concerned about accuracy and truth, but communication was not forthcoming. Staff chose to modify only a single value which they have labeled as the "average" hard chrome source test result. The modified value did have cascading effects, and did change calculated total annual emissions, but the aggregate actual emission sum (1.05 pounds) is still incorrect and overstated. It is incorrect due to errors of omission, errors of assumptions, and logic errors which still exist in the table(s) (inclusive of Table 2).

Why is CARB playing this game wherein they do not engage in dialogue with industry on this rule? Why are our written inputs,

provided in these public (and many non-public emails) being ignored?

Is CARB staff under direction to not work with industry on this rule?

207 Why does CARB state that the baseline is computed based on source tests, when it clearly is not? Why does the baseline exceed actual emissions by a factor of 10X?

Has CARB notified the California Department of Finance that the data used to construct the SRIA baseline is not based on actual or source tested emissions?

Has the decision to ban chrome plating in California already been made? Were the SRIA, ISOR, emissions inventory, health risk assessment generated to document, after the fact, a decision already made by the legislature? Or CARB? Or the governor?

Is there an audit function within the State of California which reviews agency procedure, practice, and engagement with the public?

Is science in California a political process?

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-05-07 07:57:49

No Duplicates.

Comment 9 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-2.

First Name: Art
Last Name: Holman
Email Address: art@shermsplating.com
Affiliation:

Subject: Emission errors
Comment:

208 I have been in the plating industry for many years and what is being done to this industry is nothing short of criminal, I don't have the ability to check data points on emissions as CARB or even claim to have the time to calculate such emission values if that information was provided. However, CARB has not provided accurate data to stakeholders on emissions or even the current number of facilities in operation.
This proposed ban is being based off 2019 pre pandemic data at best, which leads to the question as to why we are not using current emission data for accuracy when all of that information is readily available? Every year we must submit amp/hr. usage to our local air resources boards all across the state. How hard can it be for CARB to have the local agencies send current year end reports for 2022 to obtain accurate emission data?
I have briefly reviewed just local data provided by CARB staff in the San Joaquin Valley APCD and the Permitted Annual Throughput Amp/Hrs. reported column is flawed by a huge number. Two facilities that were permitted for a total of 10,500,000-amp hrs. in 2019 are not even in business now. That is two facilities out of the six that have closed and it took about an hour of my time to confirm.
Another data point that jumps out is one decorative facility permitted for 41,328,000 amp-hrs. and have throughput of that exact amount? And this is not the only example as there are eight facilities by CARB's numbers that are running at maximum allowable permitted numbers in the decorative columns alone.
My experience in this industry of over 4 decades tells me this is highly unlikely; it is more likely that staff didn't have throughput emission numbers and plugged in maximum allowable to complete the chart. This causes incorrect data points and elevates emission values across the decorative side of the industry.
I can only surmise that if these emission values are used in the decorative side, then what kind of errors are being made in the hard chrome and anodizing emission charts? As stakeholders how do we know that the input data is correct? CARB staff don't seem to have to check their work for accuracy as we do as stakeholders. If we supply incorrect data to a regulatory agency, we are held accountable or fined even for a mathematical mistake.
It has become obvious that the goal is to push this rule through at all costs as soon as possible even if the facts don't support CARB's claim that the chrome finishing industry is a major contributor of hexavalent chrome emissions in the state.
Time has come to pause this draconian rule and reevaluate the emission data with accuracy and integrity before moving forward

208 with any proposed new regulations, let alone a ban date that will severely harm the finishing industry here in California while providing no meaningful reduction of hexavalent chrome emissions in the state.

Sincerely,
Art Holman
Sherm's Custom Plating

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-05-09 07:36:15

No Duplicates.

Comment 10 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-2.

First Name: Bobbi
Last Name: Burns
Email Address: bobbiburns@sbcglobal.net
Affiliation: MFANC

Subject: Data still inaccurate
Comment:

209 The second 15 day comment period allows comment on the minor decimal correction of the Hard Chrome but the ISOR and the SRIA is still WRONG. Many of us in the metal finishing industry have questioned the data from the beginning. CARB has had access to data from the air districts and yet when I look at the emissions inventory I am confused. It seems like CARB is missing a lot of data so they are making up some generic calculations, using permitted amp/hrs as the reported throughput and a generic emissions calculation just to fill a blank space. How is CARB still moving forward with a vote to BAN without accurate numbers? It appears that CARB has had an agenda to BAN the Hex Chrome from the beginning and then find ways to justify it. CARB is not working with the Industry. The ATCM has reduced emissions over the last decades and can continue to do more with an emission based rule. I urge CARB Staff and CARB Board to re-evaluate and correct the data before thousands of good jobs and businesses are lost in California.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-05-09 11:08:58

No Duplicates.

Comment 11 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-2.

First Name: Jim
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: No Safe Level
Comment:

According to the World Health Organization (WHO), there is no safe
210 level of alcohol consumption for humans. It is a class 1 carcinogen
and contributes to seven different cancers.

See:
https://www.who.int/europe/news/item/04-01-2023-no-level-of-alcohol-consumption-is-safe-for-our-health#:~:text=The%20risks%20and%20harms%20associated,that%20does%20not%20affect%20health.

Yet, California actively promotes alcoholic beverages (wine)
produced in the State and the governor of California owns a winery.

The CARB hypocrisy about having to ban chrome platers because there
is no known safe level of hexavalent chromium is very hard to
swallow in this context. Apparently, someone in California
government does have the authority to override governmental
agencies when it comes to the "no safe limit" argument.

I always filter my wine through a HEPA system.

Have a nice day.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-05-09 13:16:20

No Duplicates.

Comment 12 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-2.

First Name: Charles
Last Name: Pomeroy
Email Address: cpomeroy@stilespomeroy.com
Affiliation: MFACA

Subject: Letter to CARB Re Chrome Platers Proposed ATCM (Second Notice) w Attachments
Comment:

Attachment: www.arb.ca.gov/lists/com-attach/151-chromeatcm2023-WnFQaVEiUW4EYm0d.pdf

Original File Name: (23.5.10) Letter to CARB Re Chrome Platers Proposed ATCM (Second Notice) w Att..pdf

Date and Time Comment Was Submitted: 2023-05-10 12:08:21

No Duplicates.

STILESPOMEROY LLP

CHARLES H. POMEROY
CPOMEROY@STILESPOMEROY.COM
PH.: (626) 243-5599

301 E. COLORADO BLVD., STE. 600
PASADENA, CALIFORNIA 91101
FAX: (626) 389-0599

May 10, 2023

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

Hon. Steven S, Cliff, Ph.D.,
Executive Officer
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Public Comments – Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations – Second Notice

Dear Mr. Cliff:

On behalf of our client, the Metal Finishing Associations of California (the Metal Finishing Association of Southern California [MFASC] and Metal Finishing Association of Northern California [MFANC], collectively, the "MFACA"), which operate facilities using hexavalent chromium ("chrome plating facilities"), we provide these comments to the April 26, 2023, *Second Notice of Public Availability of Modified Text and Availability of Additional Documents and Information* on the *Proposed Amendments to the Airborne Toxic Control Measure [ATCM] for Chromium Electroplating and Chromic Acid Anodizing Operations* (the "Proposed Amendments") (hereinafter the "Second Supplemental Notice" or "SSN").

By necessity, information contained in the Notice shall refer to various portions of the SSN including the newly issued emissions inventory ("Second Revised Inventory") that replaced a different emissions inventory ("First Revised Inventory") found at the First Supplemental Notice from March 27, 2023 ("First Supplemental Notice"), which in turn replaced a third emissions inventory found at the Initial Statement of Reasons ("ISOR"), Appendix B, Table 1 ("ISOR Inventory").

This response shall consider the SSN and whether it has addressed existing concerns that were outlined in my prior April 11, 2023 comment letter on this ATCM ("April Letter"[1]). The prior record posted November 29, 2022 as the Public Hearing Notice and Related Material for the ATCM (hereinafter the "Notice") as well as the record from the January 26, 2023 public hearing before the California Air Resources Board ("CARB") (the "Hearing") and comments

[1] The April Letter is appended in its entirety for ease of reference. See Attachment A.

from the public, along with the First Supplemental Notice, the Second Supplemental Notice and all prior comments constitute the "Record" to date.

Issues and Requests

211-1 The issues and requests from my April Letter remain. New information published as part of the SSN identifies three significant problems with the Proposed Amendments. First, this new information as it is incorporated into a revised table ("Table 1") demonstrates that actual hexavalent chromium emissions from chrome plating facilities are much lower than previously reported in the ISOR and have not been properly analyzed or corrected throughout the Record. Second, because the newly reported actual hexavalent chromium emissions from chrome plating facilities are much lower than what was analyzed in the ISOR, the Proposed Amendments, if adopted, will *increase* the existing amount of hexavalent chromium emissions in California, endangering public health. Third, the new emissions inventory that replaced *two* prior versions, continues to contain implicit errors[2] and improper assumptions, which lead to confusion and improper conclusions, thereby undermining the accuracy of the information that is being used as the cornerstone of the Proposed Amendments and all their assumptions. Collectively, the purposeful failure of the Record to provide the public and decisionmakers with the data necessary to determine its accuracy, calls the entire process into question.

Based upon the foregoing issues that fundamentally affect the Proposed Amendments' legality as presently prepared, the MFACA respectfully requests that CARB: (1) Withdraw the Proposed Amendments from their presently scheduled hearing; (2) Meet with the MFACA commenting parties to discuss further alternatives to an absolute ban including risk (based on existing local limits) and proximity, in light of the information and issues set forth in this letter and my prior April Letter; (3) Provide the MFACA commenting parties with all data, including source test information, that CARB has failed to provide to date and (4) Re-do its analyses and justification for the Proposed Amendments based on the corrected/revised emissions data and permit hexavalent chrome plating facilities and other stakeholders a meaningful opportunity to review and provide comments on the revised analysis and justification for the Proposed Amendments.

Background

211-2 The Second Supplemental Notice appears to suggest that a single mathematical error is the only thing that was altered and therefore the remainder of the information for which it is a part is not subject to comment. While a single entry was changed, the entire Table 1 has been resubmitted and recalculated, which requires the entire Table 1 to be evaluated. That evaluation demonstrates a failure to properly review the underlying information has occurred due to improper application and faulty consideration.

We believe the new information in Table 1 must be put into context. In my April Letter, effort was made to determine the universe of hexavalent chromium emissions within California by applying information from the ISOR. The result of that effort found 550 pounds of hexavalent chromium are emitted annually within California. Based on that understanding, the new information from the SSN would find that actual emissions from chrome plating facilities now represents the following amount of that universe:

211-1 [2] The Second Revised Inventory has been improved in that the Table no longer contains explicit mathematical errors.

211-2

1.05 pounds per year/550 pounds per year = 0.00191 [.19% or ~ 1/500][3]

The entire Table 1 has been re-issued as part of the SSN; however, the one mathematically miscalculated entry results in actual hexavalent chromium emissions being calculated as a total of 1.05 pounds per year. The FSN calculated these same emissions as totaling 0.19 pounds per year. The ISOR Inventory calculated these same emissions as totaling 2.2 pounds per year and the text of the ISOR is based upon the ISOR Inventory.

This rulemaking has now produced *three* different numbers (and tables) estimating actual hexavalent chromium emissions. Why were there ongoing changes and mistakes?

The simple answer is that CARB Staff had to continually consider and make guesses and assumptions as to what numbers would be applied (actual, potential, estimated, consistent inconsistent), then prepare columns of data using different sets of information to "create" a common denominator for the column based on those guesses and assumptions. These differences are not spelled out in Table 1. Their initial guessing process resulted in the ISOR Inventory, from which the entire ISOR, SRIA and Draft EA were prepared. None of this underlying information, or how it was applied, was made available to MFACA or the public, and as discussed further, the mistakes continue to exist in the Record, including the SSN. This purposeful limiting of data, and the process, prevents the decisionmakers and the public from any meaningful ability to determine its accuracy and the conclusions in the Record reached from it.

The second iteration of guesswork became the First Revised Inventory, which was again a process performed by CARB Staff using their guesswork and assumptions. Despite the significant revisions to the table, the ISOR, SRIA and Draft EA were not fundamentally changed. None of this underlying information was made available to MFACA or the public.

The third and latest iteration became the Second Revised Inventory, which did not alter the underlying guesswork and assumptions, but re-did the calculations and corrected a significant error when a new table was created. Despite the revisions, the ISOR, SRIA and Draft EA were not fundamentally changed. None of this underlying information was made available to MFACA or the public.

As my April Letter explains, all three versions of the inventory continue to dramatically over-estimate actual emissions. Source test data from over 1/3 of the listed facilities was compiled independently and without the use of CARB's guesswork and assumptions. This information is readily available, as is the basis for the results. Its findings on the actual emissions (and risk) show clearly that these parameters have been over-estimated throughout by CARB Staff. See April Letter, Attachment 4.

If we look at the Record and view the revised Table 1, prepared with guesswork and assumptions, contradicting two previously issued tables, leaving the original ISOR intact and unrevised, it does not appear that a decisionmaker would be able to reach a fair and unbiased decision that is not otherwise arbitrary.

Neither the FSN or the SSN attempts to correct the text of the ISOR, which is notable since the tables they revised reduced the actual hexavalent chromium emissions originally

[3] Looked at another way, the newly reported data from the SSN identifies that actual hexavalent chromium emissions from chrome plating facilities represents 1.9% (~ 1/50) of the total of all for non-mobile sources.

211-2 analyzed by 11.6 times and 2.1 times, respectively! The ISOR text remains basically unchanged. The SRIA remains unchanged. The Draft EA remains unchanged. How can these documents, which purport to be developed to evaluate the banning of hexavalent chromium at chrome plating facilities, be unchanged if the actual emissions have dropped so dramatically?

CEQA Still Not Analyzed

211-3 The SSN states:

> These 15-day changes do not change the implementation of the regulation in a way that affects the impact conclusions identified in the Draft Environmental Analysis (EA) included as Appendix D of the Staff Report. As described above, the second 15-day changes to the Proposed Amendments consist of correcting an error in Table 1 of Attachment 2 to the 15-day notice dated March 27, 2023, and correcting the corresponding values in Table III.1 and Table VI.1 and the narrative of Attachment 2. Since these values were not used in the evaluation of environmental impacts in the Draft EA, staff has determined that these changes would not require new or modified compliance responses and would not result in any new reasonably foreseeable significant environmental impacts or substantially increase the severity of an already identified environmental impact in the Draft EA. Therefore, no additional environmental analysis or recirculation of the Draft EA is required. (Emphasis added). SSN at pages 21-22.

The statement itself would suggest that a completely re-issued and corrected table has no significance; however, the comment that "these values were not used in the evaluation of environmental impacts in the Draft EA," is troubling. As set forth in my April Letter, the Draft EA entirely missed the issue of the *increase* of hexavalent chromium emissions in California that would result from adoption of the Proposed Amendment due to the necessary increase of diesel truck traffic in and out of the state to ship parts that could no longer be produced in California.[4] A direct comparison of actual emissions from all sources including chrome plating facilities, as produced in the ISOR, as revised in the FSN, and then revised in the SSN, is absolutely imperative for the decisionmaker to understand and properly compare how an affirmative or negative decision on this ATCM will affect human health and the environment in California going forward. If we look to the Draft EA, one of the project's primary objective states:

> It is the public policy of the State that emissions of toxic air contaminants should be controlled to levels which prevent harm to the public health. (Health & Saf. Code § 39650). Draft EA at page 9.

The admission made in this SSN that the Draft EA failed to use this information in its evaluation represents a fundamental flaw that cannot be ignored by decisionmakers, particularly in light of the project objective and statutory requirement.

Table 1 Issues

[4] Of course, there would also be a concurrent increase in air, rail, and ship traffic, all of which would cause hexavalent chromium emissions in the largest category of hexavalent chromium emissions, mobile sources.

211-2 Perhaps the most egregious issues lie within the need to correct an error, revise numbers, and re-issue a new table in the SSN. As stated in my April Letter, the MFACA has made multiple requests to obtain the underlying data CARB Staff is using to prepare these estimates. To date, this information has not been provided. See April Letter, Attachment 3. The public should be able to understand not only how these numbers were developed, especially when the numbers are incorrect, but what assumptions were made to place numbers from different data sources into a single common column. The reason the information needs to be made available is that the MFACA is aware that *assumptions* used to derive *estimates* are incorrect. We note some examples to show how the information remains suspicious at best and, more likely, just wrong.

First, in Table 1, the third column lists "2019 Facility Reported Throughput (amp-hrs) (Reported)." The total reported amp-hours for all decorative chrome platers in 2019 is 55,684,352 for 51 facilities. One facility's reported emissions total 41,328,000 amp-hrs, or 74.2% of all decorative chrome plating facility emissions. Table 1, page 12, top entry[5]. The other 50 facilities total 25.8% of those emissions. It is impossible to determine whether information on this single facility is accurate, but since it represents such a large share, its actual use would be far more relevant. Accuracy in this one instance is necessary; otherwise, the assumed use of a single facility will entirely skew decorative chrome results for the other 98% of facilities. Perhaps a more accurate approach would have been to remove a single outlier facility from the evaluation since it is unrepresentative of 98% of the decorative chrome plating facilities evaluated.

Second, in Table 1, chromic acid anodizers are evaluated based upon a single emission rate. See Table 1; Column "Average Source Tested Emission Rate (mg/amp-hr)(Reported)". The information is disturbing. A single source test is assumed (by CARB Staff) to be the result for *all* chromic acid anodizers. The column claims to be an "Average"; however, it is impossible to "average" with a single data point (i.e., value) as the population. A mathematical average is supposed to consider a sum of a *group* of values. Other information, which could be lower (or higher) is necessary for this information to be relevant and appropriate for Table 1. The data should be excluded, but to do so would interfere with the need to make the table "whole" with information on every category of chrome plating facility. This example shows a bias and affects a fair and impartial evaluation.

Looking at this same information in another way might cause a different but also troubling interpretation. If the tested rate for chromic acid anodizers was accepted, then its total universe of annual hexavalent chromium emissions would be a mere 127 micrograms![6] That insignificant amount of emissions begs the question of asking why chromic acid anodizers need to be banned at all since their risk would also not be significant, even at short distances. The lumping of a ban for chromic acid anodizing with the other chrome plating facilities appears to be a means to remove a source that on its face does not deserve removal.

---

[5] The permitted throughput is being used at 100%, which is more than highly suspect. Due to the extraordinary percentage of all decorative chrome plating facility emissions represented by this single facility, at minimum, additional follow-up with the facility would be warranted.

[6] 127 micrograms are the equivalent of 0.000127 grams or 0.00000028 pounds. Put another way, the amount represents 5.09 x 10-10 of the total hexavalent chromium emissions of 550 pounds in California.

211-2 A third example is the use of facilities that are no longer in operation. We are aware that at four listed facilities are no longer in business, yet the total numbers in this Table 1 are being used as the *factual* basis of the entire Record, including the SRIA and the EA. One specific example (page 18, final entry) identifies a facility with 567,500,000 amp-hrs. of potential annual throughput, and 14,288,488 amp-hrs. of actual throughput. The entry is no longer in business; however, its large values still serve as a foundational piece of the Proposed Amendments.[7]

A fourth example considers the single facility located in the Feather River AQMD. *See* Table 1, page 7. Direct information obtained from that operator indicated that its agency-reported throughput in 2019 was 1,614 amp.-hrs, not the maximum allowed as reported, 20,000 amp-hrs.[8] This mistake could be found with effort from the public because the facility was identifiable. This error raises a more ominous concern that many more mistakes, which cannot be readily verified, are present in Table 1.

A fifth example of an issue with Table 1 is the entry under the column, "Permitted Annual Throughput (amp-hrs)(Reported)" for an entry of a decorative chrome plating facility listing of 89,856,000. See SSN, Table 1 at page 9. The MFACA was able to glean from the information what facility was identified and confirmed that its permit has been reduced to only 10,000,000 amp-hrs. as of 2017! If *any* analysis has been performed and reported in the Record (whether it be in the ISOR, the SRIA or the Draft EA) applying permitted (i.e., potential) throughput, this single example alone demonstrates that Table 1's inaccuracies and publicly unavailable data taint the entire Record's conclusions.

Conclusion

211-1 Based upon the foregoing presentation, new information published as part of the Second Supplemental Notice identified problems with the Proposed Amendments as the Record currently exists. New data and a revised Table 1 show lower actual emissions than were previously analyzed, but the latest changes failed to address the Record as it was previously prepared. Moreover, these lower values have not been evaluated and compared to the significant increase in excess hexavalent chromium emissions that would be generated due to increased transportation resulting from the adoption of the Proposed Amendments. The accuracy of the Record currently is in question, particularly since there appears to be continuing errors in and problems with the latest Second Revised Inventory.

