

## UPDATED INFORMATIVE DIGEST

### THE ADOPTION OF A REGULATION TO REDUCE SULFUR HEXAFLUORIDE EMISSIONS IN NON-SEMICONDUCTOR AND NON-UTILITY APPLICATIONS

#### **Sections Affected:**

This action adopts new sections 95340 through 95346, title 17, California Code of Regulations (CCR) Subchapter 10, Article 4, Subarticle 3, which incorporate by reference the following:

Title 8, California Code of Regulations, section 5154.1 (c)(2)(B)  
Cal/OSHA ventilation requirements for laboratory fume hood operations

TSTF 448 Technical Specification Task Force Specification 448 concerning use of tracer gases in testing nuclear power plant control room emergency ventilation systems

#### **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 well being, 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." This 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 certain criteria are met.

### **Applicability**

The proposed regulation would apply to any individual who uses, buys, 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 others 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 predetermined to comply with one of the two criteria for an exemption: 1) uses of SF<sub>6</sub> that result in reduced greenhouse gas emissions; or 2) uses or possession of SF<sub>6</sub> 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 twenty 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 mentioned above is met. 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>.

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

Anyone who sells SF<sub>6</sub> within California must register with ARB by March 30, 2010. The sellers must retain invoices for at least three years and provide an annual report to ARB including the sales by buyer and quantity, starting March 30, 2011.

### **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.