California Metals Coalition

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February 5, 2009

TO: Clerk of the Board
California Air Resources Board
1001 I Street
Sacramento, California 95814
http://www.arb.ca.gov/lispub/comm/bclist.php

CC: Dr. Jon Horner, Manager of the Greenhouse Gas, jherner@arb.ca.gov;
Elizabeth Scheele, Air Pollution Specialist, GHG Techno/Field Testing escheehl@arb.ca.gov

RE: Comments in response to January 9, 2009 *CARB "Initial Statement of Reasons for Proposed Regulation for Reduction of Sulfur Hexafluoride from Non-Semiconductor and Non-Utility Applications"*

I. BACKGROUND

California is the nation's leader in manufacturing jobs. The five-county area of Southern California alone employs 784,100 people. Los Angeles County is the nation's largest manufacturing center with 447,000 jobs, topping Chicago by more than 62,000 manufacturing jobs[1]. Southern California's manufacturing base alone would rank 3rd amongst states—after California as a whole and Texas. **The metalworking sector is part of California's manufacturing base**.

The **California Metals Coalition (CMC)** was established in 1972 as a non-profit, non-partisan government relations organization. Today, CMC is supported by 200 metalworking corporations and 7 state trade organizations from across the state, which employ over 30,000 Californians with living-wage jobs and benefits.

Since 2006, the California Metals Coalition (CMC) has been a dues-paying supporter of California's Climate Action Registry (CCAR) and agreed to protect, encourage and promote early actions to reduce greenhouse gas emissions. CMC has held several workshops on AB 32 for the metalworking industry, with our most recent session in October 2008. Participants included CCAR, Edison and the Southern California Gas Co.

Several CMC metalworking members are CCAR "Climate Action Leaders," and for the last few years have been taking early action measures to voluntarily collect, measure, report and reduce greenhouse gas emissions.

[1] Los Angeles Economic Development Corporation: December 2008

As an organization, CMC has always taken pride in being a forward-thinking organization. In 2006, CMC was the only business organization to support no-lead legislation for castings that touch drinking water (AB 1953). In 2005, CMC became the nation's first industrial organization to successfully implement 500 kW of non-polluting fuel cell generated electricity at a metal recycler in Fontana. And in 2008, CMC supported the reduction of air pollution from our state's ports (SB 974).

The reduction of greenhouse gas emissions—including SF_6—in metal casting facilities is a challenge that CMC has been pursuing for many years, even prior to AB 32. Energy efficiency, equipment replacement, lean manufacturing, environmental controls, and employee preparedness are all commonplace issues for today's California metalworking facility. Unlike our competitors across the world, the most technologically advanced environmental controls are often found at California metalworking facilities.

II. COMMENTS

A. First and foremost, the California Metals Coalition would like to be included on the ARB list of notices for this rulemaking: "*Reduction of Sulfur Hexafluoride from Non-Semiconductor and Non-Utility Applications."* We did not receive any of the initial or previous notifications. If sent electronically, please send them to jfs@metalscoalition.com. Thank you.

B. "*…leakage is not expected to be a concern."* (pg 18) Leakage is more apparent than the CARB report considers. Purchase orders of nearly $2,000,000 in magnesium metal castings have already been sourced to Mexico in 2008. The customer is in Connecticut. While this is just one documented case, CMC can confirm that other US states, India and China are vying to compete for similar business. Competition is significant to California's magnesium metal casting industry, and poses a serious threat to the state's metal casting industry. Worldwide competition, leakage of jobs, and an increased use of SF_6 outside of California are very real.

Around the World

Mexico-Based Aerocast Wins New Purchase Orders

Nonferrous sand caster Aerocast Inc., Nogales, Mexico, announced it has received purchase orders from Hamilton Sundstrand, Windsor Locks, Conn., to supply tooling equipment totaling about $290,000.

Aerocast, which earlier this month began pouring magnesium castings in addition to aluminum, expects to complete the order this spring.

