

Air Cleaner Ozone Regulation **(AB 2276, Pavley, 2006)**

California Air Resources Board
Public Workshop

December 13, 2006

Sierra Hearing Room, 2nd Floor
Cal/EPA Building
1001 I Street, Sacramento, CA



Outline

- **Background: health effects, concerns**
- **AB 2276 provisions**
- **Draft concept for regulation**
- **Schedule**
- **Public questions and comments**



AB 2276, Pavley 2006

- Approved by Legislature; signed by Governor on September 30, 2006
- Added Article 8, Section 41985 *et seq.*, to the CA Health and Safety Code
- Adopt regulations to protect public health from ozone emitted by indoor air cleaning devices
- Scope
 - Indoor air cleaning devices
 - Medical and non-medical
 - Used in occupied spaces

Types of Air Cleaners

- **Non-ozone generating:** mechanical devices that remove pollutants from air using a filtering media, e.g., fabric or charcoal
- **Ozone generators:** electronic devices that intentionally emit ozone
- **Ionizers and electrostatic precipitators:** electronic devices that emit ozone as a by-product of ion production
- **UV light, various others:** can produce ozone depending on specific type and design



Health Effects of Ozone

- Inflammation and irritation of lung tissues
- Coughing, chest tightness, and difficulty breathing
- Triggers asthma attacks
- May lead to permanent lung damage in children
- Increased risk of premature death in susceptible populations
- For additional information:
<http://www.arb.ca.gov/research/aaqs/ozone-rs/rev-staff/rev-staff.htm>

Impact of Outdoor Ozone Exposure in California

California cases / year due to ozone

Premature deaths	630
Hospitalizations & ER visits	4,900
School absences	4,700,000
Minor restricted activity days	3,100,000



Public Health Concerns

- **Widespread exposure from air cleaners in CA**
 - 2.3% of CA households own intentional ozone generators; this puts about 828,000 Californians at high risk for unsafe exposure.
 - 7.8% of CA households own by-product devices; substantial number may be at risk
 - Ozone reactions can lead to increased indoor levels of formaldehyde and ultrafine particles
- **Marketing Concern**
 - Intentionally marketed to individuals most susceptible to adverse effects of ozone, e.g., asthmatics, families with young children.

High Ozone Emissions

- ARB tested four models of ozone generators.*
- Controlled room tests: all models exceeded the 0.09 ppm CA ambient air quality standard level (1-hr.) for ozone at one or more settings.
- None of the models would have passed the FDA or UL standards of 0.05 ppm.

* <http://www.arb.ca.gov/research/indoor/o3g-rpt.pdf>.

AB 2276 Provisions

Regulation must include:

- Medical and non-medical devices used in occupied spaces
- Emission concentration standard; equivalent to federal limit (0.05 ppm)
- Test procedures: must consider existing test methods (ANSI, UL)
- Certification procedures
- Package labeling requirements specified

AB 2276 Provisions (contd.)

Regulation may include:

- Ban on sale of devices that exceed emission concentration limit
- Procedures for authorizing independent laboratories to certify
- Exemption for air cleaners that emit *de minimis* levels of ozone
- Any other element deemed necessary to protect public health

Draft Regulation Concept

- Exemptions: mechanical “filter only” air cleaners; commercial & industrial devices used in unoccupied spaces
- All others must be tested and certified.
- Ozone emission concentration would be tested using procedure in Sec. 37 of UL Std. 867
 - Room chamber test, 24 hours
 - Not over 0.05 ppm at 2 inches from exhaust face
 - Test all operational configurations and settings
 - Some modifications to current Section 37

Sec. 37 Test Procedure Modifications

- Eliminate or refine post-test background measurement and / or calculation
- Allow stainless steel or teflon-type chamber construction materials; eliminate vinyl tile
- Allow for shortened test duration if a steady-state concentration (to be specified) is attained
- Specify chamber performance, e.g., ozone half-life, air exchange rate, conditioning
- Specify 30-60 second averaging time, transitory excursion, other factors

Additional Considerations, Information Needs

- **Certification process**
- **Enforcement issues**
- **Costs to comply**
- **Scope of health benefits**
- **Effective date of regulation**



Air Cleaner Regulation Schedule

- **March 2007:** Release draft regulation for review; public workshop
- **August 2007:** Release revised regulation
- **September 2007:** Board considers approval of proposed regulation (public hearing)
- **December 2007:** Submit regulation to Office of Administrative Law
- **Mid-2008:** Begin certification and enforcement programs



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- **Written comments**
 - **Due January 9, 2007**
 - **Please submit sooner if possible**
 - **Submit to aircleaners@listserv.arb.ca.gov**

- **For further information:**

<http://www.arb.ca.gov/research/indoor/aircleaners/aircleaners.htm>

<http://www.arb.ca.gov/research/indoor/ozone.htm>



Public Input

- Questions first, then comments
- Use microphone and identify yourself
- Webcast participants:
 - Email questions / comments to workshop:
sierrarm@calepa.ca.gov
- Written Comments (all):
 - By January 9, 2007
 - Send to: aircleaners@listserv.arb.ca.gov