We believe the issues as outlined in this letter (and the April Letter) affect the core of the information used to prepare the Proposed Amendments. The MFACA believe it appropriate to withdraw the Proposed Amendments from the hearing scheduled this month. Further, the MFACA believes a meeting with CARB would be the next step to further evaluate the Proposed Amendments with accurate data and appropriate criteria. Without accurate emissions data, the regulated community and other stakeholders cannot be assured that the Proposed Amendments are based upon a proper foundation, and thus, the threat of a potential increase of risk to human health and the environment in California is possible should decisionmakers do nothing further.

211-2 [7] The removal of the four facilities known to have closed represents a 1/3 of a pound removed annually and several pounds when multiplied through 2043. These reductions in potential emissions would directly affect the SRIA analysis, which includes these already closed facilities.
[8] This default value (which is erroneous) was also used several other times in the Table, including for the maximum valued decorative chrome operations. See footnote 5, above.

* * * *

We appreciate the opportunity to prepare these further comments concerning this important regulatory measure having such significant impacts upon the State of California. We trust your careful review and consideration will be given to the issues raised in this letter. We again request the opportunity to discuss this matter with CARB, its staff and legal counsel before final consideration of the Proposed Amendments to ban hexavalent chrome plating facilities in California. Please feel free to contact the undersigned to discuss this matter further.

Sincerely,

CHARLES H. POMEROY
StilesPomeroy LLP

cc: Ellen M. Peter, Esq., Chief Counsel, CARB (via email: Ellen.Peter@arb.ca.gov)

Attachment
(A) Comment Letter to Steven S. Cliff, Ph.D. on Proposed Amendments to ATCM for Chrome Plating Facilities, April 11, 2023.

ATTACHMENT (A)

STILESPOMEROY LLP

CHARLES H. POMEROY
CPOMEROY@STILESPOMEROY.COM
PH.: (626) 243-5599

301 E. COLORADO BLVD., STE. 600
PASADENA, CALIFORNIA 91101
FAX: (626) 389-0599

April 11, 2023

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

Hon. Steven S, Cliff, Ph.D.,
Executive Officer
211-4 California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Public Comments – Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations

Dear Mr. Cliff:

On behalf of our client, the Metal Finishing Associations of California (the Metal Finishing Association of Southern California [MFASC] and Metal Finishing Association of Northern California [MFANC], collectively, the "MFACA"), which operate facilities using hexavalent chromium ("chrome plating facilities"), we provide these comments to the March 27, 2023 *Notice of Public Availability of Modified Text and Availability of Additional Documents and Information* on the *Proposed Amendments to the Airborne Toxic Control Measure [ATCM] for Chromium Electroplating and Chromic Acid Anodizing Operations* (the "Proposed Amendments") (hereinafter the "Supplemental Notice" or "SN").

By necessity, information contained in the Notice shall refer to various portions of the SN including the newly issued emissions inventory replacing the one found at the Initial Statement of Reasons ("ISOR"), Appendix B, Table 1 ("Revised Inventory") as well as portion of the prior record posted November 29, 2022 as the Public Hearing Notice and Related Material for the ATCM (hereinafter the "Notice") as well as the record from the January 26, 2023 public hearing before the California Air Resources Board ("CARB") (the "Hearing") and comments from the public. Collectively, the Notice, Supplemental Notice and Hearing and all prior comments constitute the "Record" to date.

Issues and Requests

New information published as part of the Supplemental Notice identifies three significant problems with the Proposed Amendments. First, this information demonstrates that actual hexavalent chromium emissions from chrome plating facilities are much lower than previously reported and have not been properly analyzed or corrected throughout the Record. Second, because the newly reported hexavalent chromium emissions from chrome plating facilities are much lower, the Proposed Amendments, if adopted, will increase the existing amount of

hexavalent chromium emissions in California, endangering public health. Third, the new emissions inventory that replaced a prior version, continues to contain errors and improper assumptions, which lead to confusion and improper conclusions, thereby undermining the accuracy of the information that is the cornerstone of the Proposed Amendments and all their assumptions.

Based upon the foregoing issues that fundamentally affect the legality of the Proposed Amendments as presently prepared, the MFACA respectfully requests that CARB: (1) Withdraw the Proposed Amendments from their presently scheduled hearing; (2) Meet with the MFACA commenting parties to discuss further alternatives to an absolute ban including risk (based on existing local limits) and proximity, in light of the information and issues set forth in this letter; (3) Provide the MFACA commenting parties with all data, including source test information, that CARB has failed to provide to date and (4) Re-do its analyses and justification for the Proposed Amendments based on the corrected/revised emissions data and permit hexavalent chrome plating facilities and other stakeholders a meaningful opportunity to review and provide comments on the revised analysis and justification for the Proposed Amendments.

Background

To properly frame our comments to the Supplemental Notice, some background information, which is only implied in the Record, needs to be established and stated explicitly concerning the total universe of annual hexavalent chromium emissions in pounds within California. The ISOR (produced within the Notice) describes the statewide annual emissions of hexavalent chromium as being generated by 91% mobile sources, and 9% from non-combustion sources (i.e., stationary sources). ISOR at pages 177, 182. Staff estimates 0.4 percent of the hexavalent chromium emissions from all emission sources originate in chrome plating facilities (and approximately 4% of the 9% non-combustion sources). ISOR at page 182. According to this same ISOR, all chrome plating facilities actually emit 2.2 pounds per year. ISOR at page 188, Table VI.1.

From this presented information in the ISOR, one may determine the universe of annual hexavalent chromium emissions in California to be as follows:

2.2 pounds per year/0.004 [0.4%] = 550 pounds per year

As stated in the ISOR, only 0.4% of all California hexavalent chromium emissions are deemed to originate from chrome plating facilities, meaning the universe of statewide hexavalent chromium emissions total a rather substantial 550 pounds per year.[1]

After completion of the ISOR and following the January 2023 hearing, CARB staff completed the Inventory and issued a new Table VI.1. in the Supplemental Notice. SN, Attachment 2, at page 24. In that new Table VI.1, the actual emissions from all chrome plating

[1] If CARB is applying a higher value to the chrome plating facilities based on *estimated* emissions, then the statewide universe of hexavalent chromium emissions is substantially larger too. For the purpose of this comparison in the ISOR, CARB staff used actual emissions, not hypothetical or potential emissions. If hypothetical emissions (e.g., 10.15 pounds of annual hexavalent chromium emissions) had been used as they were in other parts of the Record, the statewide hexavalent chromium emissions would have increased to over 2,537.5 pounds.

facilities total 0.19 pounds per year, not 2.2 pounds per year as previously reported. Id. This fundamental change in value, which is now revised to be more than 11 times lower, alters the prior evaluation of emissions explained in detail throughout the ISOR. Specifically, this lower emissions value must now be compared to the known statewide hexavalent chromium emissions (i.e., 550 pounds). The new value of annual hexavalent chromium emissions from chrome plating facilities is no longer 0.4 percent of the total as previously reported in the ISOR but is the following:

0.19 pounds per year/550 pounds per year = 0.00035 [.035%]

Considered another way, the annual emission value for all chrome plating facilities now represents approximately 0.35% of the total non-combustion sources. In other words, the focus of these Proposed Amendments, and their proposed ban, is focused upon a minute fraction of the total statewide emissions of hexavalent chromium, whether this fraction be considered for the total emissions or just emissions from non-combustion sources.

What is probably more troubling about this new information found in the Supplemental Notice is the failure to re-evaluate and correct the entire Record to reflect this fundamental change that alters every understanding of the risk and exposure found in the Record, from the original ISOR and subsequent CARB staff testimony, to the California Environmental Quality Assessment ("CEQA") determinations and the Standardized Regulatory Impact Assessment ("SRIA") evaluation. Without a complete and thorough re-evaluation and correction, it is impossible for the CARB decisionmakers to make a knowledgeable determination and decision on the Proposed Amendments. Any subsequent court action for abuse of discretion under a "substantial evidence" standard would by necessity consider this fundamental change carefully when reviewing a fatally flawed record.

This new emissions inventory and actual emissions are significant to the Record and require a re-evaluation of every aspect that has been prepared, including the assumptions that underlie the need for a ban of chrome plating facilities. These assumptions can be summarized with a pair of quotes from the ISOR:

> It [hexavalent chromium] was identified as a compound that has the potential to cause cancer with no associated threshold for cancer initiation. This means there is no level of emissions below which exposure to hexavalent chromium would be safe.
>
> …
>
> Due to the high toxicity level of hexavalent chromium, the health impacts of exposure to hexavalent chromium, the proximity of chrome plating facilities to sensitive receptors and disadvantaged communities, and following extensive evaluation of air monitoring data, a zero emission level is necessary to prevent an endangerment of public health. ISOR at pages 1-2, and 5.

As noted below, the first statement above is inconsistent with CARB's own posted information. Supra, at page 6. Concerning the second statement, each point can be considered and refuted based upon the new emission inventory (SN, Attachment 2, Table 1 at pages 3-22), revised Table VI.1 (SN, Attachment 2, Table VI.1) and further information produced in the Supplemental Notice. For the reason sets forth herein, a zero-emission level is neither necessary, nor warranted.

Statutory Framework

Health & Safety Code Chapter 3.5, Toxic Air Contaminants (H&S Code Sections 39650-39675) establish the basis to prepare the Proposed Amendments and provide mechanisms to consider various aspects of toxic air contaminants. Section 39666 provides the two mechanisms to consider toxic air contaminants based on whether (or not) the substance has a threshold exposure level. It provides in relevant part as follows:

> (b) For toxic air contaminants for which the state board has determined, pursuant to Section 39662, that there is a threshold exposure level below which no significant adverse health effects are anticipated, the airborne toxic control measure shall be designed, in consideration of the factors specified in subdivision (b) of Section 39665, to reduce emissions sufficiently so that the source will not result in, or contribute to, ambient levels at or in excess of the level which may cause or contribute to adverse health effects as that level is estimated pursuant to subdivision (c) of Section 39660.
>
> (c) For toxic air contaminants for which the state board has not specified a threshold exposure level pursuant to Section 39662, the airborne toxic control measure shall be designed, in consideration of the factors specified in subdivision (b) of Section 39665, to reduce emissions to the lowest level achievable through application of best available control technology or a more effective control method, unless the state board or a district board determines, based on an assessment of risk, that an alternative level of emission reduction is adequate or necessary to prevent an endangerment of public health.

Section 39655 provides the criteria for the "appropriate degree of regulation for each substance" and states in relevant part:

> (a) Following adoption of the determinations pursuant to Section 39662, the executive officer of the state board shall, with the participation of the districts, and in consultation with affected sources and the interested public, prepare a report on the need and appropriate degree of regulation for each substance which the state board has determined to be a toxic air contaminant.
>
> (b) The report shall address all of the following issues, to the extent data can reasonably be made available:
>
> (1) The rate and extent of present and anticipated future emissions, the estimated levels of human exposure, and the risks associated with those levels.
>
> (2) The stability, persistence, transformation products, dispersion potential, and other physical and chemical characteristics of the substance when present in the ambient air.
>
> (3) The categories, numbers, and relative contribution of present or anticipated sources of the substance, including mobile, industrial, agricultural, and natural sources.
>
> (4) The availability and technological feasibility of airborne toxic control measures to reduce or eliminate emissions, the anticipated effect of airborne toxic control measures on levels of exposure, and the degree to which proposed airborne toxic control measures are compatible with, or applicable to, recent technological improvements or other actions which emitting sources have implemented or taken in the recent past to reduce emissions.
>
> (5) The approximate cost of each airborne toxic control measure, the magnitude of risks posed by the substances as reflected by the amount of emissions from the source or

> category of sources, and the reduction in risk which can be attributed to each airborne toxic control measure.
>
> (6) The availability, suitability, and relative efficacy of substitute compounds of a less hazardous nature.
>
> (7) The potential adverse health, safety, or environmental impacts that may occur as a result of implementation of an airborne toxic control measure.
>
> (8) The basis for the finding required by paragraph (3) of subdivision (b) of Section 39658, if applicable.

Of note in Section 39665, the regulation is directed at the substance, not the industry, and must be based upon the numbers and relative contributions from all sources. Id at (a) and (b)(3). From these statutory directions one must more carefully consider the 550 pounds of California statewide hexavalent chromium emissions, especially when attempting to compare them to the new information derived from revised Table VI.1 that show actual hexavalent chromium emissions from chromium plating facilities are limited to 0.19 pound per year.

Section 39660 [Health effects; Submission to state board], provides an additional mechanism by which to determine whether the toxic air contaminant should be considered for an ATCM per Sections 39666(b) or 39666(c) by coordination with the Office of Environmental Health Hazard Assessment (OEHHA).[2] It states in relevant part:

> (a) Upon the request of the state board, the office, in consultation with and with the participation of the state board, shall evaluate the health effects of and prepare recommendations regarding substances, other than pesticides in their pesticidal use, which may be or are emitted into the ambient air of California and that may be determined to be toxic air contaminants.
>
> (b) In conducting this evaluation, the office shall consider all available scientific data, including, but not limited to, relevant data provided by the state board, the State Department of Health Services, the Occupational Safety and Health Division of the Department of Industrial Relations, the Department of Pesticide Regulation, international and federal health agencies, private industry, academic researchers, and public health and environmental organizations. The evaluation shall be performed using current principles, practices, and methods used by public health professionals who are experienced practitioners in the fields of epidemiology, human health effects assessment, risk assessment, and toxicity.

[2] OEHHA mission is to be California's leading scientific organization for evaluating risks to human and ecological health. OEHHA's goals as a governmental agency include: (1) Improving the quality of the public's health and the environment; (2) Advancing the science for the evaluation of risks posed to the public health and environment, and (3) Providing risk assessment leadership for the State of California.

> (c)(1) The evaluation shall assess the availability and quality of data on health effects, including potency, mode of action, and other relevant biological factors, of the substance, and shall, to the extent that information is available, assess all of the following:
>
> (A) Exposure patterns among infants and children that are likely to result in disproportionately high exposure to ambient air pollutants in comparison to the general population.
>
> (B) Special susceptibility of infants and children to ambient air pollutants in comparison to the general population.
>
> (C) The effects on infants and children of exposure to toxic air contaminants and other substances that have a common mechanism of toxicity.
>
> (D) The interaction of multiple air pollutants on infants and children, including the interaction between criteria air pollutants and toxic air contaminants.
>
> (2) The evaluation shall also contain an estimate of the levels of exposure that may cause or contribute to adverse health effects. If it can be established that a threshold of adverse health effects exists, the estimate shall include both of the following factors:
>
> (A) The exposure level below which no adverse health effects are anticipated.
>
> (B) An ample margin of safety that accounts for the variable effects that heterogeneous human populations exposed to the substance under evaluation may experience, the uncertainties associated with the applicability of the data to human beings, and the completeness and quality of the information available on potential human exposure to the substance. In cases in which there is no threshold of significant adverse health effects, the office shall determine the range of risk to humans resulting from current or anticipated exposure to the substance.
>
> (3) The scientific basis or scientific portion of the method used by the office to assess the factors set forth in this subdivision shall be reviewed in a manner consistent with this chapter by the Scientific Review Panel on Toxic Air Contaminants established pursuant to Article 5 (commencing with Section 39670). Any person may submit any information for consideration by the panel, which may receive oral testimony.
>
> (d) The office shall submit its written evaluation and recommendations to the state board within 90 days after receiving the request of the state board pursuant to subdivision (a). … .

Based upon the Record, it does not appear OEHHA was consulted on any specific issues relevant to this Record, nor were other hexavalent chromium emission and risk values previously determined by OEHHA factored into any evaluation in the Record.

A determination on substances is also a consideration of Section 39660 and CARB has a webpage describing information on certain substances as follows:

> [CARB] has found there to be a threshold exposure level below which no significant adverse health effects are anticipated from exposure to the identified substance, that level is specified as the threshold determination. If [CARB] has found there to be no threshold exposure level below which no significant adverse health effects are anticipated from exposure to the identified substance, a determination of "no threshold" is specified. If [CARB] has found that there is not sufficient available scientific evidence to support the identification of a threshold exposure level, the "Threshold" column specifies "None identified."
>
> https://ww2.arb.ca.gov/resources/documents/carb-identified-toxic-air-contaminants
>
> (Emphasis added).

CARB has identified 21 substances, including hexavalent chromium, at the referenced website above. None of these 21 substances is designated as having "no threshold," meaning that a "zero" threshold for exposure has not been established for these substances. In other words, none of these chemicals would be unsafe at any value.

Instead, "no determination" on chemical carcinogenicity has yet been identified, meaning that CARB has no conclusive information to establish a zero or higher threshold at this time. While this categorical distinction might appear subtle, it is relevant to the Proposed Amendments that have concluded that a ban (i.e., zero exposure) is the only solution for hexavalent chromium from chrome plating facilities only. Such a ban makes little sense because a "no threshold" standard has not been established by CARB.

No other industry is banned by the Proposed Amendments. All other existing hexavalent chromium sources wherever located will continue to be regulated in the same manner.

More appropriately, and consistent with the ongoing statutory approach allowed by CARB and followed by the local air districts, when considering a "no determination" threshold for any chemical, risk evaluation, an area clearly occupied by OEHHA, should be considered for all hexavalent chromium uses, including chrome plating facilities.

The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (Health & Safety Code Section 44300-44394) ("Hot Spots") provides an additional mechanism for CARB to coordinate with OEHHA. Under Hot Spots, OEHHA has prepared, as part of its Technical Support Document for Cancer Potency Factors, an "Appendix A: Hot Spots Unit Risk and Cancer Potency Values, updated April 2023) ("OEHHA Update")." The unit risk as set forth in the ISOR of 1.5 x 10-1 (micrograms/m3)-1 is also listed in the OEHHA Update. See ISOR, Table ES.1 at page 2. It is not a zero value; instead, it is a number by which risk can be assessed.

Hot Spots also evaluates what is ultimately determined by the local air agency to be a "significant health risk." In the instance of one agency, as an example, a significant health risk is based on the Maximum Individual Cancer Risk ("MICR") exceeding ten excess cancer cases per one million assuming a 70-year continuous exposure.[3] See https://avaqmd.ca.gov/files/e6073cf25/Air+Toxics+Public+Notification+Guidelines.pdf at page

[3] Such a value is consistent with California's "Proposition 65" (Health & Safety Code Sections 25249.5 et seq.), for which OEHHA is also involved. Under that law, an acceptable "no significant risk" exposure for hexavalent chromium is 0.001 micrograms per day. See Title 27 CCR Section 25705(b)(1). It is a number greater than zero and is based directly on proximity.

3. See also, https://www.mdaqmd.ca.gov/home/showpublisheddocument/584/636305695929370000 (significant health risk is a MICR of 100 excess cancer cases per million).

Of especial import, because of the many chrome plating facilities located in the South Coast Air Quality District (SCAQMD), is SCAQMD's Rule 1402 that applies to existing stationary sources of toxic air contaminants, including hexavalent chromium. Under that Rule 1402, a "significant health risk" is described for a MICR of 100 excess cancer cases per million. Id at (c)(19). Other threshold values are also applicable, including a MICR of 25 for an action risk level ((c)(2)) that facilities must attempt to achieve, and a MICR of 10 for a notification risk level ((c)(12)) that triggers the preparation of a report under Hot Spots.[4]

Thus, when considering the statutes as implemented, there is nothing mandating a ban on any substances or industry if it can comply with the relevant risk standards set forth in existing law. Based upon the Proposed Amendments if approved, CARB is selectively banning a single industry while potentially allowing all other industries and uses of hexavalent chromium wherever located that may have higher risk and be more harmful. Any action to ban an industry without effective consideration of these standards appears arbitrary and, further, is not supported by actual emissions information as set forth in revised Table VI.1. Something quite notable in its omission from the Record is the lack of risk evaluation prepared based on the actual emission information at each source. That deficiency will be discussed further herein, infra.

The SRIA Evaluation Must Be Altered and Is Presently Irreconcilable

The SRIA document evaluates the costs associated with the adoption of the Proposed Amendments as originally prepared in the Notice. The SN provides some update to the costs within its text. See SN, generally at Attachment 2. The SN does not re-evaluate the costs by considering actual emissions being reduced to 0.19 pounds per year as provided in revised Table VI.1. See SRIA, Table 2.1, section 2.1 at pages-22-23.

