

## TITLE 17. CALIFORNIA AIR RESOURCES BOARD

### NOTICE OF PUBLIC HEARING TO CONSIDER ADOPTING A REGULATION TO REDUCE SULFUR HEXAFLUORIDE EMISSIONS IN NON-SEMICONDUCTOR AND NON-UTILITY APPLICATIONS

The Air Resources Board (ARB or the Board) will conduct a public hearing at the time and place noted below to consider adopting a regulation to reduce sulfur hexafluoride use in non-semiconductor and non-utility applications. Sulfur hexafluoride (SF<sub>6</sub>) is a potent greenhouse gas with a lifetime of 3,200 years and a one-hundred year global warming potential (GWP) of 23,900, the most potent greenhouse gas the IPCC has evaluated. The main uses of SF<sub>6</sub> in California that are not directly related to utilities or semiconductor manufacturing include:

- Magnesium casting operations
- Tracer gas (including fume hood testing, research, and bioterrorism studies)
- Medical uses (e.g. eye surgery)
- Military applications
- Other uses

This notice summarizes the proposed regulatory action. The staff report document presents the proposed regulation and information supporting the adoption of the regulation in greater detail.

DATE: February 26, 2009

TIME: 9:00 a.m.

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

This item will be considered at a two-day meeting of the Board, which will commence at 9:00 a.m. on February 26, 2009, and may continue at 8:30 a.m. on February 27, 2009. This item may not be considered until February 27, 2009. Please consult the agenda for the meeting, which will be available at least 10 days before February 26, 2009, to determine the day on which this item will be considered.

For individuals with sensory disabilities, this document and other related material can be made available in Braille, large print, audiocassette, or computer disk. For assistance, please contact ARB's Reasonable Accommodations/Disability Coordinator at (916) 323-4916 by voice, or through the California Relay Services at 711, to place your request for disability services, or go to <http://www.arb.ca.gov/html/ada/ada.htm>.

If you are a person with limited English and would like to request interpreter services to be available at the Board meeting, please contact ARB's Bilingual Manager at (916) 323-7053 within 7-10 business days prior to the meeting date.

## **INFORMATIVE DIGEST OF PROPOSED ACTION AND POLICY STATEMENT OVERVIEW**

### **Sections Affected:**

Proposed adoption of California Code of Regulations (CCR), title 17, subchapter 10, article 4, new subarticle 3, sections 95340, 95341, 95342, 95343, 95344, 95345, and 95346.

### **Background:**

In 2006 the Legislature passed and Governor Schwarzenegger signed the California Global Warming Solutions Act of 2006 (AB 32; Stats. 2006, chapter 488). In AB 32 the legislature declared that global warming poses a serious threat to the economic wellbeing, public health, natural resources, and the environment of California. The Legislature further declared that global warming will have detrimental effects on some of California's largest industries including agriculture and tourism, and will increase the strain on electricity supplies. While national and international actions are necessary to fully address the issue of global warming, the Legislature recognized that action taken by California to reduce emissions of greenhouse gases will have far-reaching effects by encouraging other states, the federal government, and other countries to act. AB 32 creates a comprehensive, multi-year program to reduce GHG emissions in California, with the overall goal of restoring emissions to 1990 levels by the year 2020. AB 32 requires ARB to do many things, including:

- Establishing a statewide GHG emissions cap for 2020, based on 1990 emissions;
- Adopting a scoping plan by January 1, 2009, indicating how emission reductions will be achieved from significant GHG sources via regulations, market mechanisms and other actions;
- By June 30, 2007, adopting a list of discrete, early action GHG emission reduction measures that can be implemented and enforced no later than January 1, 2010;and
- By January 1, 2010, adopting regulations to implement the measures identified on the list of discrete early action measures.

In 2007 the Board approved a list of nine discrete early action measures. The list includes a measure entitled: "SF<sub>6</sub> reductions from non-electric and non-semiconductor applications." The proposed regulation is designed to implement this measure.