According to a letter issued by Aerocast President Robert Jamieson Sr., it has received purchase orders totaling about $1,936,000 since March 2008.

Hamilton Sundstrand, a subsidiary of United Technologies Corp., Hartford, Conn., designs and manufactures aerospace systems for commercial, regional, corporate and military aircraft, as well as space programs and some industrial customers. MC

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Leakage is not based on how many sand casters remain in North America. "*…there are less than 10 magnesium sand casters within North America and the three in California produce high quality items that are not easily transitioned to other casters. This limits the potential for leakage and limits the economic impact*." (pg 18) Cost and customer requirements are primary drivers for whether items can be transitioned to other casters. If the customer demands SF_6, then the industry is forced to react or lose business. CMC would like to see any reports on how CARB has assessed the reaction of prime customers to the proposed elimination of SF_6.

C. The CARB report grossly underestimates the cost impact on the magnesium casting industry. "*For the magnesium sector, fixed costs range from $40,000 to $60,000 per facility (Werner, 2008). We used a mid-range of $50,000. We assumed a 20-year project lifetime, based on the expected lifetime of the equipment (Werner 2008). We also assumed a fixed discount rate of 5 percent throughout the project lifetime. Based on*

these assumptions, the Capital Recovery Factor is 0.0802. The annualized fixed costs are $4,000 per facility." (pg 36) This economic assessment is narrow as it only covers the general cost of a new equipment mixer. A full assessment would include freight, installation, calibration, energy costs, maintenance, and ongoing supplies for this equipment.

But more importantly, the CARB report does not factor the cost of prequalifying a part. **A mandated elimination of SF_6 would likely mandate the magnesium metal caster to prequalify parts for their customer for a first article**. Use of an alternative to SF_6 by a metal caster is not unilaterally accepted by their customers. This is because magnesium parts used for national defense, aerospace, and flight critical applications have specific design requirements. If the use of SF_6 is eliminated, manufacturers have to notify their customers of any process changes, and cognizant engineering organizations decide the requirements for a first article. If California metal casters are required to use an alternative to SF_6, businesses will be faced with reprocessing, rebuilding, and possibly retooling parts to the acceptable standards of their customers. The new part would also have to go through rigorous engineering standards, point testing to part specification, non-destructive testing, and other methods. CMC's internal study of the cost to requalify a part for a first article is $40,000-$80,000 per part, depending on the molding and material combination. Most facilities have hundreds of part numbers. It is very realistic for this cost impact to exceed $1,000,000+—and none of these costs can be passed-on to the customer. CARB's mandated elimination of SF_6 must include this direct cost impact on California's magnesium metal casting industry. This cost impact will significantly impact leakage, job loss, and displacement of greenhouse gases to other geographical regions.

D. The CARB report (pg 20, 36) does not report the cost of SF_6 alternatives. CMC requests that CARB share its cost data on SF_6 alternatives from distributors. This cost data is critical for stakeholders to calculate the cost impact on their company.

E. "*The Executive Officer has made an initial determination that the proposed regulatory action would not have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states, or on representative private persons."* CMC disagrees with this assumption; primarily because the economic analysis in the CARB report does not take into account all of the economic impact factors. CARB's discussed elimination of SF_6 in California has already sent waves of concern through all customer bases. These concerns are rooted in the cost increases and process changes anticipated by this rule.