The SRIA was originally prepared by calculating the removal of all potential (not actual) hexavalent chromium emissions from chrome plating facilities over a twenty-year period assuming an artificial and worst-case default rate established over 16 years ago (2007). These calculations, which apply two hypothetical and unrealistic variables, found a reduction of 132 pounds of hexavalent chromium derived from unrealistic assumptions found in the ISOR. See SRIA, pages 1 and 23, Table 2.3. These values appear to be derived from Table VI.1 (at column 2), the column associated with 2007 ATCM limits.[5]

The SRIA improperly evaluated hypothetical unrealistic information that has never actually existed in practice, applying pure assumptions, not actual, factually determined use and

[4] In addition to the standard set forth in Proposition 65 and within Hot Spots, OEHHA has incorporated risk values for inhaled hexavalent chromium as part of its review of hexavalent chromium in drinking water. See, *Public Health Goals for Chemical in Drinking Water, Hexavalent Chromium, July 2011*.

[5] Notably, this Column 2 dramatically conflates the actual emissions by taking higher hypothetical default 2007 ATCM limits, then multiplying this artificially high number with potential (not actual) throughput. For comparison, Column 3 applies one actual number (real 2019 throughput) and Column 4 applies real data, i.e., actual 2019 throughput and actual 2019 emissions.

emissions. With this sleight of hand, the otherwise significant revisions for Table VI.1 as a whole might be ignored.

The revised Table VI.1, Column 2 finds little change in the hypothetical assumptions (a 0.01-pound total reduction, reducing the final amount of emissions over twenty years by 0.08 pounds from 132.37 pounds to 132.29 pounds). However, the change to actual emissions is dramatic. For column 4, when calculated as provided in the SRIA, the actual hexavalent chromium emissions over twenty years would result in only a 3.1 pound reduction over these same twenty years. See Attachment 1 (SRIA Table 2.3 (revised) for column 3 and column 4 emissions reduced).[6]

The reason that hypothetical numbers cannot be used (and especially not multiplied together) in the SRIA evaluation becomes quite apparent when comparing a *hypothetical* 132.3-pound reduction versus an *actual* 3.1-pound reduction. The scale of difference between 132.3 and 3.1, is a factor of 42.68 times.[7]

The overall SRIA evaluation of emissions is troubling when looking back to the mandate of Health & Safety Code Section 39665(b), which directs the information to consider to be based upon (1) the rate of present emissions (not hypothetical emissions), and (5) the approximate cost of the [Proposed Amendments] as reflected by the amount of emissions (not hypothetical emissions) from the category of sources. Id at (b)(1) and (b)(5). With the introduction to actual emissions reported in the revised Table VI.1, this error in the record should be corrected.

The cost-effectiveness of the Proposed Amendments is part of the evaluation of the SRIA. When applying 132.1 pounds to the total assumed cost of $585,919,503,[8] the cost savings is valued at $4,426,377 per hexavalent chromium pound reduced. See SRIA, Table 6.7. While this numeric value appears high at first blush, it pales to the higher costs per pound once considering actual throughput and actual emissions of 3.1 pounds over twenty years using the data from revised Table VI.1. As applied with the same SRIA formula to column 4 data, the cost-effectiveness increases to $189,006,291 per hexavalent chromium pound reduced![9]

The SRIA fails to evaluate the costs and benefits by reflecting on the inherent exposure caused by the existing baseline of hexavalent chromium within California, i.e., 550 pounds of annual emissions. Moreover, the costs and benefits do not reflect on the existence of ambient hexavalent chromium throughout the state.

The SRIA imposes a pre-ordained benefit resulting from the removal of potential emissions that never existed. It couples that inflation with a failure to observe pre-existing

---

[6] Column 3, which is inflated by one variable (using the 2007 ATCM default emission rate), would still find total hexavalent chromium emissions saved over twenty years reduced to 35.12 pounds.

[7] Another way to consider this information is by observing that permitted use vastly exceeds actual use, and that 2007 ATCM regulatory limits are vastly higher than actual emission results 16 years later based on advances in control technology and imposition of more stringent limits at the local (District) level.

[8] This figure assumes CARB's cost estimates were correct, but they are more likely substantially under-estimated.

[9] $585,919,503 / 3.1 pounds.

conditions that already expose the average California residents to some amount of hexavalent chromium exceeding the one in one million risk threshold. See General Health Impact, supra.

General Health Impact of Hexavalent Chromium in California

According to EPA's Integrated Risk Information System ("IRIS"), the average mean rate of hexavalent chromium present in the ambient air is 0.037 nanograms per cubic meter, with a maximum of 0.5 nanograms per cubic meter. See EPA, IRIS, Toxicological Review of Hexavalent Chromium, June 2022, Table 1-2 at page 1-9. These described values exceed the EPA Regional Screening Levels for hexavalent chromium in residential air, which provides a one in one million excess cancer risk of 1.2 x 10-5 micrograms per cubic meter (i.e., 0.012 nanograms per cubic meter).[10] See https://semspub.epa.gov/work/HQ/403640.pdf at page 2 of 10.

The benefits of a reduction of 0.19 pounds per year hexavalent chromium should be compared against 550 pounds throughout the state. If the average mean rate of hexavalent chromium in the environment is used, then the reduction is negligible (a reduction of 0.00035 from an average mean of 0.037, or 0.0000128 nanograms per cubic meter). While such a comparison may not reflect real-world conditions, it does demonstrate the minimal overall health impact the removal of 0.19 pounds of actual hexavalent chromium emission would cause to the state as a whole.

SB 535 requires the California Environmental Protection Agency (CalEPA) to identify disadvantaged communities for investment opportunities based on geographic, socioeconomic, public health, and environmental hazard criteria. To implement this statute, the CalEnviroScreen 4.0 tool identifies disadvantaged communities as those that receive scores of 75 percent to 100 percent. Unlike AB 617, the statute does not require further action against any facility located in its boundaries.[11] Only AB 617 should be considered for any evaluation in the Record since only it requires local air districts and the state Air Resources Board to reduce air pollution in these most impacted communities.[12]

CEQA

CEQA requires that CARB have prepared a document to determine whether a project is a discretionary action. See generally, Public Resources Code Sections 21000 et seq.; Title 14 CCR Sections 15000 et seq (the "CEQA Guidelines"). The statute and the CEQA Guidelines provide a framework for agencies to tier from a "program" EIR prepared for a program, plan, policy, or ordinance (PRC Sections 21093, 21094; CEQA Guidelines Sections 15168, 15152). The program EIR will cover "general matters and environmental effects" for the overarching

[10] A simple linear evaluation of the average mean amount of ambient hexavalent chromium in the air to the one in one million risk level produces the following 0.37 / 0.12 = 3 excess cancer cases per million for hexavalent chromium in the ambient air. As discussed in the CEQA section in this letter, supra, this ambient level (and the cancer risk) will increase should the Proposed Amendments be approved.

[11] The removal of chrome plating facilities within those communities represents the opposite of an investment into the community since it takes high-paying jobs away from the area.

[12] Of 47 MFACA members evaluated, only 18 of 47 (38%) are located in an AB 617 area.

program, plan, policy, or ordinance, and the agency will prepare "narrower or site-specific [EIRs] which incorporate by reference the discussion" in the program EIR (PRC Section 21068.5). The document may also take the form of an Environmental Assessment ("EA"), as it did in this Record.

The data reported in revised Table VI.1. identifies the latest compiled information of actual annual emissions of hexavalent chromium from chrome plating facilities equaling 0.19 pounds, which when converted to grams (453.6 grams per pound) amounts to 86.2 grams for the entire state. As discussed herein, infra, the total universe of hexavalent chromium emissions in California is 550 pounds annually (i.e., 249,480 grams).

The EA describes the increase of transportation resulting from the ban of hexavalent chromium use by chrome plating facilities.[13] There is a general discussion about diesel particulate material ("DPM") emissions and a conclusion that this impact is significant and cannot be mitigated for construction purposes. CITE

It is well known and recognized that DPM, along with brake dust and tire wear from trucks used in intrastate and interstate commerce all contribute hexavalent chromium into the California environment. A prior document produced for CARB staff for consideration in these Proposed Amendments identified the amount of hexavalent chromium emissions that would be attributed to a single roundtrip in a diesel-equipped truck (at 7.5 miles per gallon) to the nearest out-of-state location (from Los Angeles), Mojave Valley, AZ (260 total miles one way).[14] That total is 3.14 grams of hexavalent chromium emitted for the one roundtrip. While a single trip is not consequential, many of the same roundtrips trips (only about 28 or more) would result in hexavalent chromium emissions ***increasing*** in the state as a result of the proposed action! For purposes of this simplified assessment, known sources of DPM criteria for toxic air contaminants were identified from public agency records at the SCAQMD.

The following calculation provides the number of miles necessary for the hexavalent chromium emissions annually from trucking mobile sources only to exceed the actual amount emitted by all chrome plating facilities in the state:

86,200 mg * 0.006048 mg hexavalent chromium /mile[15] = 14,253 miles

If just one excess trip is made daily due to the Proposed Amendments, the amount of annual hexavalent chromium emissions increases in California as follows:

(3,140 mg/trip x 365 days) – 86,200 mg (all chrome plating activities) =
1,146,100 mg – 86,200 mg = 1,059,900 mg / 1,000 mg/g / 453.6 g/lb
= 2.337 pounds increase of hexavalent chromium in California

---

[13] The EA suggests that there is an as yet undetermined amount of transportation occurring presently as a result of hexavalent chromium plating activities. EA at page 19. While there may be a minimal amount, the principal reason for the concentration of these chrome plating facilities in California is the close distance to their customers in various manufacturing industries.

[14] Attachment 3 - Increased Hexavalent Chromium Emissions from Mobile Sources. The information is based upon DPM only, not brake and tire wear. Supporting agency weblinks are found within Attachment 3.

[15] See Attachment 3.

The number of miles identified as needing to occur (14,253 miles) is dramatically lower than what would otherwise transpire with the loss of hexavalent chromium plated parts in California, which, as the CEQA document acknowledges, represents an issue that will increase transportation. EA at page 10.[16] The increase in mileage will also result in *increases* statewide of emissions for many other toxic air contaminants including, benzene, formaldehyde, arsenic, cadmium and nickel, among others. None of the increases of these toxic air contaminants nor their cumulative detriment to the state was considered in the EA.

The EA is based entirely is upon the following assumption: "the Proposed Amendments are meant to reduce toxic air emissions associated with hexavalent chromium." EA at page102. If the newly described actual emissions of 0.19 pounds per year are equitably compared with the increases in transportation use (and their concurrent and substantial increase in hexavalent chromium emissions) that will directly flow from the Proposed Amendments, then the EA evaluation is wrong at its core.

The CEQA document does not analyze the direct increase of hexavalent chromium emissions across the state. It merely notes air quality impacts for construction, but not for transport. For Air Quality, the EA concludes: "Therefore, the Proposed Amendments would result in a cumulatively beneficial contribution to reducing air toxic emissions during operations." EA at page 90.

The EA fails to discuss the ambient hexavalent chromium conditions throughout the state and the relative health exposure resulting from these ambient conditions. See discussion in this letter, infra. It does not account for the increase in hexavalent chromium emissions resulting from the increased transportation that will necessarily result from the increased truck and rail traffic. It also does not account for increases in fuel, brake and tire emissions at California's ports that may result from the increased importation of hexavalent chromium parts.[17]

The cumulative detrimental contribution of hexavalent chromium that will result, if the Proposed Amendments are adopted, could be avoided by an alternative that was not considered in the EA. That alternative would allow the continued operation of chrome plating facilities in California, which would provide a cumulatively beneficial contribution to statewide hexavalent chromium emissions by reducing the amount of truck and rail traffic. The failure to properly consider such a reasonable and obvious alternative is a further defect in the EA.

Proximity

The revised emissions values found in revised Table VI.1 go directly to another point of concern; specifically, the issue of proximity of these emissions. If assumptions on exposure are

[16] The EA also references the use of trains trips. For simplicity purposes, the comment herein has focused on truck trips; however, train trips will also result in the additional emission of hexavalent chromium, which was not evaluated in the EA.

[17] As the Proposed Amendments note, 91% of the hexavalent chromium emissions in the state are from mobile sources that would include interstate transportation, which is outside the state's ability to directly regulate. As discussed herein, emissions from these same and (significantly greater) hexavalent chromium mobile sources will increase further with the ban of chrome plating facilities.

based upon the potential emissions as opposed to the actual emissions, then the assumptions on risk are erroneous as they dramatically overstate the actual risk.

Taken one step further, the ISOR takes pains to identify the percentage of facilities that are close (in staff's view) to schools and sensitive receptors. There is much said in the Record about the percentages of chrome plating facilities located near these receptors, as well as being generally in locations identified per AB 617.[18] The resultant conclusion, and the Proposed Amendments proposal is to ban all chrome plating facilities.

What is lost in this rush to a complete ban is both an evaluation of the lower emissions of revised Table VI.1 at all locations, and equally important, a further consideration of the chrome plating facilities that do not trigger any of the sensitivities noted by CARB staff. The Record does not conclude that 100% of the facilities are exposing anyone, let alone a sensitive receptor or disadvantaged community. The idea of an absolute ban that makes no consideration for facilities that, by the Proposed Amendment's own evaluation, are not causing any risk to the public, seems arbitrary and beyond the basis of substantial evidence.

Actual Risk and the Non-Existent Facility

The ISOR identified a serious concern reflecting the proximity of a major hexavalent emission source to a sensitive receptor. Specifically, the ISOR states:

> Figure V.2., below, summarizes the progressive reductions of potential individual resident cancer risks from the 2019 baseline to year 2039, under the Proposed Amendments. The estimated cancer risks associated with emissions of hexavalent chromium are calculated at near-source receptors downwind from the edge of facility building. In 2019, the potential cancer risk from large functional platers is estimated at about 213 chances per million… . ISOR at page 174.

CARB staff reported to the MFACA in December 2022 that the emission inventory in Appendix B was incorrect and that it would be amended. The amended emission inventory was posted along with the proposed rule modifications that are subject to the SN. See SN, Attachment 2, Table 1, pages 3-22. At the time of the January 2023 hearing, no one, including the Board, was able to effectively evaluate actual emissions because there was no correct emissions inventory.

A further evaluation of 42 MFACA member chrome plating facilities, including the largest by amp-hours, was made based on known proximities to the nearest sensitive receptors at each of these locations.[19] Once the math is applied to these facilities, none of them are remotely close to the 213 in one million cancer risk asserted in the ISOR, even assuming the default 2007 ATCM emission rate. Despite having an amended emission inventory, the Record has not been corrected to reflect the changes that would result from that information including the dramatic decrease in actual risk.

As stated, 42 facilities (37% of the total universe of 113 facilities at issue) were evaluated by considering the total amp-hours used, the distance to a receptor, the default 2007 ATCM rate

[18] See footnote 11, supra.
[19] See Attachment 4 - Facility-Specific Risks and Proximity for Actual Hexavalent Chromium Usage

and the actual or assumed actual tested emission rate at the facility. When applying the 2007 ATCM default emission rate, the worst-case exposure resulted in a 155 in a million exposure, a value significantly less than 213, but also purely a hypothetical result. However, once actual emissions were determined from source test results, the worst-case exposure level for 39 of 42 facilities was less than one in one million.[20] The three remaining facilities would have results of 1.24, 1.93 and 4.54 excess risks per one million at the nearest receptor, respectively, all below the generally accepted triggering value of ten excess risks per one million.[21] Thus, all evaluated facilities have risk values that comport with California's Air Toxics Hot Spots requirements and SCAQMD standards for toxic air contaminants.

The SN includes the corrected emission inventory but fails to correct the Record on this egregious error. This fact is a critical one for the public and, due to the enormous size of the risk, it has become a primary focal point that not only affects the public but has been broadcast in the media. Because the Record lacks any of the corrected information within it, decisionmakers are affected by the erroneous information and are without the substantial evidence needed to make an unbiased and impartial decision.

Alternatives for Proposed Amendments

As stated in ISOR at page 222:

> Government Code section 11346.2, subdivision (b)(4) requires CARB to consider and evaluate reasonable alternatives to the proposed regulatory action and provide reasons for rejecting those alternatives. This section discusses alternatives evaluated and provides reasons why these alternatives were not included in the proposal. As explained below, no alternative proposed was found to be less burdensome and equally effective in achieving the purposes of the regulation in a manner than ensures full compliance with the authorizing law. (Emphasis added).

As discussed previously, the purpose of the regulation is "to reduce the emissions to the lowest level achievable through application of available control technology **or** a more effective control method, **unless** the state board or a district board determines, based on an assessment of risk, that an alternative level of emission reduction is adequate or necessary to prevent an endangerment of public health." Emphasis added. The latter portion of the section appears to be the one CARB is seeking to apply since the Record states the zero threshold is necessary due to the endangerment of public health. This conclusion flies in the face of the information provided in revised Table VI.1 concerning the total of actual hexavalent emissions being only 0.19 pounds per year and the known (but otherwise unanalyzed in the Record) lessened risk associated with

[20] Cf. the EPA IRIS ambient air excess cancer risk from hexavalent chromium of three in one million discussed, supra.

[21] Notably, the facility with the highest amount of amp-hrs and the highest assumed risk, dropped to a risk of 1.24 in one million once actual information was applied. The actual source test data found the tested facility emission rate to be 0.000012 mg/amp-hr (and lower). **Thus, a 213 hypothetical excess cancer risk is now a 1.24 actual excess cancer risk, a value which is below existing ambient hexavalent chromium levels!**

this lower amount. The public endangerment finding requires and must be based upon an assessment of risk, particularly if the toxic air contaminant is designated as "no determination versus "no threshold". That risk assessment appears in this letter and finds that public endangerment does not exist, and that all the facilities would meet existing requirements for risk in their respective local air districts. The SN does not contain any form of updated risk assessment necessary to support the public endangerment finding.

If CARB has not updated its risk assessment, the statute provides an alternative solution. The purpose of the regulation can be met by either the use of available control technology **or** a more effective control method. Because this statutory choice is discretionary, CARB is not mandated to institute a ban and will still be able to achieve the purposes of the regulation in a manner than ensures full compliance with the authorizing law. CARB may decide to apply available control technology, especially in light of the new emission inventory information and the significantly reduced actual emissions reported in Table VI.1. Thus, the alternatives can be viewed both as less burdensome and equally effective with the purposes of the authorizing law.

Government Code Section 11346.2(b)(4) provides the requirements for alternatives:

> (4)(A) A description of reasonable alternatives to the regulation and the agency's reasons for rejecting those alternatives. Reasonable alternatives to be considered include, but are not limited to, alternatives that are proposed as less burdensome and equally effective in achieving the purposes of the regulation in a manner that ensures full compliance with the authorizing statute or other law being implemented or made specific by the proposed regulation. In the case of a regulation that would mandate the use of specific technologies or equipment or prescribe specific actions or procedures, the imposition of performance standards shall be considered as an alternative.
> (B) A description of reasonable alternatives to the regulation that would lessen any adverse impact on small business and the agency's reasons for rejecting those alternatives.
> (C) Notwithstanding subparagraph (A) or (B), an agency is not required to artificially construct alternatives or describe unreasonable alternatives.

The ISOR takes pains to identify multiple times concerns about proximity, sensitive receptors and disadvantaged communities. Through these continuous assertions, it *indirectly* acknowledges: (1) there is a distance at which exposure is effectively "zero", and (2) that some percentage less than 100% is not near a sensitive receptor or in a disadvantaged community. See ISOR, Figure V.1 at page 174 [zero at 500 meters]; and page 3 [9% within 300 meters of schools (i.e., 91% are not) and 14% within AB 617 communities (i.e., 86% are not)].

An alternative based upon proximity should have been automatic, and cannot be considered an artificially constructed alternative, or otherwise unreasonable. Such a reasonable alternative would have lessened any adverse impact on small businesses. The evaluation could have identified a sufficient distance, appropriate technology and allowed for no future prohibition on new facilities if the requirements were met.

Instead, the ISOR discussed three alternatives: (1) Short Phase Out and (2) No Phase Out and (3) Extended Phase Out. See ISOR, Section X (page 222 et al). These alternatives were based upon the original assumptions found in the ISOR and not based upon the updated emission inventory and lower actual emissions as found in revised Table VI.1. This new information requires these alternatives be re-evaluated; however, no discussion on revised alternatives exists in the SN, and the Record presently contains the original analysis in the ISOR only, which lacks the new information. As discussed above, the reduced actual risk overall, coupled with the existence of facilities that are not near sensitive receptors or in disadvantaged communities, strongly suggests that existing alternatives must be re-evaluated. Because the emissions values have dramatically decreased under Table VI.1., the subsequent evaluation of risk derived from that information finds that existing risk based upon proximity is likely to be acceptable under present statutory guidelines. Nevertheless, an alternative evaluation should be reconsidered, particularly for the No Phase Out alternative, in light of additional control technologies that could further reduce risk including the zero-emission alternative of Permanent Total Enclosures.

