UPDATED INFORMATIVE DIGEST

PROPOSED AMENDMENTS TO THE REGULATION FOR LIMITING OZONE EMISSIONS FROM INDOOR AIR CLEANING DEVICES

Sections Affected: Adoption of amendments to California Code of Regulations, title 17, sections 94801, 94804, 94805, and 94806. Three Certification Requirement Decisions (CRD) issued by Underwriters Laboratories, Inc. (UL) in 2009, entitled Chamber Setup (issued July 8, 2009), Definition of Steady State at Hours 7-8 (issued July 9, 2009), and Filter Test Iterations (issued November 23, 2009) for the American National Standards Institute (ANSI)/UL Standard 867, which are hereby incorporated by reference.

Background

Some air cleaning devices generate ozone, either intentionally or as a byproduct of their design. Some of these, especially intentional ozone generators, have been shown to produce unhealthful ozone concentrations that substantially exceed the health-based state and federal ambient air quality standards for ozone. Exposure to such elevated levels of ozone is a public health concern. Ozone is highly reactive and can damage the lungs and airways. It inflames and irritates respiratory tissues, and can worsen asthma symptoms, including coughing, chest tightness and impaired breathing. Elevated exposures have the potential to induce permanent lung damage, and chronic exposure to ozone can increase the risk of premature death in persons in poor health. Ozone can also damage plants, fabrics and building materials such as paint, walls, and flooring. Ozone has been recognized and regulated as an outdoor air pollutant for many years.

Because of concern for public health, Assembly Bill 2276 was signed into law in 2006 to enact Health and Safety Code Sections 41985-41986, which directed ARB to regulate ozone emissions from indoor air cleaning devices sold in California that are used in occupied spaces, by December 31, 2008.

Summary of Existing Regulation: On September 27, 2007, the Board approved a regulation, which became effective on October 18, 2008, that requires indoor air cleaners sold in California after October 18, 2010 to be tested, certified, and labeled as complying with an ozone emission concentration limit of 0.050 parts per million. The air cleaners must also meet applicable electrical safety requirements. Electronic air cleaners must be tested according to the ANSI/UL Standard 867 for their ozone emissions and electrical safety. Testing for ANSI/UL Standard 867 must be conducted by a Nationally Recognized Testing Laboratory (NRTL) recognized by the United States Occupational Safety and Health Administration (OSHA) and approved by ARB to conduct the ozone emissions test specified in Section 37 of ANSI/UL 867. Air cleaners that use only filter materials to remove contaminants, called “mechanical filtration only” air cleaners, must be tested under ANSI/UL Standard 507 for their electrical safety;

because they are known to emit little or no ozone, this type of air cleaner is not required to undergo ozone emissions testing.

Under the regulation, manufacturers must also notify all of their known distributors, retailers, and sellers about the regulation, provide them with a copy of the regulation, and send documentation of this notification and contact information for their distributors, retailers, and sellers to ARB, by October 18, 2009. Finally, manufacturers, distributors, retailers, sellers, and testing laboratories must maintain production, quality control, sales, and testing records for at least three years, and make them available to ARB upon request.

Testing and Certification Status: Air cleaner testing for ozone emissions for the regulation is available from two testing laboratories, UL and Intertek Testing Services (Intertek). The UL testing facility has been available for testing since the effective date of the regulation in October 2008; the Intertek facility was approved to provide testing on July 2, 2009. As of September 30, 2009, five manufacturers had applied for and obtained certification for a total of 94 air cleaner models. Thirteen models required ozone testing and 81 were "mechanical filtration only" devices that did not require ozone testing. These totals do not include models that subsequently entered the certification review process.

In October 2009, staff estimated that about 70 to 109 air cleaner models still needed to obtain ozone testing by the compliance date. This estimate is lower than the original estimate of 136 models discussed in the 2007 staff report, and accounts for the models already tested, a reduced estimate for ozone generator models that are anticipated to be re-designed and certified, and the loss of one manufacturer who stopped producing air cleaners as the result of a lawsuit. Since October 2009, an additional 31 models have been certified, or are pending certification, contingent upon final approval of these amendments.