## **DESCRIPTION OF THE PROPOSED REGULATORY ACTION**

The proposed regulation would achieve GHG emission reductions from SF<sub>6</sub> use in non-semiconductor and non-utility applications through a phase-out of use over the next several years. The regulation has several components in order to achieve the emission reductions from this sector. Cost-effective alternatives are available for most

applications but may need to be tested and proven effective and usable. To allow for this testing, the regulation includes a phase-in period for particular uses. The use and sales requirements do exclude a limited number of uses such as in eye surgeries. In addition, 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) uses of sulfur hexafluoride with no alternatives.

### **Applicability**

The proposed regulation would apply to any individual who uses, possesses, purchases, distributes, manufactures, offers for sale, or sells SF<sub>6</sub>, with a limited number of exemptions. Potential affected groups include manufacturers and distributors of SF<sub>6</sub>, engineering firms and other who conduct tracer tests, magnesium casters, and others who use the goods or services of those industries or individuals.

The regulation exempts uses covered by other regulations. These include chemical vapor deposition (CVD) chamber cleaning and etching uses of SF<sub>6</sub> as well as dielectric or arc quenching medium uses. Additional exemptions include uses which have been determined by the Executive Officer to meet one of the two criteria for an exemption: 1) uses of sulfur hexafluoride that result in reduced greenhouse gas emissions; or 2) uses of sulfur hexafluoride with no alternatives.

### **Phase Out**

This regulation would achieve GHG emission reductions from SF<sub>6</sub> use in non-semiconductor and non-utility applications through a phase-out of use over the next several years. Cost-effective alternatives are available for most applications but may need to be tested and proven effective and usable. To allow for this testing, the regulation includes a phase-in period for particular uses. The use and sales requirements do exclude a limited number of uses such as in eye surgeries. In addition, 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) uses of sulfur hexafluoride with no alternatives. The regulation also includes a registration, record-keeping, and reporting requirement for distributors of SF<sub>6</sub> and a record-keeping requirement for purchasers of SF<sub>6</sub>.

### **Notice to Purchasers**

The proposed regulation specifies that anyone who sells SF<sub>6</sub> within California must provide a copy of the final regulation to customers who have purchased SF<sub>6</sub>. Documentation must be retained for a period of three years.

### **Registration, Reporting and Record-keeping**

Anyone who sells SF<sub>6</sub> within California must register with ARB. The sellers must retain invoices for at least three years and provide an annual report to ARB including the sales by buyer and amount.

## **Impacts**

Implementation of this regulation would reduce emissions by 0.10 million metric tonnes of carbon dioxide equivalent (MMTCO<sub>2</sub>E) annually or more than 60 percent from business as usual. The regulation would affect approximately 50 - 125 businesses including 4 magnesium casters, 30 - 60 tracer gas users and other users such as universities, aerospace industry, defense industry, and national labs. Alternatives are available for most applications and an exemption process is incorporated. The regulation would also impact distributors and manufacturers of SF<sub>6</sub>. In addition to affecting current uses and users, this regulation would act as a barrier against new uses of SF<sub>6</sub>. The proposed regulation achieves emission reductions in a cost-effective manner.

## **COMPARABLE FEDERAL REGULATIONS**

There are no comparable federal regulations.

## **AVAILABILITY OF DOCUMENTS AND AGENCY CONTACT PERSONS**

The Board staff has prepared a Staff Report: Initial Statement of Reasons (ISOR) for the proposed regulatory action, which includes a summary of the economic and environmental impacts of the proposal. *The Executive Summary* of the ISOR provides an overview of the proposed amendments to the Statewide Regulation.

Copies of the ISOR and the full text of the proposed regulatory language, may be accessed on the ARB's web site listed below, or may be obtained from the Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, First Floor, Sacramento, California 95814, (916) 322-2990 at least 45 days prior to the scheduled hearing on February 26, 2009.