An additional alternative based solely on risk and proximity should also be considered. Without this new emissions inventory, such a consideration would not have been possible; however, given the new information and the apparent need to consider risk, rather than a zero threshold, based upon a proper reading of the statutes, the failure to include and consider such an alternative represents an abuse of discretion.[22]

Errors in the New Emissions Inventory

The SN provides an amended emissions inventory (ISOR, Appendix B, revised Table 1) as well as a summary of that information at Table VI.1. Much of the issues set forth in this letter consider the significant downward revision of actual emissions from 2.2 pounds per year to 0.19 pounds per year. A further review of the detailed data, however, finds that the new information is also incorrect.

We note the amended emissions inventory includes at least one calculation where a value appears to have been incorrectly included as 0.0000588 as opposed to 0.000588. Cf. SN, Attachment 2, Table 1 at pages 17-22, Average Source Tested Emission Rate (Facility Type - Hard) at pages 17-22 versus ISOR, Appendix B, Table 2 page 15, Test Emission Rate, (Hard with Add-on). That single error alone has significance. There are other figures as well as arbitrary default assumptions that should not have been applied.

The information, if revised to the original ISOR number, alters the actual emissions total to a higher value, coming closer to one pound. The value remains more than two times lower than the ISOR reported amount, but five times higher than the SN reported amount in Table VI.1 for actual emissions. This additional change in the data confounds any understanding of what the information should really mean. This issue is exacerbated by the inability of the MFACA to obtain source test and other public data that would provide meaningful evaluation of actual

[22] One must carefully consider that the Proposed Amendments are solely for chrome plating facilities and do not affect mobile sources (which will increase if the Proposed Amendments are approved), nor do they alter existing stationary sources outside the universe of chrome plating facilities that may have much higher risk due to their emissions and proximity.

emissions. Taken in light of the issues mentioned previously in this letter, it strongly suggests that CARB start at the beginning to re-evaluate the Proposed Amendments for chrome plating facilities. The Record is hopelessly deficient and defective. No cogent decision could be made upon it and any attempt to do so would be the basis of a legal challenge.

PFOS Improperly Considered

The Record improperly considers PFOS. The Record cites to ancillary benefits being the supposed entire removal of PFOS from chrome plating facilities once hexavalent chromium is banned. It is noted in both CEQA and the SRIA documents.

The costs and consequences of the removal of PFOS are under-reported and lack a level of understanding concerning the existence of PFOS throughout a chrome plating facility. As known by users, PFOS remains in operational equipment well beyond the equipment exclusively used with hexavalent chromium, which is contrary to the comments suggested in the Record. With that affect, there is a need to remove much more equipment than was considered in the CEQA and SRIA analysis if the intended outcome is to remove PFOS entirely. The costs of disposal for the equipment are based upon their contamination with hexavalent chromium, not PFOS, and the additional costs associated with the disposal of PFOS-contaminated equipment have not been analyzed. Even the removal of tanks and pipes that contain PFOS materials is known to not result in a total removal of PFOS, leaving legacy issues. Thus, these environmental and financial impacts have not been adequately or completely considered in the Record.

Conclusion

Based upon the foregoing presentation, new information published as part of the Supplemental Notice identified problems with the Proposed Amendments as the Record currently exists. New data showing dramatically lower actual emissions has been noted, but the analysis in the Record has not been updated. Moreover, the lower values have not been evaluated and compared to the significant increase in excess hexavalent chromium emissions that would be generated due to increased transportation. The accuracy of the Record currently is in question, particularly since there appears to be errors in the emissions inventory.

We believe the issues as outlined in this letter fundamentally affect the legality of the Proposed Amendments as they presently exist. The MFACA believe it appropriate to withdraw the Proposed Amendments at this time from the scheduled hearing as well as meet with the MFACA commenting parties to discuss pathways to move this issue forward and to provide available data. We believe that analysis on these Proposed Amendments must be re-done based on accurate emissions data so that the regulated community and other stakeholders are provided the most accurate information possible to protect human health and the environment in California.

* * * *

We appreciate the opportunity to prepare these comments concerning this important regulatory measure having such significant impacts upon the State of California. We look forward to your careful review and consideration of the many issues we have brought to your attention. We ask for the opportunity to discuss this matter with CARB, its staff and legal counsel before final consideration of the Proposed Amendments to ban hexavalent chrome

plating facilities in California. Please feel free to contact the undersigned should you wish to discuss this matter further.

Sincerely,

CHARLES H. POMEROY
StilesPomeroy LLP

cc: Ellen M. Peter, Esq., Chief Counsel, CARB (via email: Ellen.Peter@arb.ca.gov)

Attachments
(1) SRIA Table 2.3 Corrected to Actual Emissions
(2) Increased Hexavalent Chromium Emissions from Mobile Sources
(3) Data Requests, June 2021 to April 2023.
(4) Facility-Specific Risks and Proximity for Actual Hexavalent Chromium Usage (42 Facilities)

Attachment 1
SRIA Table 2.3 Corrected to Actual Emissions

Table 2.3 Estimated Annual Hexavalent Chromium Emission Reductions Resulting from the Proposed Amendments from 2024 to 2043 (column 3, Revised Table VI.1)[1]

Year	Hexavalent Chromium from Decorative Chrome Plating Operations (lbs/yr)	Hexavalent Chromium from Hard Chrome Plating Operations (lbs/yr)	Hexavalent Chromium from Chromic Acid Anodizing Operations (lbs/yr)
2024	0.0	0.0	0.0
2025	0.21	1.24	.01
2026	0.21	1.24	.01
2027	0.21	1.24	.01
2028 to 2037	0.21	1.24	.01
2038	0.21	2.47	.02
2039 to 2042	0.21	2.47	.02
2043	0.21	2.47	.02
Total	**3.99**	**30.88**	**0.25**

Table 2.3 Estimated Annual Hexavalent Chromium Emission Reductions Resulting from the Proposed Amendments from 2024 to 2043 (column 4, Revised Table VI.1)[2]

Year	Hexavalent Chromium from Decorative Chrome Plating Operations (lbs/yr)	Hexavalent Chromium from Hard Chrome Plating Operations (lbs/yr)	Hexavalent Chromium from Chromic Acid Anodizing Operations (lbs/yr)
2024	0.0	0.0	0.0
2025	0.093	0.048	0.005
2026	0.093	0.048	0.005
2027	0.093	0.048	0.005
2028 to 2037	0.093	0.048	0.005
2038	0.093	0.096	0.01
2039 to 2042	0.093	0.096	0.01
2043	0.093	0.096	0.01
Total	**1.77**	**1.20**	**0.13**

[1] Actual usage multiplied by assumed 2007 ATCM default Amp-hr emission limits.
[2] Actual usage multiplied by actual Amp-hr emission limits.

Attachment 2
Increased Hexavalent Chromium Emissions from Mobile Sources[1]

Los Angeles, CA to Mojave Valley, AZ		260	miles	(each direction)			
Fuel economy Heavy duty Diesel Trucks		7.5	mpg				
http://www.aqmd.gov/docs/default-source/planning/annual-emission-reporting/combustion-emission-factors-2021.pdf							
Toxic Emission Factors from Stationary and Portable Internal Combustion Engines (ICE), Turbines and Micro Turbines							
Diesel / Distillate Oil (lb/1000 gallons)		All Sizes					
Toxic Compound	CAS No.	lbs./1,000 gals	lbs./gal	lbs./mile	mg/mile	mg/trip	mg/roundtrip
Benzene	71432	0.1863	0.0001863	0.00002484	11.26723	2,929.48	5,859
1,3-Butadiene	106990	0.2174	0.0002174	2.89867E-05	13.14813	3,418.51	6,837
Cadmium	7440439	0.0015	0.0000015	0.0000002	0.090718	23.59	47
Formaldehyde	50000	1.7261	0.0017261	0.000230147	104.3928	27,142.12	54,284
Hexavalent chromium	18540299	0.0001	0.0000001	1.33333E-08	0.00605	1.57	**3.14**
Arsenic	7440382	0.0016	0.0000016	2.13333E-07	0.096766	25.16	50
Lead	7439921	0.0083	0.0000083	1.10667E-06	0.501976	130.51	261
Nickel	7440020	0.0039	0.0000039	0.00000052	0.235868	61.33	123
PAHs(polycyclic aromatic hydrocarbons)	1151	0.0559	0.0000559	7.45333E-06	3.380775	879.00	1,758
Diesel exhaust particulate	9901	33.5	0.0335	0.004466667	2026.046	526,771.94	1,053,544
Ammonia	7664417	2.9	0.0029	0.000386667	175.389	45,601.15	91,202
Organic Gases		37.5	0.0375	0.005	2267.962	589,670.08	1,179,340
NOx		469	0.469	0.062533333	28364.64	7,374,807.15	14,749,614
Sox		0.21	0.00021	0.000028	12.70059	3,302.15	6,604
CO		102	0.102	0.0136	6168.856	1,603,902.62	3,207,805
PM		33.5	0.0335	0.004466667	2026.046	526,771.94	1,053,544

[1] Emission metric based upon readily available public data. Assumes estimates for truck use only.

https://www.bts.gov/content/estimated-national-average-vehicle-emissions-rates-vehicle-vehicle-type-using-gasoline-and

Diesel,Heavy Duty Truck 2020	g/mile	mg/mile	mg/trip	mg/roundtrip
Total HC	0.269	269	69,940	139,880
Exhaust CO	2	2000	520,000	1,040,000
Exhaust NOx	4.169	4169	1,083,940	2,167,880
Exhaust PM2.5	0.106	106	27,560	55,120
Brakewear PM2.5	0.009	9	2,340	4,680
Tirewear PM2.5	0.004	4	1,040	2,080

Attachment 3
Data Requests - (Email String)

From: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Sent: Tuesday, April 11, 2023 8:43 AM
To: Brian Ward <brian@aaaplating.com>
Cc: Harris, Greg@ARB <greg.harris@arb.ca.gov>
Subject: RE: Chrome plating/anodizing facilities.

Hi Brian,

I will look into this this week and get back to you soon.

Eugene Rubin (he/him)
(916) 287-8214

From: Brian Ward <brian@aaaplating.com>
Sent: Monday, April 10, 2023 11:41 AM
To: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Cc: Harris, Greg@ARB <greg.harris@arb.ca.gov>
Subject: Re: Chrome plating/anodizing facilities.

Eugene-

Do you have the source test data that we spoke of?

-Brian Ward
AAA Plating & Inspection, Inc.

Fw: Chrome plating/anodizing facilities.

From: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Sent: Wednesday, March 15, 2023 10:36 AM
To: Brian Ward <brian@aaaplating.com>
Cc: Harris, Greg@ARB <greg.harris@arb.ca.gov>
Subject: RE: Chrome plating/anodizing facilities.

HI Brian,

Yes I was able to get some data. Let me look into how best to share it with you.

Best,

Eugene Rubin (he/him)
(916) 287-8214

From: Brian Ward <brian@aaaplating.com>
Sent: Monday, March 13, 2023 2:07 PM
To: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Cc: Harris, Greg@ARB <greg.harris@arb.ca.gov>
Subject: Re: Chrome plating/anodizing facilities.

Eugene-

Have you been able to get facility source test data from the air districts?

If so, could you share that?

Thank you.

-Brian Ward
AAA Plating & Inspection, Inc.
(310)637-1066 ext. 224

From: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Sent: Thursday, July 1, 2021 8:35 AM
To: Brian Ward <brian@aaaplating.com>
Cc: Harris, Greg@ARB <greg.harris@arb.ca.gov>
Subject: RE: Chrome plating/anodizing facilities.

Yes source test results are public data that can be requested from the air districts. I have been gathering source test data, but any that can come from MFA directly is helpful as well as it may be easier for a facility to share a single test report.

Fw: Chrome plating/anodizing facilities.

From: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Sent: Thursday, July 1, 2021 8:35 AM
To: Brian Ward <brian@aaaplating.com>
Cc: Harris, Greg@ARB <greg.harris@arb.ca.gov>
Subject: RE: Chrome plating/anodizing facilities.

Yes source test results are public data that can be requested from the air districts. I have been gathering source test data, but any that can come from MFA directly is helpful as well as it may be easier for a facility to share a single test report.

Eugene Rubin

From: Brian Ward <brian@aaaplating.com>
Sent: Wednesday, June 30, 2021 4:30 PM
To: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Cc: Harris, Greg@ARB <greg.harris@arb.ca.gov>
Subject: Re: Chrome plating/anodizing facilities.

Eugene-

Can you get emission factors (source test results) from the respective air districts in the same way?

Thank you.

-Brian Ward
AAA Plating & Inspection, Inc.
(310)637-1066 ext. 224

From: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Sent: Thursday, June 17, 2021 7:39 AM
To: Brian Ward <brian@aaaplating.com>
Cc: Harris, Greg@ARB <greg.harris@arb.ca.gov>
Subject: RE: Chrome plating/anodizing facilities.

Amp-hr data was provide by the local District from data submitted by the facility.

Eugene Rubin

From: Brian Ward <brian@aaaplating.com>
Sent: Wednesday, June 16, 2021 5:06 PM

Fw: Chrome plating/anodizing facilities.

Eugene Rubin

From: Brian Ward <brian@aaaplating.com>
Sent: Wednesday, June 16, 2021 5:06 PM
To: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Cc: Harris, Greg@ARB <greg.harris@arb.ca.gov>
Subject: Re: Chrome plating/anodizing facilities.

Eugene-

Thank you.

Do you know how the amp-hr data was gathered?

-Brian Ward
AAA Plating & Inspection, Inc.
(310)637-1066 ext. 224

From: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Sent: Wednesday, June 16, 2021 3:32 PM
To: Brian Ward <brian@aaaplating.com>
Cc: Harris, Greg@ARB <greg.harris@arb.ca.gov>
Subject: RE: Chrome plating/anodizing facilities.

Hello Brian,

Sorry for the delay in getting this to you. Attached you will find the facility inventory we are using for our amendments. It includes the data we have on 2019 annual amp-hr usage. This one doesn't include emissions calculations but we use the amp-hr and the ATCM limit (0.0015mg/amphr or 0.01mg/amphr) to calculate the emissions. Give me a call if you want to discuss this further or if you were looking for something different.

Eugene Rubin
916-287-8214

From: Brian Ward <brian@aaaplating.com>
Sent: Wednesday, June 2, 2021 3:05 PM
To: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Subject: Chrome plating/anodizing facilities.

Fw: Chrome plating/anodizing facilities.

Subject: RE: Chrome plating/anodizing facilities.

Hello Brian,

Sorry for the delay in getting this to you. Attached you will find the facility inventory we are using for our amendments. It includes the data we have on 2019 annual amp-hr usage. This one doesn't include emissions calculations but we use the amp-hr and the ATCM limit (0.0015mg/amphr or 0.01mg/amphr) to calculate the emissions. Give me a call if you want to discuss this further or if you were looking for something different.

Eugene Rubin
916-287-8214

From: Brian Ward <brian@aaaplating.com>
Sent: Wednesday, June 2, 2021 3:05 PM
To: Rubin, Eugene@ARB <Eugene.Rubin@arb.ca.gov>
Subject: Chrome plating/anodizing facilities.

Eugene-

It was mentioned that 141 facilities are affected by this rule.

Can we get a list of these facilities so we can reach out to them for data pertaining to this issue?

Thanks.

-Brian Ward
AAA Plating & Inspection, Inc.
(310)637-1066 ext. 224

Reply Forward

Attachment 4
Facility-Specific Risks and Proximity from Actual Hexavalent Chromium Usage

Excess Risks in one million @ different source test emission factors[1]

			Assume		Actual
Facility Type	Meters to Receptor	Amp-hrs.	0.0015	0.000000029	0.000000029
Anodizing	0	104,168	0.21	0.0000040	0.0000040
Anodizing	0	50,460	0.10	0.0000020	0.0000020
Anodizing	0	484,349	0.97	0.0000187	0.0000187
Anodizing	0	117,689	0.24	0.0000046	0.0000046
Anodizing	18	388,833	0.94	0.0000183	0.0000183
Anodizing	62	23,658	0.21	0.0000040	0.0000040
Anodizing	67	74,681	0.24	0.0000046	0.0000046
Anodizing	111	14,425	0.20	0.0000038	0.0000038
Anodizing	139	288,742	0.29	0.0000057	0.0000057
Anodizing	158	655,289	0.40	0.0000077	0.0000077
Anodizing	198	43,683	0.04	0.0000008	0.0000008
Anodizing	455	163,507	0.20	0.0000040	0.0000040

			Assume		Actual
Facility Type	Meters to Receptor	Amp-hrs.	0.0015		0.000188
Decorative	0	982,191	13.10		0.20
Decorative	0	57,395	0.77		0.01
Decorative	10	29,378	1.26		0.02
Decorative	19	233,010	4.75		0.07
Decorative	61	206,929	2.24		0.03
Decorative	71	937,659	5.09		0.08
Decorative	76	250,952	2.21		0.03
Decorative	95	27,248	1.36		0.02
Decorative	148	3,729,115	9.60		0.15
Decorative	167	1,485,252	4.20		0.06
Decorative	172	108,398	1.47		0.02
Decorative	208	8,423	0.20		0.00
Decorative	273	15,391	0.98		0.01
Decorative	311	4,185	0.53		0.01
Decorative	390	639,660	1.75		0.03

[1] Assumes continuous 24-hour per day exposure over seventy years.

Excess Risks in one million @ different source test emission factors[2]

			Assume	Assume	Actual
Facility Type	Meters to Receptor	Amp-hrs.	0.0015	0.000588	0.0000588
Hard	0	57,942,267	115.88	45.43	4.54
Hard	17	1,418,916	2.57	1.01	0.10
Hard	18	6,298,513	10.29	4.03	0.40
Hard	18	5,560,000	9.11	3.57	0.36
Hard	29	10,380,000	15.69	6.15	0.62
Hard	41	116,476,081	155.11	60.80	1.24[3]
Hard	69	78,104,109	49.16	19.27	1.93
Hard	116	10,195,736	4.49	1.76	0.18
Hard	152	12,710,000	4.33	1.70	0.17
Hard	344	3,774,586	0.69	0.27	0.03
Hard	366	4,071,963	0.69	0.27	0.03
Hard	449	203,876	0.21	0.08	0.01
Hard	483	14,752,086	1.36	0.53	0.05

			Assume	Assume	Actual
Facility Type	Meters to Receptor	Amp-hrs.	0.0015	0.000588	0.0000588
Multiple (Hard chrome/Anodizing)	210	107,434,648	25.41	9.96	1.00

[2] Assumes continuous 24-hour per day exposure over seventy years.
[3] Source test data from location reported at 0.000012 mg/amp-hr.

Comment 13 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-2.

First Name: Tracey
Last Name: Coss
Email Address: traceycoss@scpci.com
Affiliation:

Subject: Second 15-Day Notice
Comment:

212 CARB has only addressed the decimal placement error for Hard Chrome in this second 15-day comment period. The emission numbers after the decimal place correction are STILL WRONG. Modifications and additional environmental analysis are necessary and required. CARB is proposing to ban a chemistry/process without good data or real evidence of emission problems. The emissions data remain flawed, inaccurate, and inconsistent in the record as originally presented, in the first 15-day Notice of proposed changes, and in this second 15-day Notice of proposed changes. Without correct information, the conclusions drawn by CARB are based on flawed assumptions, which will potentially lead to legal challenges.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-05-10 16:10:53

No Duplicates.

Comment 14 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-2.

First Name: Jerry
Last Name: Desmond
Email Address: jerry@desmondlobbyfirm.com
Affiliation: MFANC-MFASC-NASF

Subject: Public Comments
Comment:

Attachment: www.arb.ca.gov/lists/com-attach/153-chromeatcm2023-Vj5QNFYxUWYKUM0D.pdf

Original File Name: CARB CrVI ATCM Letter 5-10-23.pdf

Date and Time Comment Was Submitted: 2023-05-10 16:47:00

No Duplicates.

May 10, 2023

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

Hon. Steven S. Cliff, Ph.D., Executive Officer
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Second Notice of Public Availability of Modified Text and Availability of Additional Documents and Information on the Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations

Executive Officer Dr. Cliff:

The Metal Finishing Association of Northern California [MFANC], Metal Finishing Association of Southern California [MFASC] and National Association of Surface Finishers [NASF] have the following comments regarding the Second Notice of Public Availability of Modified Text and Availability of Additional Documents and Information on the Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations [ATCM].