Changes Needed: Early in 2009, manufacturers of air cleaners expressed concern regarding their ability to meet the compliance dates in the regulation due to the delay in the availability of a second laboratory to conduct the ozone emissions test and higher than expected (by manufacturers) testing costs. Manufacturers also indicated their concern that the slowdown in the economy had resulted in an increased number of unsold air cleaners in the distribution and retail inventories, which posed additional challenges in meeting the regulation's requirements for labeling. Accordingly, manufacturers requested an extension of the October 18, 2010 compliance date. To hear and consider concerns from all interested parties, ARB staff conducted a public workshop on June 12, 2009 to discuss the status of implementation of the regulation and possible amendments to the regulation, and to obtain comments. The workshop was followed by a three week written comment period, during which comments were received from nine individuals or organizations.

In July, 2009, the second laboratory, Intertek Testing Services, was approved to conduct the Section 37 ozone emissions test. Because of this addition of a second

laboratory and the reduced estimate indicated above for the number of models expected to require the ozone test, staff concluded that an extension of the time allowed for testing and certification was not needed, and the manufacturers who made the original request concurred. However, additional time is needed for manufacturers to meet the labeling requirement for air cleaners already in the distribution or retail chain at the time the specific models are certified.

Additionally, early testing under the revised ANSI/UL Standard 867 Section 37 ozone emissions test identified areas in Section 37 where the test protocol was not clear, or unexpectedly caused the test for some models to take longer than anticipated. To clarify the test protocol, during July 2009 UL issued two Certification Requirement Decisions (CRDs) to better specify and describe: (1) the steps that must be taken related to chamber set-up; and (2) meeting the steady state definition at hours 7 to 8 of the chamber test. The public hearing notice for the December 9, 2009 public hearing also noted that a third CRD was pending from UL that would clarify the selection of the appropriate filters for testing for air cleaner models marketed with multiple filter options, and that CRD was described in detail in Appendix V in the report released for this rulemaking entitled "Staff Report: Initial Statement of Reasons, Proposed Amendments to the Regulation for Limiting Ozone Emissions from Indoor Air Cleaning Devices" (Staff Report). This third CRD was issued by UL on November 23, 2009.

Finally, ARB became aware of multi-function appliances that include an air cleaning component (such as an electric heater with an ionizer) that must meet the requirements of the regulation, but are tested for electrical safety under industry test standards appropriate for their primary function, rather than ANSI/UL Standards 507 and 867. A modification to the regulation was needed to allow such devices to undergo electrical safety testing under the most appropriate ANSI/UL test standard.

Description of the Regulatory Action

At its December 9, 2009 public hearing, the Board approved amendments to extend the deadline for package certification labeling for one year, to October 18, 2011, and to allow the use of adhesive certification labels (rather than printing on the package) until October 1, 2012. These extensions apply only to air cleaner models that are tested and certified by the current October 18, 2010 compliance date. These measures will allow manufacturers to avoid the unnecessary costs of re-packaging certified air cleaners that are already in the distribution and retail inventories at the time of certification, and avoid sales losses that would likely occur if re-packaging were required. The extension of the time allowed for using adhesive labels rather than labels printed on the packaging will enable manufacturers to better plan their design and printing costs for the new packaging and spread those costs over a longer period of time.

The Board also approved several additional amendments needed to improve implementation of the regulation. These amendments: (1) allow the electrical safety tests to be conducted at additional facilities under the oversight of an NRTL; (2) incorporate the three clarifications to the ozone test protocol issued by UL and

described above, including the clarification that was pending at the time of the public hearing notice; (3) allow alternate, appropriate electrical safety testing for multi-function appliances that include an air cleaning component; and (4) revise the definition of "mechanical filtration only" air cleaners.