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

Inquiries concerning the substance of the proposed regulation may be directed to the designated agency contact persons, Dr. Jorn Herner, Manager of the Greenhouse Gas Technology and Field Testing Section, at (916) 324-9299 or by email at [jherner@arb.ca.gov](mailto:jherner@arb.ca.gov) or Elizabeth Scheehle, Air Pollution Specialist, Greenhouse Gas Technology and Field Testing Section, (916) 324-0621 or by e-mail at [escheehl@arb.ca.gov](mailto:escheehl@arb.ca.gov).

Further, the agency representative and designated back-up contact persons to whom non-substantive inquiries concerning the proposed administrative action may be directed, are Lori Andreoni, Manager, Board Administration & Regulatory Coordination Unit, (916) 322-4011, or Trini Balcazar, Regulations Coordinator, (916) 445-9564. The Board has compiled a record for this rulemaking action, which includes all the

information upon which the proposal is based. This material is available for inspection upon request to the contact persons.

This notice, the ISOR and all subsequent regulatory documents, including the FSOR, when completed, are available on the ARB Internet site for this rulemaking at [www.arb.ca.gov/regact/2009/nonsemi09/nonsemi09.htm](http://www.arb.ca.gov/regact/2009/nonsemi09/nonsemi09.htm)

## **COSTS TO PUBLIC AGENCIES AND TO BUSINESSES AND PERSONS AFFECTED**

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

Pursuant to Government Code sections 11346.5(a)(5) and 11346.5(a)(6), the Executive Officer has determined that the proposed regulatory action would not create costs or savings in federal funding to the state, costs or mandate to any local agency or school district whether or not reimbursable by the state pursuant to part 7 (commencing with section 17500), division 4, title 2 of the Government Code, or other nondiscretionary cost or savings to state or local agencies.

In developing this regulatory proposal, ARB staff evaluated the potential economic impacts on representative private persons or businesses. The sector as a whole is expected to experience a total annualized cost of approximately \$200,000. A typical business will experience an annualized cost of around \$20,000 and small businesses will have a similar cost. Initial costs are expected to be around \$30,000 to \$50,000 with small annual costs. Specialized firms with large uses will experience greater costs.

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.

In accordance with Government Code section 11346.3, the Executive Officer has determined that the proposed regulatory action would not affect the creation or elimination of jobs within the State of California, the creation of new businesses or elimination of existing businesses within the State of California, or the expansion of businesses currently doing business within the State of California. The record-keeping is expected to be in line with normal business book keeping operations.

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

In accordance with Government Code sections 11346.3(c) and 11346.5(a)(11), the Executive Officer has found that the reporting requirements of the regulation which

apply to businesses are necessary for the health, safety, and welfare of the people of the State of California.

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

### **SUBMITTAL OF COMMENTS**

Interested members of the public may also present comments orally or in writing at the meeting, and in writing or by e-mail before the meeting. To be considered by the Board, written comments submissions not physically submitted at the meeting must be received **no later than 12:00 noon, February 25, 2009**, and addressed to the following:

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

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

Facsimile submittal: (916) 322-3928

Please note that under the California Public Records Act (Government Code section 6250 et seq.), your written and oral comments, attachments, and associated contact information (e.g., your address, phone, email, etc.) become part of the public record and can be released to the public upon request. Additionally, this information may become available via Google, Yahoo, and any other search engines.

The Board requests but does not require that 30 copies of any written statement be submitted and that all written statements be filed at least 10 days prior to the hearing so that ARB staff and Board Members have time to fully consider each comment. The board encourages members of the public to bring to the attention of staff in advance of the hearing any suggestions for modification of the proposed regulatory action.

### **STATUTORY AUTHORITY AND REFERENCES**

This regulatory action is proposed under the authority granted in Health and Safety Code, sections 38510, 38560, 38560.5, 38580, 39600, 39601, 41510, 41511, and 41513. This action is proposed to implement, interpret, and make specific sections 38560, 38560.5, 38580, 39600, 39601, 41510, 41511, and 41513.

## **HEARING PROCEDURES**

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

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

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

CALIFORNIA AIR RESOURCES BOARD

/s/

James N. Goldstene  
Executive Officer

Date: December 30, 2008

*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs see our Web –site at [www.arb.ca.gov](http://www.arb.ca.gov).*