The associations support and reiterate the reasoned comments and specific requests submitted to the record by counsel Charles Pomeroy which conclude:

213-1

> "New data and a revised Table 1 show lower actual emissions than were previously analyzed, but the latest changes failed to address the Record as it was previously prepared. Moreover, these lower values have not been evaluated and compared to the significant increase in excess hexavalent chromium emissions that would be generated due to increased transportation resulting from the adoption of the Proposed Amendments. The accuracy of the Record currently is in question, particularly since there appears to be continuing errors in and problems with the latest Second Revised Inventory.
>
> "We believe the issues as outlined in this letter (and the April Letter) affect the core of the information used to prepare the Proposed Amendments. The MFACA believe it appropriate to withdraw the Proposed Amendments from the hearing scheduled this month. Further, the MFACA believes a meeting with CARB would be the next step to further evaluate the Proposed Amendments with accurate data and appropriate criteria. Without accurate emissions data, the regulated community and other stakeholders cannot be assured that the Proposed Amendments are based upon a proper foundation, and thus, the threat of a potential increase of risk to human health and the environment in California is possible should decisionmakers do nothing further."

In support of Mr. Pomeroy's comments and requests, we emphasize the following:

CARB's revised hexavalent chromium emissions from 2019 are only 1.05 pounds for the entire plating industry in California and only 0.093 pounds for decorative – but the actual emissions are even lower.

- Source test data that CARB has access to strongly suggests that emissions are even lower than what CARB is reporting.
- Implementation of the stringent controls on hexavalent chromium operations imposed in South Coast have reduced hexavalent chromium emissions even further.

- continued

213-1

- CARB has only included revisions suggested by industry that increase emissions and have ignored the industry's information that would reduce emissions even further based on source test data and actual emissions.
- An emissions-based rule is more appropriate and effective than bans – see SOUTH Coast Rule 1469 that was in large part designed to address fugitive emissions.

Based on actual emissions data, most, if not all, facilities are below risk levels of concern.

Removal of all hexavalent chromium emissions from the plating industry would do little, if anything, to reduce risk as the revised emissions data represent less than 1% of total hexavalent chromium emissions in California – even less so with the removal of decorative hexavalent chromium plating.

213-2 CARB's rulemaking process is fatally flawed because it has failed to recalculate the environmental impact analysis with the revised emissions data.

213-1 Without considering all of the available information as revised by CARB staff and the additional revisions provided by industry, CARB's approval of this rule and the bans of hexavalent chromium plating would be arbitrary and capricious.

213-3 With its revised emissions data at the eleventh hour (even though CARB has had access to this data and ignored the comments from industry over the past three years), CARB has failed to provide a meaningful opportunity to comment on the basis and justification of the rule.

On November 29, 2022, CARB staff released the draft ATCM and then almost immediately withdrew Appendix B Table 1 because stakeholders quickly noted that it was incorrect. The reply was that corrections would be made in the 15-day document. On March 28, 2023, the public saw the first 15-day document. Stakeholders were prevented from being able to review the "correct" data that is fundamental to the entire ATCM update for four months. That first draft table was essentially illegible and this had been acknowledged.

213-1 The technology review for decorative plating prior to the 2030 ban deadline is needed to ensure that viable alternatives are available to decorative hexavalent chromium plating based on available technology, customer specifications and product performance demands.

The emissions inventory provided and subsequently revised by CARB demonstrates that CARB has not adequately explored HEPA efficiencies as Best Available Control Technology [BACT]. The emissions inventory [Table 1 and Table 2] reveal that CARB did not comprehensively assess the extent of current HEPA control deployment or the actual efficiency across a representative number of facilities.

This is true as it relates to stack emissions and to fugitive emissions. The proposed rule structure, featuring a ban, predates an accurate assessment of HEPA source-tested emission rates by a year. Therefore the "ban" portion of the rule is arbitrary and unreasonable. It creates a cost for California without an adequate offsetting benefit. It fails to acknowledge platers who choose to locate in areas where there is no residential population.

To most accurately estimate the chrome plating industry's emissions we need two bits of data that CARB is uniquely positioned to acquire, the facilities' throughputs and their emission rates. The throughput is typically measured in amp-hrs and the emission rates are source tested for most facilities and measured in milligrams per amp-hour (mg/amp-hr). If these numbers are multiplied, you get the facility's plating emissions in milligrams.

This is critical information about an industry that is facing a ban. It is the most accurate data regarding the actual emissions profile of this industry. An accurate emissions inventory should have been the very first requirement of this rulemaking, not the very last, as it is now.

Very early in the rulemaking process, we requested this information from CARB staff. Specifically, we requested amp-hour

- continued

213-1 consumption data and source test emission rate data (mg/amp-hr).

In June of 2021, we received a list of 142 companies. Only 107 of these facilities had amp-hours listed. That list included the company name, city, air district, the type of facility (Hard Chrome, Decorative, or Anodize), and the control equipment. Also listed were the facilities' 2019 amp-hours, the "emission factor", and an "emission" value. This was simply the 2019 amp-hours times the maximum emission factor that the 2007 ATCM rule allows depending on the type of control equipment. To be clear, this is not actual emissions, but one type of maximum allowable emissions.

But no actual source tested emissions data.

213-3 Staff released the draft ATCM document on November 29, 2022. In Appendix B there are Tables 1&2 that list facility emissions inventory calculations and source tests results averaged by process, respectively. Immediately upon release stakeholders on all sides recognized the Table 1 data was severely flawed. The most obvious error was the misalignment of data in the rows of information, but there were many errors that couldn't be teased out until this first major flaw was corrected. Staff claimed they would correct this table in the 15-day documents. The assumption was that they would correct all the flaws. No one had correct information at the January 27th, 2023 Public Hearing.

March 27, 2023 staff released their 15-day document. Attachment 2 Table 1 was supposed to replace the original Table 1 of Appendix B. The new table was still severely flawed. They corrected the mismatch of facility rows and corresponding data, but by matching the facility amp-hrs with the June 2021 list it showed many errors. These are errors that staff could have, and should have, caught because they have the full data set. The errors we could find were reported during the comment period. But stakeholders were robbed of time to review the data, the two months between the November release and the January Public Hearing, and the additional two months after the hearing until the March release. For these four months the interested parties couldn't review the whole proposed rule package for accuracy.

No one could comment on the original useless data and then when they got the data, they couldn't comment on anything but the corrections to the data. Staff repeatedly stressed that the comments submitted during 15-day document comment period were restricted to only the few corrections that were made, not the corrected document as a whole. We wanted a true, correct, and whole document and our comments reflect that.

A second 15-day document was released April 26, 2023 with another "corrected" table. The only substantive correction was the attention paid to the emissions rate for hard chrome plating. The average emission rates were calculated earlier in Table 2 of Appendix B. The specific correction apparently fixed a typo in the emissions rate from 0.0000588 mg/amp-hr to 0.000588 mg/amp-hr. The chromic acid anodize Average Source Tested Emission Rate is still considered 0.000000029 mg/amp-hr. This is ridiculously low. If this were true then all the anodizers combined would emit 0.127 mg per year and should be exempt. We mentioned this before and it's still not been corrected. We don't want skewed facts, in any direction. Again, we are looking for the truth and there are still more errors, but only the comments that address the very narrow prior corrections will be considered.

We requested the corresponding source test emissions factor data verbally and in writing several times over 2 years. We've been assured the data is coming, but we have not received all this data. Then only recently we were told that we needed to submit an official information request, which we did the same day. We recently received a 10-day letter informing us that in 30 additional days we will be provided the information we've requested, or an estimate of when we can expect these records, or the reasons, if any, why these records are being withheld.

213-1 In Table 1 Staff uses the phrases, "2019 Emissions based on 2007 ATCM Emission Factors (lb/year) (Calculated)", "Potential to Emit (lb)", "Permitted Emissions based on Source Tested Emission Factors (lb/year) (Calculated)", and "2019 Emissions based on Source Tested Emission Factors (lb/year) (Calculated)"in several places. This confuses matters as it implies that any of these are actual emission values. Facilities are not allowed to obfuscate these calculations in their reports to the air districts. If the point is to show that facilities could have greater emissions, then simply show the maximum potential emissions (permitted amp-hrs X maximum 2007 ATCM emission rate), and label them so. Also list the accurate actual emissions as well. "This is what

- continued

213-1 could be emitted vs. this is what's actually emitted." Anything else has no value but to confuse. If there is a legitimate concern about the potential emission, consider reducing permitted amp-hours instead of a ban. If there is a legitimate concern about fugitive emissions consider permanent total enclosure as it was proposed, instead of a ban. PTE is considered to have a 100% capture efficiency.

We've been reaching out to facilities directly to confirm their data and we're discovering several different types of discrepancies.

- We've discovered the inclusion of several facilities that are no longer in business. This overinflates emissions.
- There are over 170,000,000 amp-hrs that cannot be correlated with the earlier June data and over 13,000,000 amp-hrs listed in the June data that doesn't match up with the newer tables. It is unclear how this affects emissions.
- There are facilities that staff assumes to have lesser controls than they actual do. For example facilities that are assumed to be using fume suppressant only, but in fact now have HEPA. This overinflates emissions.
- 14 of the 111 facilities have the same 2019 Facility Reported Throughput (amp-hrs)(Reported) as their Permitted Annual Throughput (amp-hrs)(Reported). This looks suspiciously like throughput data was missing and the max permitted amp-hrs were entered as if they were reported amp-hrs. Most of these are anonymous companies that we can't contact to confirm. The one facility we were able to confirm with, CARB entered their permitted value as their self-reported value. Their actual self-reported value was <10% of their permitted value. There is also an anonymous facility that has a max permitted value of 41,328,000 amp-hrs and that value was entered as their self-reported usage too. If we accept these values as correct (which we don't), all 49 decorative shops in the state consume 55,571,465 amp-hrs, and one shop accounts for 74%. This overinflates emissions.
- Staff used a simple average to estimate emissions rates for all facilities. In an ideal representation of this industry, each facility would have a throughput number and a source test emissions rate number. Multiplying the two together yields the facility's plating emissions. A simple average of a few, sometimes a single, data point(s) is not appropriate. We suggested a weighted average based on throughput. Larger facilities have more potential to affect emissions, they should have more effect on the average. For each facility that has both numbers, use both numbers. For facilities that are missing source test data use a weighted average. Apply this, just as staff did, to similar facilities (hard chrome, anodize, decorative w/ HEPA, and decorative w/out HEPA). We propose the average be calculated as follows:

  For facilities with both throughput and source emissions data, calculate each shop's emission and add them up.

  Likewise, add the throughputs of these same facilities together.

  Divide the total emissions by the total throughput. This yields the weighted average emission rate for the remaining facilities of a similar type. In the example below, if there were only these 8 facilities, this we give the exact results, whereas the simple average, as staff calculated, would render an average of 0.0003680 mg/amp-hr. (62.5% higher emissions than actual 0.0002264 mg/amp-hr).

- continued

213-1

Chromic Acid Anodize emissions rates (Weighted average vs. Simple average)

Facility Type	Controls	Throughput amp-hrs	Confirmed Source Test Emission Rate mg/amp-hr	Emission in mg
ANO	CFS, HEPA	655,875	0.0000880	57.72
ANO	HEPA	484,349	0.0002310	111.9
ANO	CFS, HEPA	388,833	0.0000640	24.89
ANO	HEPA	117,689	0.0007100	83.56
ANO	HEPA	104,168	0.0010000	104.2
ANO	CFS, HEPA	50,460	0.0005900	29.77
ANO	CFS, HEPA	20,999	0.0000213	0.447
ANO	HEPA	14,425	0.0002400	3.462
	Totals	1,836,798 amp-hrs	0.0029443 mg/amp-hr	415.9 mg

Total emissions (in mg) / Total Throughput (in amp-hrs) = Weighted Average

415.9 mg / 1,836,798 amp-hrs = 0.0002264 mg/amp-hr

Sum of Confirmed Source Test Emission Rates / Number of Sources = Simple Average

0.0029443 mg/amp-hr / 8 Sources = 0.0003680 mg/amp-hr

Decorative Chrome Plating emissions rates (Weighted average vs. Simple average)

Facility Type	Controls	Throughput amp-hrs	Confirmed Source Test Emission Rate mg/amp-hr	Emission in mg
DEC.	CFS, MFS	982,191	0.0006300	618.78
DEC.	CFS, POLYBALLS	250,952	0.0001520	38.14
DEC.	CFS, fume hood and mesh pad.	29,378	0.0003200	9.40
DEC	CFS, HEPA	1,485,252	0.0000260	38.62
	Totals	2,747,773 amp-hrs	0.0011280 mg/amp-hr	704.94 mg

Total emissions (in mg) / Total Throughput (in amp-hrs) = Weighted Average

704.94 mg / 2,747,773 amp-hrs = 0.0002566 mg/amp-hr

Sum of Confirmed Source Test Emission Rates / Number of Sources = Simple Average

0.0011280 mg/amp-hr / 4 Sources = 0.0002820 mg/amp-hr

- continued

213-1

Hard Chrome Plating emissions rates (Weighted average vs. Simple average)

Facility Type	Controls	Throughput	Confirmed Source Test Emission Rate	Emission
		amp-hrs	mg/amp-hr	in mg
HARD	HEPA	116,476,081	0.0000107	1,240.47
HARD	HEPA	61,239,208	0.0000120	734.87
HARD	MFS, HEPA	57,942,267	0.0000198	1,147.26
HARD	HEPA	10,195,736	0.0004350	4,435.15
HARD	MFS, HEPA	8,177,990	0.0000070	57.25
HARD	HEPA	4,071,963	0.0000230	93.66
		258,103,245	0.0000299	7,708.64
	Totals	258,103,245 amp-hrs	0.0005075 mg/amp-hr	7,708.64 mg

Total emissions (in mg) / Total Throughput (in amp-hrs) = Weighted Average

7,708.64 mg / 258,103,245 amp-hrs = 0.0000299 mg/amp-hr

Sum of Confirmed Source Test Emission Rates / Number of Sources = Simple Average

0.0005075 mg/amp-hr / 6 Sources = 0.0000846 mg/amp-hr

- With each data point that a facility shares we get a more accurate picture of the industry as a whole. Using information from the 104 facilities that we have confirmable throughput data and the 20 source tested emission rates that we can correspond to throughput data, so far (and therefore use in a weighted average), the entire industry emits 25.4 grams per year (0.06 lbs).

The bottom line is that it appears that staff does not consider the emissions inventory worth the investment required to portray the reality of this industry. There have been so many errors, and so many different kinds of errors, and errors so often, that it brings into question every stated fact and calculation. Every assumption and estimation. If they are a getting the information that we can check wrong, what else might be wrong?

There is concern over transparency. We can't check their work, if they don't show their work. We imagine the Board assumes staff is correct until given a valid reason to suspect otherwise. So the Board is not checking the facts preemptively. Apparently, there is no internal audit of the data among the staff, and if there were, that would be disturbing. So that leaves it to stakeholders to level a critical eye.

The argument that staff presents in their Initial Statement of Reason (ISOR) is that the chrome plating industry is a concerning risk to the communities in which they operate. They claim it is worthy of banning the usage of a primary material, in most cases without any alternatives. Why? Because of two things, emissions and proximity. There is a lot of hand waving generalizations about both. There are assumptions and estimations, but very little facts and data. Table 1 is about data. Do the actual emissions support these claims? The first crack at this data was useless. Without this data there is no real support for any argument. Staff has had 2 ½ years to acquire good quality information from the districts. This is a cohort of roughly 111 facilities. They could have focused on one facility per week and had a fully accurate table with consumption, source test results, and sensitive receptor distances (and possibly even HRA's), but they didn't. They asked for data from facilities involved in the rulemaking discussions and then didn't use it. If information is not available freely or timely; if the information that is available is flawed beyond use and never fully corrected; if this data that shows the emission profile of an entire industry is regarded so poorly that

- continued

213-1 major, wholesale corrections don't warrant a reevaluation of any other documents; then the legitimacy of the entire rulemaking process is suspect.

As these comments, those submitted by counsel Charles Pomeroy, and our previous comments together confirm, over the course of the development of the modifications to the ATCM, inaccurate and ever-changing data has been set forth in the documents. This has affected the Board, the press, the public and this rulemaking. It supports a perspective that a decision was already made to impose bans regardless of the facts.

The board must reject the staff recommendation for any ban of decorative or functional hexavalent chrome plating. As BACT technologies improve and as hexavalent chrome replacements emerge and mature, the MFACA will work with CARB to assure that industry minimizes emissions. We encourage the board to work with us within the framework of an emissions based rule.

Sincerely,

Bobbi Burns

Bobbi Burns, MFANC President, 510-659-8764

Bryan Leiker

Bryan Leiker, MFANC & MFASC Executive Director, 818-207-1021

Vince Noonan

Vince Noonan, MFASC President, 800-227-9242

Jeff Hannapel

Jeff Hannapel, The Policy Group, on behalf of NASF, 202-257-3756

C: Members, California Air Resources Board

Comment 15 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-2.

First Name: James
Last Name: Meyer
Email Address: jmeyer@aviation-repair.com
Affiliation:

Subject: Marginal Benefit of a ban
Comment:

214 Consider the marginal benefit to the public of including the future-dated 2039 ban in the rule. Especially consider that the ban is subject to "technology reviews" which will require CARB staff and industry to come to agreement about factual truths. The ban is 15 years away. There is no imminent benefit, only the cost of industry leaving the state and costing jobs in the communities the board believes they are protecting. CARB staff and industry do not agree today that the emissions inventory presented by CARB is factual. The source test average for hard chrome platers, in reality, is not the 0.000588 mg per amp-hour that CARB has presented. This is a fact that the board can verify prior to a vote. The board should insist that CARB staff provide them the source test data for all facilities for verification. The board has a duty to base decisions on facts. If decisions are not based on verifiable truth, of what value is a technology review? It serves no purpose except to appear to mitigate the impact of a ban which has a political motivation rather than a factual motivation. A ban does not spur investment by small plating firms to invent the replacement for hexavalent chrome. Each board member must decide where her moral axis is with respect to truth. Choose truth. Why is there a need for CARB to present untruthful and misleading data to the public in order to enact this rule? Are you a part of it? Why are you on the CARB board? Are you a tool of a political patron or an independent thinker?

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-05-11 13:16:08

No Duplicates.

Comment 16 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023) - 15-2.

First Name: Sylvia
Last Name: Rodriguez
Email Address: sylvia.rodriguez@amexplating.com
Affiliation: MFANC

Subject: Comments to Second Notice
Comment:

Comments are in the file.

Attachment: www.arb.ca.gov/lists/com-attach/444-chromeatcm2023-VGZWYwMyVzEEM1Rl.pdf

Original File Name: 230511 CARB -Via electronic submission.pdf

Date and Time Comment Was Submitted: 2023-05-11 21:24:48

No Duplicates.

Via electronic submission: https://www.arb.ca.bov/lispub/comm/bclist.php

Steven S. Cliff, Ph.D., Executive Director
California Air Resources Board
101 I Street
Sacramento, CA 95814

RE: *Second Notice of Public Availability of Modified Text and Availability of Additional Documents and information on the Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations*

Executive Officer Dr. Cliff:

215 As a small business owner, I am appalled that your department did not reassess their recommendations after *discovering that their initial assessment of the emissions data was flawed* over a factor of a misplaced decimal point in their recommendations of **banning chrome plating** in California – an essential industry serving the medical, mining, defense, and aerospace industries.

Even with the correction of the mathematical error in decimal placement, the resulting emissions data is an over representation of the factual emissions data of chromium emissions of chrome plating in California.

Based on actual emissions data, the removal of **all** hexavalent chromium emissions from the plating industry would do little, if anything, to reduce the risk. The **revised emissions data** represents **less than 1% of total hexavalent chromium** emissions in California---less than one (1) pound per year.

Without correct information, the conclusion drawn by the Board will be based on flawed assumptions.

I recommend that the proposed modifications to the ATCM should be revised to include a requirement for a technology review to be conducted prior to the 2030 ban date to assess the transition to alternative technology and determine if more time is needed to phase out functional chromium plating for **all applications**.

I strongly recommend that the Board reconsider its decision to ban hexavalent chromium plating and instead implement an **emissions-based rule** to ensure that emissions continue to be reduced to protect human health and the environment. Regulation, not elimination, is what we need.

Sincerely,

Sylvia D. Rodriguez | President

AMEX Plating, Incorporated

Comment 16 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023). (At Hearing)

First Name: Alan
Last Name: Olick
Email Address: alan@generalbrite.com
Affiliation: General Brite

Subject: Chrome Plating ATCM
Comment:

See attached for written comment submitted at the May 25, 2023, Board Hearing.

Attachment: www.arb.ca.gov/lists/com-attach/446-chromeatcm2023-UjMFbwRkVWhXPlQ4.pdf

Original File Name: AlanOlick.pdf

Date and Time Comment Was Submitted: 2023-05-25 08:52:45

No Duplicates.