The first of these amendments allows electrical safety testing of air cleaners to be conducted not just by NRTLs, but also by facilities that meet certain requirements of federal OSHA's NRTL recognition program, published in the March 9, 1995 Federal Register (*Federal Register 60:12980-12985*) and referred to as "Supplemental Programs 2 through 6." This amendment will, in effect, increase the number of allowable testing facilities for the electrical safety testing, but with testing and program oversight by an NRTL. This is consistent with current industry practice. Ozone emissions testing will continue to be limited to NRTL Program 1 and 2 facilities that have been audited and approved by ARB.

The second amendment approved by the Board incorporates into the regulation the three CRDs issued by UL, which clarify chamber set-up, steady state determinations, and filter selection for the ozone testing protocol of Section 37 of ANSI/UL Standard 867. These clarifications to the test protocol are minor refinements that will have the effect of increasing consistency of testing across laboratories and shortening the time necessary for some ozone tests.

The Board also approved an amendment that allows the appropriate industry electrical safety tests, other than ANSI/UL Standards 507 and 867, to be used for multi-function appliances that include an air cleaning component, but which are normally tested for electrical safety under industry standards appropriate for their primary function, rather than ANSI/UL Standards 507 and 867.

Finally, the Board approved a minor revision to the definition of "mechanical filtration only" in section 94801 of the air cleaner regulation to include all pollutants (not just particles) by replacing the phrase "suspended particles" with "contaminants". This makes the definition internally consistent, and consistent with the rest of the regulation.

In addition to the originally proposed amendments described in the Staff Report, staff presented to the Board several additional modifications at the December 9, 2009 public hearing. These additional modifications were approved by the Board, which directed the Executive Officer to make the modifications available for public comment. The modifications included adding definitions for two ANSI/UL standards, Standard 1017 (Vacuum Cleaners, Blower Cleaners, and Household Floor Finishing Machines) and Standard 1993 (Self-Ballasted Lamps and Lamp Adaptors), so that such multi-function devices can be tested to the appropriate electrical safety standard.

These modifications, along with several minor grammatical changes, and a copy of the last CRD dated November 23, 2009, were all made available to the public for a 15-day comment period beginning February 11, 2010. The third CRD and the two ANSI/UL standards (Standards 1017 and 1993) were also added to the rulemaking record.

A second 15-day comment period was subsequently held beginning on April 8, 2010, for the purpose of modifying the regulation in section 94805 (d) to add one additional Supplemental Program (Program 10, the Satellite Notification and Acceptance Program, or SNAP), and to add the January 9, 2009 Federal Register notice (*Federal Register 74: 923*-927) describing the SNAP program into the rulemaking record. Similar to the original proposed regulatory language that added other supplemental programs for electrical safety testing, adding this supplemental program allows manufacturers added flexibility to be able to comply with the regulation, but with oversight by an NRTL.

Finally, a third 15-day comment period was held beginning June 3, 2010, for the purpose of adding ANSI/UL Standards 484 and 1278 to the list of references contained in the original Staff Report released on October 23, 2009, and to correct one reference that was included in the Staff Report. The two standards were inadvertently omitted from the list of references in the original Staff Report, although they were available for public review. There were no modifications made to the regulatory text in this last 15-day comment period.

There were no comments received during any of the three public 15-day comment periods. As directed by the Board following the December 9, 2009 public hearing, the Executive Officer then adopted the amendments in their final form.

Comparable Federal Regulations

Health and Safety Code section 41986 requires that the regulation be consistent with federal law. In the 1970s, the United States Food and Drug Administration promulgated a maximum acceptable level of ozone of 0.05 ppm for medical devices, as well as certain labeling requirements for such devices (21 CFR § 801.415). The emission standard and labeling requirements in the existing regulation that apply to air cleaners that are medical devices are consistent with this federal standard and are not proposed for change.