F. *"Most testing has occurred in die-casting facilities but there have been successful tests in sand casting facilities for both SO2 and the fluorinated ketone. Sand and investment casting may have limitations on available alternatives but SO2 and the fluorinated ketone appear to be an option for those facilities"* (pg 20). CMC strongly believes the use of SO2 is a step backwards for California's metalworking industry. SF_6 replaced SO2 because of subsequent safety and health concerns. SO2 is highly corrosive and eats away all surrounding electronics in a manufacturing facility. SO2 rapidly rots building structures—metal or wood—which is a serious safety issue. SO2 also greatly shorten the life cycle of expensive foundry equipment. Employee safety and well-being is important to California's metalworking facilities. Due to the extreme

odor issues with SO2, employees will likely have to be trained and outfitted with new safety equipment to handle this alternative. This is an added expense for businesses. Neighborhood relations is also important to California's metalworking facilities. We take extended measures to meet the needs of neighbors. The SCAQMD alone has been very strict on odor issues, and expanded use of SO2 could be a potential odor violation. CMC would like to see CARB information on how SO2 odors would be handled by local air districts, and how Cal-OSHA would consider the worker health and safety concerns.

For fluorinated ketone, CMC is only aware of one test that was done at a sand caster in Asia. From this single test, CMC has no information on temperature data, core usage, the complexity of the casting, and other critical variables. CMC members have been prepared to test fluorinated ketone in a real-world setting, but without reliable documented testing, it is premature to state that this is a viable alternative.

Finally, CMC would like to note that the use of alternatives in investment castings is different than sand castings. Critical variables differ in these processes. So while an alternative might work in the sand casting process, this does not translate into a direct acceptance in investment casting.

G. "*…implemented phase in date of 2013 to ensure adequate testing time to meet the target*." (pg 17) A phase-in date is appreciated by industry as we work to fulfill our customer requirements. CMC thanks CARB for this consideration. But phase-in dates are a non-factor if the concerns of cost impact, SF_6 alternatives and consequential customer requirements are not settled.

A phase-in period is most effective when used by industry for equipment installation, equipment changes, training employees, conducting safety tests and customer notification. In the case of SF_6 alternatives, testing needs to be done before the phase-in period begins or a regulation is finalized.

H. Table 3 on Page 20 "*Reduction of Greenhouse Gas Emissions for the Magnesium Casting Industry"* includes some alarming information. The CARB report references the use of *Completely Denatured Alcohol (CDA)* as an acceptable cover gas mixture in the magnesium metal casting process. CMC has great concern with mixing CDA and molten metal. Sublimation would occur and be of grave danger to employees, residences, and/or other businesses in the area. CMC strongly advises CARB to review this position.

I. **"***…the regulation includes a process to apply for an exemption to the restrictions if one of two criteria is met: 1) Uses of sulfur hexafluoride that result in reduced greenhouse gas emissions or 2) essential use with no alternative"* (pg 2). Although mentioned several times in the CARB report, providing an exemption for "*essential use with no alternative*" is still unclear. Metalworking companies are investing in testing alternatives, but if faced with the situation of no alternative we would like CARB to expound on this topic so there is a clear path forward.

J. "*An upstream fee on high global warming potential gases, proposed in the Scoping Plan, will serve as a complement to this regulation by adding the greenhouse gas impact into the cost of SF_6 and thus incentivizing research into alternatives for the exempted uses*." CMC is unclear whether this fee would be placed on the

distributors of SF_6 or the end user of SF_6. What would the fee be collected for? If the fee does not have a specific use, then it would be assumed to be a tax.

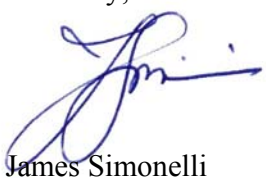
Finally, if the rule allows for an "*essential use with no alternative*" exemption, would an upstream fee on SF_6 still apply?

III. CONCLUSION

On behalf of the California Metals Coalition, thank you for the opportunity to provide comments on this important proposed regulation. CMC does not discount the amount of hard work and effort by CARB in implementing a new law as diverse as AB 32.

CMC looks forward to being utilized as a resource for ideas, comments, and alternative for achieving a healthy environment and strong business climate. Please do not hesitate to contact us at your earliest convenience as we would like to open up a dialogue on this topic.

Sincerely,



James Simonelli
Executive Director

cc: CMC Board of Directors