ALAN OLICK ALAN @ GENERAL BRITE. COM

216 Hello members of the California Air Resources Board-
I thank you for allowing us to speak to you today.

For the past 54 years, starting in 1969, I have been a metal finisher and my company employs 85 full time hard working people and 25 sub contractors. Additionally, I am active in our professional metal finishing association by being a Board Member for the last 31 years, and our association has recently sponsored an informational booth for Earth Day 2023 at the Hyperion Water Treatment plant in PLAYA DEL REY CA
CARB is proposing to stop Hex Chrome plating even though we have installed state of the art engineered environmental controls and have provided scientifically validated air source testing that documents our controls are really doing what is prescribed.

I am 75 years old and when I was in high school I was growing Cannabis for personal consumption. We all knew it was not healthy and certainly NOT legal.
I'd like to enlighten CARB to the air and noise

216 pollution that established commercial cannabis growers in Downtown LA spew into the air from their growing operations as follows:

- The smoke from Cannabis is permeating most of DTLA including the local CVS drug store across from my business where it is sold in the same building.
- To supply their "grow lights" with power, that establishment uses a 200 kilo watt diesel generator running 24 hrs a day 365 days a year for the past 3 years.
- The noise pollution from that generator exeeds 85 decibels and
- The drippage of oil that from that diesel motor covers the ground around the generator and has been washed into our stormwater system and into the oceans during the past 3 years of rain

This growing business only employees 2 full time gardeners and yet contributes tons of harmful emissions.

Another grower just 1/4 mile west of our plating shop utilizes two 200 Kilo watt generators making even more pollution and noise and this equipment

216 also blocks the new city of DTLA handicap side walk just finished. The generators are protected by an installed chain link fence right where people have to walk forcing them to enter into the busy street for their safe passage.

How is it that this is allowed and Hex chrome plating will be stopped.
Chrome plating emissions have not killed anybody but cannabis consumption has destroyed so many of our children's ambitions and futures and leads to ever increasing consumption of hard core drug abuse from Meth and Cocaine.
We even tax the product that is a poison and drug that kills destroys the lungs of children and adults too that have to re-breathe the second hand smoke.
Marijuana has many of the same toxins ,irritants, and carcinogens as tobacco smoke.

So I ask if we have no proof that hex chrome kills but we all know that marijuana and the violence associated with its distribution and money laundering operations kills and this also is destroying our children's ambitions and many adults as well why we are singling out hex chrome and do

216 nothing about Cannabis? I feel this is all political and really no health benefits will be achieved. I ask you to REGULATE NOT ELIMINATE IF YOU BELIEVE THAT MORE IS REQUIRED

Our association supports the continued control of hex emissions but to do NOTHING ABOUT CANNABIS IS A CRIME, TO THSE YOU ARE SWORN TO PROTECT- OUR COMMUNITIES AND OUR CITIZENS

Please if you want the pictures and locations call me.

Comment 17 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023). (At Hearing)

First Name: CARMEN
Last Name: CAMPBELL
Email Address: reception@anaplexcorp.com
Affiliation:

Subject: Ban of Hex chrome rule
Comment:

Dear Board,
217-1 On behalf of the employee owners in the city of Paramount we would like to request a true consideration on this rule based on actual science and not on the assumption and speculations that have no true data to back up the actual risks. 217-2 AQMD worked tirelessly with the metal finishers to meet and lower any emissions deemed a high risk, with their work and education in the industry, we metal finishers have invested hundreds of thousands of dollars to maintain and lower our emissions to the community to nearly 0. We are the community! We are the economy that drives these communities considered disadvantaged. Thank you for your time and consideration. Let's work together and not alone in getting the environment better for all. Please remember this industry is ESSENTIAL!!

Regulate and not BAN!!!!!

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-05-25 09:51:08

No Duplicates.

Comment 18 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023). (At Hearing)

First Name: Cynthia
Last Name: Babich
Email Address: delamoactioncommittee@gmail.com
Affiliation:

Subject: Adoption for Chrome Rule
Comment:

218-1 We support the long overdue adoption of a chrome rule that protects people.
218-2 We urge you to also adopt strict monitoring as the phase out is implemented.
218-1 This rule will not only save lives but also enhances the quality of life around these facilities. Unfortunately it will not bring back the lives lost. Shinny bobbles should never outweigh community health and life.
Adopt TODAY
Director, Del Amo Action Committee
Coordinator of the Los Angeles Environmental Justice Network

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-05-25 10:29:40

No Duplicates.

Comment 19 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023). (At Hearing)

First Name: Bill
Last Name: Felts
Email Address: mjbchromeshop@yahoo.com
Affiliation: MJB Chrome Plating

Subject: Chrome Plating ATCM
Comment:

```
See attached for written comment submitted at the May 25, 2023,
Board Hearing.
```

Attachment: www.arb.ca.gov/lists/com-attach/449-chromeatcm2023-UjABblA9AD9VDFI0.pdf

Original File Name: Bill Felts.pdf

Date and Time Comment Was Submitted: 2023-05-25 10:33:12

No Duplicates.

23-5-2

Bill Felts
236 S.Riverside Ave
Rialto,Ca 92376
Billfelts.bf@gmail.con

May 22, 2023

Honorable Ms. Randolph
Chair of the California Resource Board
Honorable Senator Stern
Honorable Assemblemember Garcia

Regarding: Stranded Business Asset due to Hex Chrome Ban

Dear Chair Randolph, Senator Stein, Assemblymember Garcia:

My name is Bill Felts and I own and work a small plating shop M J B Chrome Plating & Polishing in Rialto, California. I purchased my business in May 1972 from another small business owner Ron Chaffin. Like all small business owners, I worked alongside of my employees to produce products and services that are valued by our customers while creating good middle class living wages for all of our families. My business specializes in hex chrome plating parts for automotive, household, boats, bikes, airplanes and production. We thrive in the challenge of making ordinary parts shine and giving them the protective finish to serve their purpose. On average, I employed 12 people. 219-1

I do not believe you or the board members fully appreciate small business owners build value in their business as a major part of their retirement plan. After 50 years, I had a confirmed sale for my business last year. When I heard CARB was planning to impose either very stringent regulation including a possible ban on the hex chrome which is the key process in my plating company, of course, I was ethically bound to advise the buyer of CARB's intent.

Small business owners have a mindset to overcome challenges; it's one of our "jack of all trade" skill sets. Small business fill the supply gaps, a market segment the larger businesses do not participate in because of size and cost. Small business for the most part sell their business to other small business owners or individuals who want to run their own business. The value is based on an on-going business.

A process ban, however, creates such uncertainty that it has devalued my business to the point it has no value. As you heard in testimony from the new technology suppliers, the finish does not meet specifications at this time. Yes they are hopefully given more time the new technology will evolve to be equal in specifications to hex chrome. Even the seasoned large companies are concerned. Honestly, the biggest concern is customer acceptance. Without a retail ban, there is no guarantee of any material market acceptance from the buying consumer. As Vice Chair Berg stated in her comments, CARB needs a market leader, someone to champion the new technology and educate the consumer. She challenged CARB staff to reach out to major manufacturers who need plated parts in their products to lead the way. This too will take time IF CARB is even willing to do so. Customer acceptance plus the cost of transitioning to the new technology is overwhelming, if not financially infeasible for small businesses and time is not on the side of those of us who built our companies as part of our retirement plan. I could not guarantee the new buyer would qualify and receive the proposed incentive funding or that my customers would adopt the replacement technology. As a result, my buyer understandably backed out. 219-2

219-1 This sale made it possible for me to retire as I was personally financing the sale with a down payment by the buyer and the monthly payments over a 10 year period. This almost doubled my social security for the next 10 years. 50 years of diligent work, building value has disappeared overnight.

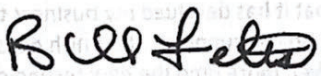
I do not believe you have considered this real and heartbreaking financial consequence in your deliberations. My business will close, it mostly depends on how long I can physically work. I hear talk about just transitions, especially retraining workers but what about those of us who are self-employeed and the value of our business has been stripped away?

I believe there is a solution that accelerates the closure and helps people like me to retire. I am requesting you put words into to action and create a just transition for all by including a provision to the incentive funds where a small business owner had a confirmed documentable sale prior to the adoption of the rule can apply and qualify for the maximum incentive of $300,000 to immediate and permanently close their business. This payment would represents a faction of the sale for all small business owners, in my case one third of what my sale would have given me so the state isn't over paying and it does make a difference. Plus it is an immediate closure and according to your staff an immediate benefit to the community health.

There is so much to share about our 50 year history, it's a multi-family story and one I understand you don't have time to read. I'm not going to debate the merits of this ban. Time will tell if our community's heath improves and if consumers adopt the new plating technology or if plating moves out of state like other finishing and manufacturing operations. What I am asking is CARB champion solution for the small business owner, like me, who has worked 50 years, participated in the economic success of this great state and had a confirmed sale for my business which will be taken away with this new regulation. I am happy to participate with specific sale information and what documentation you may consider. My contact information is at the top of this letter.

For those of us who have worked decades, this is not about running out of energy to rise up to a new challenge. We have run out of time. Please consider a just transition in your final deliberations.

Sincerely,



Bill Felts

cc: Evan Kersner for the Honorable Board Members

Comment 20 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023). (At Hearing)

First Name: Yvonne
Last Name: Watson
Email Address: ywatson@dslextreme.com
Affiliation:

Subject: Chrome Plating Rule
Comment:

Dear Board,

Please strengthen the rules concerning Hex Chrome plating. In the event I'm not able to speak during today's meeting I wish to submit the following comments:

220-1 1) I'm disappointed that board has set the phase out for decorative chrome platers to 2030 when they could all switch to trivalent chromium now.

220-2 2) I believe that their remains serious exposures from the industry and we urge CARB to do more fenceline monitoring at chrome platers to ensure that the measures they relying on (Total Enclosure and Negative Air) are working to reduce emissions up until the phase out occurs.

3) CARB identified several chrome platers who were in current violation of their permits. The agency needs to work with the affected district to ensure that all chrome platers are in compliance with their existing permits. They should collaborate with the districts to do fenceline monitoring at facilities that are suspected of being out of compliance with their permits.

220-3 4). CARB should work with the DOD's Strategic Environmental Research Defense Program (SERDP) to investigate alternative metal coatings that can replace hexavalent chromium.

220-4 5) CARB should work with the attorney general on an enforcement initiative directed at the chrome plating industry and the damage they have done to the both the natural resources and public health of the state.

220-5 I have lived my entire life in California EJ communities affected by air toxics and contaminated water. I can no longer attend in person meetings due to being partially immunocompromised after 2 hospitalizations for lung failure in 2019.

I have severe, life-threatening asthma and have never smoked a day in my life.

Please protect public health for people like me!

Yvonne Martinez Watson

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-05-25 10:36:12

No Duplicates.

Comment 21 for Proposed Amendments to the ATCM for Chromium Electroplating and Chromic Acid Anodizing Operations (chromeatcm2023). (At Hearing)

First Name: Jesse N
Last Name: Marquez
Email Address: jnm4ej@yahoo.com
Affiliation: Coalition For A Safe Environment

Subject: LOS of New CARB ATCM Amendments & Additional Requests
Comment:

See attached LOS

Attachment: www.arb.ca.gov/lists/com-attach/451-chromeatcm2023-UDNWNgBgVHQHZAVa.pdf

Original File Name: CFASE et al Letter of Support - 5-25-2023.pdf

Date and Time Comment Was Submitted: 2023-05-25 10:52:23

No Duplicates.

Coalition For A Safe Environment
NAACP- San Pedro-Wilmington Branch # 1069
Latinos In Action
West Long Beach Association
EMERGE
Wilmington Improvement Network
Citizens For A Better Wilmington
Organización de Servicios Comunitarios Familiares
United Wilmington Youth Foundation
Community Dreams
Friends of the Air, Earth and Water
St. Philomena Social Justice Ministry

May 25, 2023

California Air Resources Board

23-5-2: Public Hearing to Consider the Proposed Amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations

Dear CARB Board:

221-1 On behalf of the Coalition For A Safe Environment (CFASE) and et al undersigned community organizations we are submitting our written public comments in support of CARB adopting new amendments to the Airborne Toxic Control Measure for Chromium Electroplating and Chromic Acid Anodizing Operations including the phase out of hexavalent chromium.

Our Environmental Justice Organizations supports:

1. The need for decorative chrome plated products made using highly toxic chemicals such as hexavalent chromium is not a life supporting need or a product functioning requirement.

221-2 2. The phase-out of highly toxic chemicals such as hexavalent chromium with safer and available alternative chemicals such as trivalent chromium is a priority now and should be phased out by 2025, not in 2030.

221-3 3. CARB should work with the DOD's Strategic Environmental Research Defense Program (SERDP) to investigate alternative metal coatings that can replace hexavalent chromium.

221-4 4. CARB needs to adopt a chrome plating industry Mitigation Fee for every pound of hexavalent chromium used and the creation of a Mitigation Fund to address public health exposure, public health impacts and environmental impacts.

221-5 5. CARB needs to adopt new stricter air quality safety standards for the decorative chrome plating industry to prevent public exposure, public health and environmental impacts.

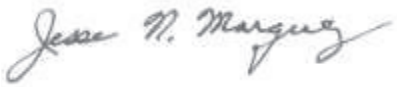
221-6 6. CARB needs to adopt new stricter worker safety standards for the decorative chrome plating industry to prevent worker exposure and public health impacts.

221-1 7. Cities and counties in the past have allowed decorative chrome plating companies to be located adjacent too and near public schools, residential areas, public sidewalks, community commercial and retail business centers.

221-7 8. The decorative chrome plating industry should have Fenceline Air Quality Monitoring just like the oil refining industry to assure compliance with state and federal air quality requirements.

Please join us in our fight for better quality of life, environmental justice, reduced air pollution, decreasing greenhouse gases emissions, social equity, and improved public health.

Sincerely,



Jesse N. Marquez
Executive Director
Coalition For A Safe Environment
1601 N. Wilmington Blvd., Ste. B
Wilmington, CA90744
jnm4ej@yahoo.com
424-533-0933

Joe Gatlin
Vice President
NAACP Branch # 1069
San Pedro-Wilmington

Martha Cota
Executive Director
Latinos In Action
Long Beach

Theral Golden
Treasurer
West Long Beach Association

Magali Sanchez-Hall, MPH
Executive Director
EMERGE
Wilmington

Anabell Romero Chavez
Board Member
Wilmington Improvement Network

Valerie Contreras
Vice President
Citizens For A Better Wilmington

Dulce Altamirano
Directora Ejecutiva
Organización de Servicios Comunitarios Familiares
Wilmington

Robert Trani
Executive Director
Harbor Youth Foundation
Wilmington

Ricardo Pulido
Executive Director
Community Dreams
Carson

Rosalie Preston
President
Friends of the Air, Earth and Water
Los Angeles Harbor Gateway

Modesta Pulido
Chairperson
St. Philomena Social Justice Ministry
Carson

chromium in communities.

Additionally, the adoption of the resolution would certify the Final EA, including the written responses to environmental comments and make the required CEQA findings.

Staff is recommending that the Board adopt the proposed regulation, including the 15-day changes. That concludes the presentation. Thank you for your time.

CHAIR RANDOLPH: All right. Thank you. As is our practice when we have elected officials who want to comment, we will turn to them after the staff report. And my understanding is we have a representative from Speaker Rendon's office, is that correct?

BOARD CLERK GARCIA: That's correct.

CHAIR RANDOLPH: Okay.

BOARD CLERK GARCIA: Yes. Marie Liu, you should have permission to speak.

MARIE LIU: Good morning. Thank you very much. Can you hear me alright?

BOARD CLERK GARCIA: Yes, we can. Thank you.

MARIE LIU: Thank you for having me this morning. Speaker Rendon was hoping to be here himself, but got called in a meeting and so I'm going to read remarks on his behalf.

"One of the things that I've learned during

222

my time in the Assembly is that when it comes to protecting air quality for the health of our communities, we need to pay attention to local concentrations not just regional levels. Many of the communities in Southeast Los Angeles are intermixed with heavy industrial facilities exposing schools and residents to higher level of toxics that regional numbers do not capture. This is the case with hex chrome.

"In recognition of the need to quickly transition the industry to less toxic alternatives and to lessen the impacts that such a rule may have on small businesses, the Legislature approved $10 million in funds to assist with this change. This money was conditioned on the passage of a rule that would fully eliminate the use of hexavalent chrome as soon as possible. I urge the Board today to pass the rule as proposed by staff. Further delaying the phaseout would be inconsistent with the legislative intent and rationale for the incentive dollars that are planned for appropriations. Any further delays in the phaseout will come at the expense of health and well-beings of communities like mine.

222

"I appreciate the attention that the ARB has given to this matter and I urge your passage of the rule today. Thank you".

CHAIR RANDOLPH: Thank you very much.

Okay. We will now turn to public comment on this agenda item.

BOARD CLERK HARRINGTON: Thank you, Chair Randolph.

As you mentioned earlier, I will call on in-person commenters first and then we will hear from those who have raised their hand in Zoom. We currently have 14 commenters who have turned in a request-to-speak card and wish to speak at this time. We will be showing a list of the next several commenters on the screen, so you can be prepared to come to the podium. I apologize in advance if I mispronounce your name. As a reminder, the comment submissions will end in 30 minutes at 10:15.

Our first commenter is Alan Olick.

ALAN OLICK: Thank you. Excuse me. Wow. I feel so honored to be number one speaker. I feel so important.

Hello, members of the California Air Resources Board. I thank you for allowing us to speak to you today. For the pat 54 years starting in 1969, I've been a metal finisher and my company employs 85 full-time hard working people and 25 subcontractors.

Additionally, I'm an active in our professional Metal Finishers Association by being a Board member for 31 years. That's MFASC and part of the national association of finishers as well.

Our association has recently sponsored an informal booth -- I mean informational booth at Earth Day 2023 LA Hyperion Water Treatment Plan, Playa Del Rey, California. We were showing children how to plate, achievements of plating, demonstrating plating copper on gold dimes. We do this quite often as a public service and giving children the ability to see how science and action really works. They all love it. We also talk to the adults about how we control our chemicals, and how we prevent pollution, and how we're good stewards of the earth. We're very pro the environment, contrary to what other people believe.

223 CARB is proposing to stop hex chrome plating even though we've installed state of the art engineered environmental controls and have provided scientifically validated air source testing that documents our controls are really doing what is prescribed.

I'm 75 years old. When I was in high school, I was growing cannabis for personal consumption. We all know this is not healthy and certainly not legal.

I'd like to enlighten CARB --

BOARD CLERK HARRINGTON: Thank you. That concludes your time.

ALAN OLICK: Oh, come on. That's not right. I have like four pages here.

(Laughter).

ALAN OLICK: That's really -- that's not right. Really, I strongly object.

CHAIR RANDOLPH: Each person gets two minutes for comment and you can submit your comment in writing as well. You can give us your four pages.

ALAN OLICK: But I gave my whole life donating to the community and paying taxes, and here you're trying to stop our mental finishing, and you're telling me I can't speak.

CHAIR RANDOLPH: You can submit your comments in writing.

ALAN OLICK: Well, what's the point of me coming here.

CHAIR RANDOLPH: You can give them to the clerk.

ALAN OLICK: I drove two hours to get here.

CHAIR RANDOLPH: And we have other speakers who will also be speaking.

ALAN OLICK: That's in -- completely cruel. Thank you.

BOARD CLERK HARRINGTON: Thank you.

Next is Bill Felts.

BILL FELTS: Good morning. My name is Bill Felts. I'm a small business owner for 50 years. I had a -- I had a chance to sell my business last year. I was going to finance another small business owner to buy my business. When I fund out about the pending of this regulation, I had the obligation to disclose to the guy, which I did, that this outlawing of the hexavalent chrome would probably stop the sale. Understandably, the buyer did back out.

224

I do not believe that the staff have taken into consideration the stranded assets of us at retirement age. After 50 years, the sale was going to allow me to retire. Now, my company has no value. I believe there is a solution allowing companies like mine to participate in the incentive program and close my business. It would be approximately one-third of the price, yet helpful to someone like me.

I hear you're talking about just transitions when the governments decide to ban technology. Well, here is your opportunity to put action to your words. It's not that I'm not willing. I put in my 50 years and I'm out of time. And I would just wish that you would consider helping us retire for the ones that want to retire with your funds.

Thank you.

BOARD CLERK HARRINGTON: Thank you.

Next is Bryan Leiker.

BRYAN LEIKER: Good morning, Chair Randolph and CARB Board members. Bryan Leiker, Executive Director, Metal Finishing Association of California. I'll also have a small business K&L Anodizing in Burbank, California.

In the two minutes here, it's a difficult path to take for us. You know, we've worked with indus -- with regulatory agencies such as South Coast AQMD on Rule 1469 where CARB participated, came up with the most strict air emissions rule for hex chrome in the country. It's a rule that substantially reduces hex chrome even further. It's important to note that our industry over the last three decades has reduced hex chrome emissions 99.9 percent and 1469 would reduce emissions further. 225-1

We strongly believe that bans don't work. Bans put businesses out of business, take jobs away from California, force businesses to leave the state, force businesses to set up in other states with less emission controls. 1469 is an adequate rule that would work statewide in California. 225-2 225-1

This rule was -- is based on incorrect information, incorrect data, and it's important if a rule like this is going to be passed that the facts are known, 225-3

and facts do matter. We've been informed that facts don't
225-3 matter, but they do. I want to point out one such fact.
Decorative chrome shops, which are the smallest emitters
by far, are the first to go. There's one facility that's
noted in the inventory that's 41 million amp hours. I'm
here today to say that is a ghost facility that does not
exist.

The average decorating facility shop in
California is between 15 to 30 amp hour -- 30,000 amp
hours. There is no facility that's 41 million and it's
taking up 74 percent of what decorative shops emit. So
we're asking CARB and staff to correct the information, to
provide the correct information and the true emission
numbers, because we are not the risk to public health that
is noted here.

BOARD CLERK HARRINGTON: Thank you.

Next, is Jerry Desmond.

JERRY DESMOND: Good morning, Chair Randolph.
I'm Jerry Desmond with the Metal Finishing Associations,
Northern and Southern California.

First, we think we should be clear. The update
226-1 bans decorative chrome plating in 2027. And there are two
key assumptions in support of the ban: first, that
customers will accept alternatives prior to that date; and
second, that facilities will remain in California and

226-1 operating. The update makes these critical assumptions and dismisses our projections to the contrary as being speculative.

Further, the process places the entire burden on industry to obtain written statements confirming that they would definitely take their businesses to other states and countries with less, if any, emission controls, and then disregards the clear evidence when it is presented. A 226-2 reasonable conclusion can be made that the decision was made to enact a ban irrespective of the facts.

Further evidence of this is found in the following. First, the emissions data has consistently overstated the amount of emissions and therefore the risks has been continually corrected and remains inaccurate today. The update emphasizes the location of facilities 226-3 near sensitive receptors in disadvantaged communities, but does not accommodate those that aren't. Third, the update 226-4 dismisses alternatives to a ban on the basis that they will not reduce emissions to the same extent as a ban.

We emphasize the issues, because they signal a policy change in California. Are we abandoning our 226-1 efforts to balance public health and safety and the environment and the ability to operate a manufacturing facility and create jobs? Are we saying goodbye to the economic engines in our local communities and the jobs?

226-1

We're -- are we saying that we don't care about the tremendous efforts we've made over the past four decades as facilities to meet and exceed and lower our emissions, even to non-detect levels?

226-5

And more specifically, we're ignoring the recently adopted Rule 1469 in the South Coast Air District. The effectiveness of this rule is being ignored. We continue to maintain that is the critical -- it's critical to identify that rule to provide the opportunity statewide.

Thank you.

BOARD CLERK HARRINGTON: Jim Meyer.

JIM MEYER: Jim Meyer, Aviation Repair Solutions. We repair flight critical passenger airplane parts with hex chrome. AB 617 established a process for local

227-1

communities to have input about local priorities. AB 617 defined those communities in terms of geography, locations, places where residents live. The data provided by CARB to support this ATCM tells us that distance from a receptor is a major factor in cancer risk reduction.

Obviously, geography, location, and distance are related concepts. Since the AB 617 process allows local communities to have unique inputs and priorities, it is obvious that the Legislature intended there to be a variety of rule outcomes to address those. The unique

227-1 local concerns would be met.

This ATCM has no unique or local outcome. It is a one-size-fits-all sledgehammer, which imposes a ban on local businesses which some communities value.

Here's an idea, amend the rule to reward businesses that are not near receptors. Don't ban in those locations. This will incentivize those who are next door to some residents to relocate to the safer area. They may do so even prior to 2039, which would, I think, be positive for both sides of this debate.

Disadvantaged communities would get a quicker benefit and clean platers could survive. A ban is not responsive to AB 617. A ban is not a rule. AQMD Rule

227-2 1469 is the toughest rule in the world and I support this ATCM if the ban is removed.

Thank you.

BOARD CLERK HARRINGTON: Thank you.

Bobbi Burns.

BOBBI BURNS: Good morning and thank you for having us here, CARB Board. In light of what has already

228-1 been said, I can't stress enough how important the data really is to this rulemaking. I've heard a lot that it doesn't mater, but it should matter when you make a rule that has this kind of impact not only on businesses and our employees, our customers, and our supply chain.

228-2 Trivalent chrome has its place in this world, but definitely not on faucets. They just don't last. I'm not sure where that information came from. It has its place, but not in the restoration business.

We are not opposed to regulation. We are accustomed to it. We've participated in the last 30 years 228-1 in the -- in the past to lower our emissions to be good stewards of the environment. When I submit reports to a regulatory agency, which feels like I have a thousand of them I report to, my data has to be accurate. And I feel like the submissions, Table 1, is just really lacking efficiency and it puts a false number out there. I don't 228-3 support a ban. I support regulation. I support a statewide 1469. I believe that we can continue our participation in lowering emissions in a way that helps keep our businesses an helps keep our employees employed.

Thank you.

BOARD CLERK HARRINGTON: Thank you.

Next is Sylvia Rodriguez.

SYLVIA RODRIGUEZ: My name is Sylvia Rodriguez. I run and own a AMEX Plating, Incorporated, an anodizing facility that is 24 employees strong and services the electronics, semiconductor, medical, aerospace, and defense industries here in California. I've been in business for 40 years.

229-1

As a small business owner, I am appalled that your department did not reassess the recommendations after discovering that their initial assessments of the emissions data was flawed. Even with the corrections of the mathematical errors, the resulting emissions data is an overrepresentation of the factual data of the chromium emissions of chrome plating in California. It has been reported that a total hexavalent chrome emissions in California equals to 550 pounds per year. My industry represents less than 0.19 pounds per year.

Based on the actual emissions data, the removal of all hexavalent chrome emissions from the plating industry would do little, if anything, to reduce the risks to human health. The revised emissions data represents less than 0.1 percent of the total hexavalent chrome emission in California. Without the correct information, the conclusions drawn by this Board will not be effective of combating chromium emissions in California. No other industry is banned by this proposed amendment.

229-2

Banning chrome plating in California is an essential industry in California. I strongly recommend that the Board reconsider its decision to ban hex chrome plating and instead implement an emissions-based rule across all industries to ensure that emissions continue to be reduced to protect human health and the environment.

229-2 Regulation not elimination is what we need.

Thank you.

BOARD CLERK HARRINGTON: Art Holman.

ART HOLMAN: In the response to staff's comments
230-1 about speculation, the real speculation that's happening with the staff here is that transition to trivalent chrome from the decorative industry is going to be accepted from our clients. As an industry expert with 43 years of experience in this field, I can tell you that that's not the truth. They will search out hexavalent chrome. It's
230-2 going to transfer to another state. It's going to render my business worthless. My employees will be unemployed. Forty-three years down the drain. My entire business has
230-3 worth until this ATCM passes and then my property is a hazardous waste facility. Who's going to clean that up? Am I going to be deemed liable to clean up a facility that the CARB Board made a hazardous waste facility? Because as it stands right now, I'm an industrial power in the decorative industry.

I have two competitors, both of out of -- both
230-1 are out of state, Nashville, Tennessee, and Canton, Ohio specialize in antique historic vehicle restoration. I won't be able to do that with trivalent chrome. We need
230-4 to institute 164 -- or 1469. I have two milligrams of
230-5 hexavalent chrome emissions annually run at

unrepresentatively high source test ratings. My samples
230-5 would come back non-detect under a reasonable source test,
but yet I'm not going to be allowed to operate here in
California.

Just a visual, these raisins represent the entire decorative industry's emissions for a year.

BOARD CLERK HARRINGTON: Thank you. That concludes your time.

Next is Albert Ybarra.

ALBERT YBARRA: Good morning. Albert Ybarra.
231 This is hurting California forcing jobs out. We are not the problem. We -- I think regulating is a solution and all this is not necessary. It's -- all it's doing is forcing jobs out of California and that's about it. It's not going to help anything. There's -- that's all I got.

BOARD CLERK HARRINGTON: Thank you.

Next is Brian Ward.

BRIAN WARD: Thank you for the opportunity to address this issue. I think that the problem has been
232-1 that from the beginning, we've been at cross purposes. We understand that this is coming from top down. The idea is that the -- that no matter what data that I have from emissions information that we've gotten, that the only number that anybody gives a dam about is zero. And the thing is is that if you extrapolate that to any other

232-1 industry, every other industry, we will grind to a complete halt. This is not appropriate logic. There is a
232-2 lot of speculation about the effect of this -- these materials on people.

There is not a lot of evidence that -- at the levels that we are talking about. Our entire industry -- our entire industry is 0.14 based on the best information that I have been able to gather. 0.14 pounds for the entire state, for the entire industry for a year. That is -- that is so, so low. They're putting in -- staff has put in their presentation that ten pounds is what we're talking about. We're talking about two orders of magnitude less than that. My estimation of 0.14 is actually on the high end. If I -- if I can use data that I can actually corroborate, it's actually much lower than that 0.00 -- 0.09.

So the idea that we are -- that this is actually going to have a health impact on anyone is not accurate, when we keep trying to present information, new studies, things like that. And if this was an objective
232-1 decision-making process, you'd look -- you'd be looking for the truth.

Thank you.

BOARD CLERK HARRINGTON: Thank you.

Next is Jeff Hannapel.

JEFF HANNAPEL: Good morning. I think it's important that CARB determine the actual risks posed by the industry based on the most current data available on hexavalent chromium emissions. Accordingly, we must get the data right. Facts do matter. Based on a review of the most current publicly available data, this industry emits less than one-tenth of a pound annually. This is less than one-tenth of a percent of all stationary sources in California and would be more than an order of magnitude lower if we included mobile sources. 233-1

Based on the corrected actual emissions data, the risk posed by the plating industry in California would be minimal, below CARB's levels of concern. It would be irresponsible and most likely unlawful for CARB to make a final decision on this rule without considering the corrected risk-based, emission-based data in order to make an informed and meaningful decision.

The plating industry has been proactive in meeting challenges to reduce hexavalent chromium emissions. Nationwide, the industry has reduced hexavalent chromium emission by over 99.9 percent since 1995. In California, these reductions have been even greater. The industry has done its part to significantly reduce hexavalent chromium emissions. Now, if individual facilities need to reduce emissions even further to 233-2

233-2 protect localized sensitive receptors, we accept that challenge.

We urge CARB to use a scalpel, preferably a hexavalent chromium plated one for a targeted approach to accomplish this goal, rather than a sledge hammer, even a hexavalent chromium plated one, to ban the entire industry of responsible hexavalent chromium plating. CARB needs to promulgate a data-driven, risk-based, emission-based rule without bans regardless of how far into the future they are scheduled.

Thank you.

BOARD CLERK HARRINGTON: Thank you.

And as a reminder, comment sign-ups end at 10:15.

Our next commenter is Justin Guzman.

JUSTIN GUZMAN: Good morning, Chairperson Berg, Board, and staff.

Justin Guzman, President of Aircraft X-ray Laboratories. I've been in the industry for 30 plus

234-1 years. And I think I'd like to set myself as an example that the environment is crucial to me. We just won P3 award for facility of the year in California. You know, I'm not going to do anything that's going to hurt my employees and my neighbors. I spent a lot of money to be the best that we can -- that we can be. I understand that

234-2 if you shut me down, it hurts my employees. It hurts my

234-2 customers. I'm not going to let that happen.

234-3 So again, let's regulate. We can -- we can meet it. You know, we talk about fugitive emissions. Well,

234-4 they're not ghosts. Let's find out where they're at. Let's control them, simple. You know, we talk about actual numbers of emissions, we know what they are. You

234-3 know we're not going to manufacture more in California. On the contrary, it's going away, so emissions aren't going to increase in our industry. So what we have, we can control. We have jobs. It's crucial that we keep it

234-2 here. Remember, this is infrastructure. This is air safety. This is defense that we're talking about. You know, we're not -- we're not talking about just any -- anything that anybody can do. And these are jobs that, you know, there's 30, 40, 50 years of technical know-how that we have. So even moving from the State, we lose all that expertise. So the thought of that really does hurt. So, you know, we need to get it right. And I think we've shown that we are here to figure it out and work with CARB. So thank you.

BOARD CLERK HARRINGTON: Thank you.

Next is Regina Hsu.

REGINA HSU: Chair Randolph and members of the Board. Thank you for the opportunity to comment today. My name is Regina Hsu and I'm an attorney with

235-1 Earthjustice. We strongly urge the Board to adopt the proposed amendments to reduce toxic effects from chromium -- hexavalent chromium.

These amendments are critical to reducing health burdens on low-income communities of color. Seventy-three percent of chrome platers are located in California's disadvantaged communities with a majority located here in Southern California, even next to people's homes and schools. The public health benefits of this rule are significant. The strengthened rule will eliminate cancer risk from chrome emitting facilities. Since CARB has

235-2 identified several chrome platers who are in violation of their permits, we also ask that you work with the dist -- the air districts to ensure that all chrome platers comply with their existing permits with verification by fence-line monitoring.

235-1 Again, we urge you to adopt these amendments in accordance with CARB's emission of protecting public health. Thank you again.

BOARD CLERK HARRINGTON: Ed Appleton.

ED APPLETON: Good morning. My name is Ed Appleton. I'm with Metal Finishing Marketers. Thank you for your time and your consideration today.

Originally, I wasn't planning on speaking and was only going to be here to witness the final nail being

driven into our industry. Although trivalent chrome may be suitable for some industries, it certainly won't work for the industry that we serve, which is the refurbishing of classic cars. Our customers will not accept trivalent chrome. Our customers compete against others and their chrome is a major factor in the judging. They will need to go out of the state in order to get any of their work done. 236-1 236-2

Although I am thankful for the extension, the bottom line is this process will totally ban with no other further options. What are the options that we may have, other than being driven out of business before this ban? Well, maybe new technology within the next few years. I don't know. But either way, the ban will go into effect and that we will not be able to serve all our customers and we'll actually be driven out of business.

South Coast has a viable rule to control and regulate. This could be implemented statewide if need be. And in the past 45 years that I've been in this industry, we have always been able to work our way through business challenges. But by banning this, we do not have that option. 236-3 There is only one other time that I felt hopeless. That was when we were shut down for COVID. We were told we weren't able to work. How can you work yourself out of a situation when you're not able to work?

But this is the same feeling that we have here. When this
236-2 ban is -- goes into effect, we won't have any other option
other than to be out of business.

Thank you.

BOARD CLERK HARRINGTON: Sam Bell.

SAM BELL: Hello, Board. I'm Sam Bell. I'm owner of Metal Surfaces, Incorporated. I've been working for 53 years in the industry. I think you ought to take
237-1 the time frame of our shutdown in cutting out chrome to develop reasonable and measurable numbers, and in that time frame, let industry develop controls to meet those measurable limits.

237-2 More people -- there are more people with a positive -- positive effects from hexavalent chrome than there are negative effects. It's -- everybody is touched by hexavalent electrolytic plating. Everybody, no matter where you are, it may be in the engineer car, it may be in the toaster on your -- on your dashboard, or the sinks, fixtures. Everybody is touched by hexavalent chrome. And
237-3 if you make it zero, then we're going to have to shut down.

237-4 But there's many behind-the-scenes use of hex chrome, like military and other areas that are just not seen, but the manufacturing world uses hexavalent chrome. So take this time frame to develop measurable rules. Let

237-4

industry figure out how to meet those rules and let's get on with business. I think it would be more valuable to develop a pill that would create people from farting for the environment.

Thank you.

BOARD CLERK HARRINGTON: Thank you. And the public comment period has now closed.

Our next speaker is Mose Huerta.

MOSES HUERTA(through interpreter): Hello, members. Thank you for the opportunity. 238 I would like to come here -- I'm a -- before you to beg you to adopt this resolution and vote on it. This conversation that we are having today has become one of those people who is at risk, health risk. I've been living for 45 years in nearby within this industry. There was more than 40 monitors about a mile away that encounter from the residents where I currently live. And they're still continuing up will now monitoring this contaminating pollutant.

My neighbors, my family members, and others we're still concerned about what's going to happen because we're still breathing this air. With this point, as I mentioned previously, the cancer that I'm surviving and multiple sclerosis that I'm going through. I don't need any further health issues to come along with this. Please

vote on this, I remind you, so we can get to a resolution.

Thank you for your attention.

BOARD CLERK HARRINGTON: Thank you.

This concludes the in-person commenters. I will not pass it to Lindsay for the Zoom.

BOARD CLERK GARCIA: Thank you. We currently have 19 commenters in Zoom. The first five commenters will be Christopher Chavez, Felipe Aguirre, Will Barrett, Cynthia Pinto-Cabrera, and Yvonne Watson.

So Christopher, I have activated your microphone. You can unmute and begin.

CHRISTOPHER CHAVEZ: Yes. Good morning, Board members. My name is Chris Chavez. I'm with the Coalition for Clean Air.

239-1 We urge the Board to adopt the proposed amendments today to reduce the toxic effects from hexavalent chromium, especially on low-income and communities of color. What you have here today is not an immediate, hard and fast ban today or tomorrow. Rather, it phases out the use of hex chrome over the better part of the next 10 to 20 years. Further, the proposal has not one but two technological reviews for hard platers and anodizers, and provides assist -- financial assistance to help facilitate that phaseout.

The strengthened ATCM is projected to diminish

239-1 cancer risk from these facilities and the communities that live near by them by a hundred percent. By reducing that to zero, ultimately the communities will have much better health outcomes, given their -- you know, the lack of exposure to any of these chemicals.

239-2 Since CARB has identified several chrome platers who were in violation of these permits, we ask you to work with the affected districts to ensure that all chrome platers comply with their existing permits with verification by fence-line monitoring. Seventy-three

239-1 percent of chrome platers are clustered in California disadvantaged communities and both being in Southern California. Three of the six South Coast AQMD AB 617 communities have identified hexavalent chromium emissions as being a concern.

Several chrome plating facilities are also located alongside residential communities and schools. Eliminating the use of hexavalent chromium would also eliminate the need for PFOS-based fume suppressants, which are also known to cause cancer. So with all this together, we do strongly support this rule. We know that there have been a lot of changes, a lot of compromises made along the way. But ultimately, this is -- really shows a way forward and need to protect public health in California.

Thank you.

BOARD CLERK GARCIA: Thank you.

Felipe Aguirre, I have activated your microphone. Please unmute and begin.

FELIPE AGUIRRE: Yes. My name is Felipe Aguirre. I work with Comite Pro Uno here in the City of Maywood, California. And we want to strongly support this rule, 240 but we would like to have also fence-line monitoring along the process to ensure total compliance. We have to look out for the health of the people that work there, the people that live in these communities. We've been affected by this industry for many, many years. Here in Maywood, we are particularly affected not only by the chrome platers that we have here in our community, but in and around close proximity. So we want to have you adopt this rule. We support it, but we want you to also have fence-line monitoring so that we know that there is compliance.

Thank you very much.

BOARD CLERK GARCIA: Thank you.

Will Barrett, I have activated your microphone. Please unmute and begin.

WILL BARRETT: Hi. Thank you. I'm Will Barrett. I'm the National Senior Director for Clean Air Advocacy with the American Lung Association. And I want to start

241-1 by saying we applaud CARB for taking a strong approach to regulating toxic air contaminants with this policy and transitioning away from hexavalent chromium that is so highly toxic.

We urge the Board to adopt the proposed amendments today. This rule will provide important health protections and addresses significant disparities in toxic exposures caused by chrome facilities, which are often located in disadvantaged communities, as others have mentioned. This updated ATCM is real -- it's projected to phase out the harms of hex chrome over time, reducing health impacts, zeroing out cancer risk from hex chrome plating operations, and reducing cumulative community exposures to toxic air contaminants.

As noted by Mr. Chavez from the Coalition for Clean Air, this is a critical issue identified by multiple AB 617 communities' processes, seeking to reduce harmful exposures in their communities. And also echoing Mr. Chavez, 241-2 CARB and the air districts should increase the focus on monitoring and enforcement, especially considering those longer compliance pathways offered under the proposed amendments and previous excess emissions that he noted.

241-1 So again, I do appreciate CARB's efforts to reduce this toxic air contaminant and to protect the

241-1 communities most impacted today, and look forward to the opportunity to working with the Board as we move forward. And thank you and ask that you approve this important measure today. Thank you very much.

BOARD CLERK GARCIA: Thank you.

Cynthia Pinto-Cabrera, I have activated your microphone. Please unmute and begin.

CYNTHIA PINTO CABRERA: Good morning, Chair Randolph, members of the Board. I'm Cynthia Pinto-Cabrera, Policy Coordinator with the Central Valley Air Quality Coalition. And we stand in solidarity with
242-1 the colleagues across the State that are urging the Board to adopt the rule and proposed amendments today. CARB must reduce the toxic effects from hexavalent chromium, especially for priority EJ communities that have really borne the brunt of these sources for far too long. As several mentioned, 73 percent of the chrome platers are concentrated in California's most disadvantaged communities. We cannot continue to sacrifice our communities of color, our low-income communities, our priority environmental justice communities for the sake of economic benefit.

This Board has made a commitment to protect those communities. And this regulation is a step in the right direction. However, there continues to be some shortfalls

242-2

with the regulation proposed today that must be addressed as well. Along being adopted today, there still remains some serious exposure risk. So as others have mentioned, we are in support of additional fence-line monitoring to require chrome platers -- chrome platers to ensure that the measures are really working and to ensure that emissions are being reduced in line with the phaseout.

We also -- as others have mentioned, CARB has identified several chrome platers that are in violation of their permits. Again, like others have mentioned, me also are in also support of working with air dis -- with other districts to ensure that a all chrome platers are in compliance, we need strong enforcement and strong accountability for this measure. And CARB should continue to work with other districts to ensure this is safe as possible.

And if we are truly to make an impact on the environmental justice communities, we need to -- CARB must adopt a regulation that will monitor and hold facilities accountable for their emissions to ensure real reductions. CARB's regulations are only as strong their -- (inaudible) -- strong rule that addresses these shortfalls.

Thank you.

BOARD CLERK GARCIA: Thank you. And after Yvonne Watson, we'll hear from Jane Williams, Dilip Patel, Bill

LaMarr, Teresa Bui, and Kathleen Van Osten.

So Yvonne, I have activated your microphone. Please unmute and begin.

YVONNE WATSON: Hello. My name is Yvonne Martinez Watson. I am a volunteer leader with the Sierra Club and I'm not being paid here to be today. I'm here
243-1 today because I am partially immunocompromised, so I cannot be there are in person. I'm one of the people who have been affected by air quality emissions and toxics as well as air -- as well as contamination in my water.

Hexavalent chromium does not just stay in the area. It can deposit into water sources and that's a lot of how it gets into underground wells as well.

Please pardon me, I'm having some trouble speaking today.

243-2 This rule is -- needs to be strengthened. I'm
243-1 really upset by hearing industry talk about how this is not affecting people. Like I said, I am immunocompromised. I live with contaminated water, contaminated air. I've lived in California in environmental justice communities my entire life. I have never smoked. I have never done anything to compromise my own health. A lot of my health issues are environmentally based. It's disappointing to hear that the decorative
243-2 chrome people are getting a special out with an additional

243-2 three years. And they're still complaining about how that this is going to affect them.

243-1 Public health is at risk right now. Public health is being affected. People who are like me who are suffering severe consequences. I had two bouts of lung collapse in 2019. We do not have time. It is really upsetting to hear industry say that, well, this is going to affect them so badly and they don't of anybody else who is being affected. Well you need to get out into your neighborhoods and start asking your neighborhoods how they -- how they feel.

243-3 Please strengthen this rule, please strengthen the fence-line reporting, and please go after the people that are not in compliance right now.

Thank you very much.

BOARD CLERK GARCIA: Thank you.

Jane Williams, I have activated your microphone. Please unmute and begin.

JANE WILLIAMS: Thank you so much. I'm Jane Williams. I'm the Executive Director of California Communities Against Toxics. Thank you so much for the opportunity to testify today. I just wanted to point out

244-1 that a California Air Resources Board chrome plating effectiveness study found that 73 percent of facilities had violated the Air Toxic Control Measure, 39 percent had

244-1 emission related violations, 68 percent had non-emission related violations, and eight percent had direct excess emission.

This study was done 20 years ago. It just showed massive non-compliance among permitted users. In fact, 53 percent of add-on control devices had violated the Air Toxic Control Measure. Now, here we are 2023, and whenever we go and we actually take a hard look at these facilities, we do fence-line monitoring, we see that it's fugitives that are really problematic and driving the risk in these impacted communities. And so I just want to really urge the Board. It's wonderful the action that you're taking today. It is precedent setting.

And unfortunately, it is overdue, and it's too late for many of the members of the communities that have -- that really have suffered and died at the fence lines of these communities. So we need a plan as we move forward to do more monitoring, to do more compliance, to be assured that the risks that we're leaving on the table here in some cases for 20 years is not going to be left unaddressed by the districts and the agency. So I want to

244-2 urge CARB to work with the Strategic Environmental Research Defense Program at DOD to really get a plan for the hard and anodizing platers to come up with new alternative coatings.

So thank you so much for the actions that you're taking today. It is so overdue and we're so grateful.

Thank you.

BOARD CLERK GARCIA: Thank you.

Dilip Patel, I have activated your microphone. Please unmute and begin.

DILIP PATEL: Yes. Hi. I'm Dilip Patel from General Plating Company and Brite Plating company in Los Angeles.

245 Proposed update of chrome -- Chromium(IV) Rule ignores South Coast Air Quality Management District's Rule 1469 and it's controlled measures. This rule chase away jobs to other states. Nearby controls AQMD proposed us will create more jobs, but your ban will chase away jobs.

Thank you.

BOARD CLERK GARCIA: Thank you.

Bill LaMarr, I have activated your microphone. Please unmute and begin.

Bill LaMarr.

Okay. Bill, it looks like you've joined from two devices, so let me try the other one. Okay. Try -- I have activated both devices.

BILL LaMARR: How about now?

Am I being heard?

BOARD CLERK GARCIA: Thank you. Yes.

Oh, thank you.

Good morning. I'm Bill LaMarr, Executive Director of the California Alliance of Small Business Associations. Alliance members have asked me to urge you

246-1 not to waiver from your mission to promote and protect public health, welfare, and ecological resources through effective reduction of air pollution while recognizing and considering effects on the economy by adopting this resolution. Such an action is certain to result in an entire industry being eradicated from our state's economy, together with thousands of good paying jobs, with only a minuscule benefit to the environment and to public health.

246-2 The $10 million that the Legislature committed in Assembly Bill 211 to transition these shops away from hex chrome would be better spent if applied as a down payment in buying and dismantling these businesses outright because you're destroying an entire market.

246-3 For two years this industry negotiated in good faith with the with South Coast AQMD, your agency, EPA, community representatives to produce a stipulated emissions-based Rule 1469, which was incorporated in our 2016 AQMP and State SIP.

The people in this industry have demonstrated that they are responsible stewards by implementing effective control measures, which kept significantly

246-3 reduced hex chrome emissions. In fact, in its 2012 hex chrome NESHAP rulemaking, EPA estimated that the industry reduced hex chrome emissions by 99.9 percent. We urge you not to adopt this regulation, but to accept Rule 1469 to protect the public environment and our economy.

Thank you.

BOARD CLERK GARCIA: Thank you.

Teresa Bui, I have activated your microphone. Please unmute and begin.

TERESA BUI: Thank you. Good morning, Chair and Board members. This is Teresa Bui with the environmental group Pacific Environment. I want to echo the comments

247-1 made by some of my colleagues at Earthjustice, Coalition for Clean Air, and California Communities Against Toxics. We urge the Board to adopt the proposed amendments today to reduce toxic effects from hexavalent chromium especially on low-income communities of color.

The strengthened ATCM is projected to diminish cancer risk from facilities that use hex chrome by a hundred percent. And since CARB has identified several

247-2 chrome platers who are in violation of their permits, we also ask that you work with the affected district to ensure that all chrome platers comply with their existing permits with verification by fence-line monitoring.

247-1 Seventy-three percent of chrome platers are

247-1

clustered in California's disadvantaged communities with the bulk being in Southern California. And several of these facilities are located alongside residential communities and schools. Currently, less toxic alternatives already exist. And so there's no reason to continue using this toxic carcinogen. And switching to trivalent chromium has the benefit of not only significantly reducing the toxic emissions from one of the most toxic dangerous chemicals known into our communities, but the facilities using trivalent chromium avoids having use of toxic PFAS based fume suppressants as well.

So I just want to thank you all for your leadership on this important issue and we hope that you adopt the amendments today.

Thanks.

BOARD CLERK GARCIA: Thank you.

And after Kathleen Van Osten, we'll hear from Veronica Padilla, Jesse Marquez, Kashiram Patel, Bill Magavern, Michael Hayden, Tracy Coss, Robina Suwol, Rebecca Overmyer-Velazquez, and Paul Pereira.

So Kathleen, I have activated your microphone. Please unmute and begin.

KATHLEEN VAN OSTEN: All right. Thank you.

Kathleen Van Osten representing United Airlines.

248

I just want to thank the Board and staff for the work and

248 the diligence, you know, spending time with the hard chrome plating facilities and understanding the difficulties, in particular that the airlines have with respect to FAA regulations and how we have to handle airplane parts. And we really don't have those other alternatives available to us, so we appreciate that recognition. We will look forward to working with you in the future. Certainly, we will be happy to look at the possible alternatives as they -- as they come along. But in the meantime, we definitely appreciate the efforts that you've made to hear us and understand the technology and what we are required to do.

Thank you.

BOARD CLERK GARCIA: Thank you.

Veronica Padilla, I have activated your microphone. Please unmute and begin.

VERONICA PADILLA CAMPOS: Good morning. My name is Veronica Padilla Campos, Executive Director of Pacoima Beautiful. We are an environmental justice organization that's been serving the northeast San Fernando Valley since 1996.

249-1 I first learned about the dangers of hexavalent chromium about 12 years ago when working on a reenvisioning project of an old Price Pfister plant in Pacoima. When the closed in the 90s, they just didn't

249-1 destroy families economically, but they also left behind some dangerous pollutants. It was extremely difficult to have to explain to the community what they had been living with and what hexavalent chromium has doing to our community's health. We were able to organize our community members to demand a proper cleanup, but it was not easy.

And so I'm here today to support switching away from hexavalent chromium, so that other communities don't experience the same unjust burdens. The Board should keep

249-2 its originally proposed dates for the phaseout of hexavalent chromium in this industry and not to weaken the rule any further by extending those phaseout timelines. I think our communities deserve better and hope you do too.

Thank you.

BOARD CLERK GARCIA: Thank you.

Jesse Marquez, I have activated your microphone. Please unmute and begin.

Jesse Marquez, I have activated your microphone.

Okay. We'll come back.

Let's try Kashiram Patel, I have activated your microphone. Please unmute and begin.

KASHIRAM PATEL: Hi. My name is Kashiram Patel, General Plating and Brite Plating Company.

To me what a joke for giving us two minutes to

protect the industry for the millions dollars going to the drain and billion dollar going to the revenue losing at a time that we are supposed to talk about for two minutes. Instead of that, you support to give the certain representative, maybe two or three representatives, they can -- they've got full points, all the points within 30 minutes, so they can explain all the things why and what the region we are doing all this thing. So two minutes is a joke. So it's not considering really good representation for the protection of the whole industry.

Another thing, how they can find out the $10 million to put the new technology and get out from the hex chrome also too. And what about the -- who gives the expenses -- all the expenses going to the -- to get rid of the hex chrome, who is going to give all the money to us also too? So we're losing millions of dollars going to the drain. Instead of that, we don't get anything, and how they can protect us on this -- all this coming for the new expenses also too. Some industry people have already put the new trivalent chrome. What about them? What they are going to give for them? And so what do they spend the money for their new technology also too. So they are to figure out all of the points also too. And they are to talk about all the points. So given now to some representative, so they can give full details about all

250

this thing.

Thank you very much.

BOARD CLERK GARCIA: Thank you.

And Jesse, it looks like you've unmuted, so if you can hear me, you can go ahead and begin.

JESSE MARQUEZ: Yes, I am the founder and Executive Director of the Coalition for a Safe Environment. And we support the need for additional safer
251-1 requirements for the chrome industry. Our environmental justice organization supports the need for a decorative chrome plater project using toxic chemicals such as hexavalent chrome is not a life-supporting need or a product functioning requirement. The phaseout of highly
251-2 toxic chemicals, such as hexavalent chromium with safer and alternative chemicals such as trivalent chromium is a priority now and should be phased out by 2025 as soon as possible and not 2030.

251-3 CARB should work with the DOD's Strategic Environmental Research Defense Program to investigate alternative safer metal coatings and chemicals. CARB
251-4 needs to adopt a chrome plating industry mitigation fee for every pound of hexavalent chromium used, and the creation of a mitigation fund to address public health exposure, public health impacts, and environmental impacts.

251-5 CARB needs to adopt stricter air quality safety standards for decorative chroming to prevent public exposure, public health, and environmental impacts. 251-6 It also needs to adopt stricter standards for workers safety standards, because they are there working on the spot.

The decorative chrome industry should have a 251-7 fence line air quality monitoring program just like the oil refinery industry to ensure compliance with State and federal air quality requirements. Cities and counties in the past have allowed decorative chrome plating companies 251-1 to be located adjacent to and near public schools, residential areas, public sidewalks, community, commercial, and retail business centers. And we ask that you reconsider these other items that I brought up.

Thank you.

BOARD CLERK GARCIA: Thank you.

Bill Magavern, I have activated your microphone. Please unmute and begin.

BILL MAGAVERN: Thank you. Good morning. Bill Magavern with the Coalition for Clean Air urging the Board 252-1 to adopt the proposed amendments today without any weakening amendments.

This Board has done so much in recent years to 252-2 address the existential threat of global warming as well as the lung-searing effects of regional smog. It is also

252-2 important to pay attention to the threats posed at the community level by toxic air contaminants. And hexavalent chromium is really one of the very worst of those toxins. And as Marie Liu pointed out, the Legislature has specifically charged the Board with addressing community air protection through AB 617 and other measures.

We know that hexavalent chromium is a deadly carcinogen and we know that we have safer substitutes available. So it's important to adopt this rule to make that transition and then to move on and address other toxic air contaminants.

Thank you very much

BOARD CLERK GARCIA: Thank you.

Michael Hayden, I have activated your microphone. Please unmute and begin.

MICHAEL HAYDEN: Hi. My name is Michael Hayden. I live in the Lincoln Heights neighborhood of Los Angeles. I'm President of the Lincoln Heights Community Coalition.

My neighbors discovered recently that a property

253-1 across the street from us being redeveloped for high density residential use is highly contaminated due to previous industrial uses, including chrome plating. The site was contaminated with dozens of toxins including hexavalent chromium. The State's investigation has determined that contaminants from the site are a threat to

253-1 neighbors. This is across the street from homes and an elementary school and it's in one of the poorest areas of Los Angeles and one of the most pollution burdened neighborhoods in all of California.

I urge the Board to support the rules to eliminate hexavalent chromium plating. I'v heard other commenters today advocating for a compromise that would allow hex plating to continue in areas not close to sensitive receptors. But our predicament in Lincoln Heights illustrates how populations in demographics change over time. Neighborhoods that may appear to be strictly industrial now, may in time become densely populated while the contamination from these toxins would persist.

Neighborhoods subjected to this contamination from active emissions are those that are most economically disadvantaged and almost always communities of color. This is readily visible throughout the LA area. To sacrifice these people's health in an effort to preserve other people's profits would be perverse. California has a chance to lead by example. And I urge CARB to adopt

253-2 these changes and to ensure the strictest oversight during the long phaseout of these harmful chemicals.

Thank you for your time.

BOARD CLERK GARCIA: Thank you.

Tracy Coss, I have activated your microphone.

Please unmute and begin.

TRACY COSS: Hello. My name is Tracy Coss. I own a metal finishing facility that employs 96 people. I'm here today or speaking today via Zoom to support the Metal Finisher's Association's and comments made earlier by various Association members who continue to argue that your data is flawed.

254 The other night I was reading CARB responses to comments made on this issue to date. And in one instance, in a response to comment number 197-3, CARB says the errors identified in the comment undermine the commenter's conclusions. Well, I would suggest that flawed data undermines staff's conclusions and I urge the Board to demand correct data from staff before voting, so they can make a truly informed decision and not proceed with rulemaking based on bad data.

The metal finishing industry agrees that we must all make efforts to reduce pollution for a better environment. The chrome plating industry has participated over the last 30 years in that pursuit and have significantly reduced emissions. I urge the Board to get good data and pursue an emission-based rule as an amendment instead of a ban. Thank you for allowing me time to speak today.

BOARD CLERK GARCIA: Thank you.

Robina Suwol, I have activated your microphone. Please unmute and begin.

ROBINA SUWOL: Hi. Good morning, Madam Chair and Honorable Board members. My name is Robina Suwol. I'm the Executive Director of California Safe Schools. We're a children's environmental health and environmental justice coalition. I am also the co-coordinator of the Los Angeles Environmental Justice Network. We join all of our colleagues today supporting the rule and we're extremely grateful for the work CARB has done to phase out the use of hexavalent chromium. 255-1

But until that time, it is extremely imperative that greater monitoring, enforcement, and compliance occur, because these facilities are going to continue to operate for many years to come and the health and safety of vulnerable community members to adjacent schools and other sensitive receptors that are very close to these facilities deserve to be protected from toxic emissions. 255-2

Going forward, we also request that CARB please work with the Department of Defense to identify alternative coatings to replace hexavalent chromium, since much of the plating is Done according to requirements in military coating specifications. Again, thank you so very much for your work. 255-3

BOARD CLERK GARCIA: Thank you.

Rebecca Overmyer-Velazquez, I have activated your microphone. Please unmute and begin.

REBECCA OVERMYER-VELAZQUEZ: Good morning. You can hear me?

BOARD CLERK GARCIA: Yes, we can.

REBECCA OVERMYER-VELAZQUEZ: Okay. Hi. Good morning. My name is Rebecca Overmyer-Velazquez and I'm the coordinator of the Clean Air Coalition of North Whittier and Avocado Heights. I live -- this is an all grassroots volunteer organization -- environmental justice organization. And we've mobilized our community members, our neighbors in a community that -- in Southeast LA County that's already significantly pollution burdened by over a lot of sources.

256-1 And when you opened your comments today by telling us that, you know, this pro -- these -- this proposed amendment is important, especially for communities like this who are already significantly burdened by pollution. It was just really hopeful for me to hear that. And I -- and I want to thank you for taking a bold step in a way that we don't always see other regulatory agencies taking these steps to really protect the most vulnerable impacted communities in California.

And it's important for the chrome platers to understand this. You know, this -- these toxic emissions

256-1

coming out of these facilities are just -- is just one more -- one more toxic emission that we have to deal with on a daily basis and it's too much. And so reducing, eliminating this over the next several years is a really positive step forward. But I want to also emphasize, as

256-2

others have, that given that it's going to take several years to really phase this out and use something less toxic eventually, we really need much stronger emissions control equipment, monitoring, and enforcement to protect community members who will continue to be exposed to all of these poisons, in addition to everything else that we have to deal with on a daily basis. So thank you for taking my comments.

BOARD CLERK GARCIA: Thank you.

Paul Pereira, I have activated your microphone. Please unmute and begin.

PAUL PEREIRA: Hello. Thank you. I'm calling from -- yeah, Coalition for a Clean Environment in Wilmington, California to reiterate the points that our Director made. One moment.

257-1

We are disappointed that Board has set the phaseout for decorative chrome platers to 2030 when they could all switch to trivalent chromium now. Really, judging at a car show?

We believe that there remains serious exposure

257-2 from the car man -- from the industry and we urge CARB to do more fence-line monitoring at chrome platers to ensure that the measures they rely on total enclosure and negative air are working to reduce emissions up until the phaseout occurs.

CARB identified several chrome platers who were in current violation of their permits. The agency needs to work with the affected districts to ensure that all chrome platers are in compliance with their existing permits. They should collaborate with the districts to do fence-line monitoring of facilities that are suspected of being out of compliance with their permit.

257-3 CARB should work with DOD Strategic Environmental Defense Program to investigate alternative metal coatings that can replace hexavalent chromium. CARB could work with the Attorney General on an enforcement initiative
257-4 directed at the chrome plating industry and damage they have done to both the natural resources and public health of the state.

Thank you.

BOARD CLERK GARCIA: Thank you. And that concludes the Zoom commenters.

CHAIR RANDOLPH: All right. Thank you. Okay. Before I turn it over to my colleagues for discussion, I know that one of the key questions and issues that was