

## **Comment 1 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Carl

Last Name: Smith

Email Address: csmith@greenguard.org

Affiliation: GREENGUARD Environmental Institute

Subject: Ozone Emissions from Air Cleaners

Comment:

On behalf of GREENGUARD Environmental Institute (GEI), I would like to applaud and support the California Air Resources Board's (CARB) proposed regulation for ozone emissions from air cleaners.

As part of our efforts to improve indoor air, GEI certifies over 150,000 products for chemical emissions. We strongly believe that testing for emissions from products is essential to limiting unnecessary exposures to dangerous chemicals that may affect human health. CARB's efforts serve in the important vanguard of this belief by promulgating objective, scientifically-based criteria.

Our experiences confirm that air cleaners can emit significant levels of ozone, which unequivocally impair respiratory systems, particularly of the young and elderly.

We encourage CARB to continue its efforts, extending its work to other products and chemicals.

Sincerely,

Carl E. Smith, CEO

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2007-08-29 11:50:29

No Duplicates.

**Comment 2 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Nicole

Last Name: Hutchinson

Email Address: nikkihutch1@yahoo.com

Affiliation:

Subject: Adopt a strong regulation for air cleaning devices!

Comment:

Please see the attached comment.

Attachment: [www.arb.ca.gov/lists/iacd07/5-iacd07-2.pdf](http://www.arb.ca.gov/lists/iacd07/5-iacd07-2.pdf)

Original File Name: iacd07-2.pdf

Date and Time Comment Was Submitted: 2007-09-21 15:36:07

350 Duplicates.

### **Comment 3 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Lance

Last Name: Wallace

Email Address: lwallace73@comcast.net

Affiliation: USEPA (retired)

Subject: In-duct air cleaners

Comment:

I support the proposed regulation but it appears ambiguous to me in its coverage. Specifically, does it apply to in-duct air cleaners? (These are air cleaners, either electronic or mechanical, generally costing \$1000 or so, that are installed in the ductwork of forced-air HVAC systems in private homes.)

If so, then the proposed test method is not suitable for such air cleaners, and needs to be modified to test these air cleaners under the conditions they will be used.

The reason for this is that ozone created by an in-duct air cleaner may be largely removed by reaction with particles in the duct, particles collected on the duct lining, or the duct material itself before emerging into the conditioned space.

This is an important consideration for a class of air cleaners known as electrostatic precipitators (ESPs). These air cleaners use an electric potential to force particles to settle out on a series of metal vanes. Some ozone is created by this method, but as stated above, it is possible that the ozone concentration will be reduced during passage through the ductwork to minimal levels by the time the filtered air emerges into the breathing space.

I have tested both in-duct ESPs and in-duct high-quality mechanical filters under normal living conditions in a home over more than one year. (Wallace, L.A. and Howard-Reed, C.H. Continuous Monitoring of Ultrafine, Fine, and Coarse Particles in a Residence for 18 Months in 1999-2000. J Air Waste Manage. Assoc. 52(7):828-844. 2002.) The efficiency of the two air cleaners was determined for 6 particle size categories (0.3-0.5 microns, 0.5-1, 1-2.5, 2.5-5, 5-10, 10-20 microns). The ESP was able to remove all sizes with better than 90% efficiency (when properly cleaned). But the mechanical filter was unable to remove the fine particles smaller than 2.5 microns. Since these fine particles are regulated by the US EPA as potentially harmful, it is important to have a method to remove them; the mechanical filter tested failed at this. In addition, although the efficiency for ultrafine particles was not tested in this study, it is likely that they too can be effectively removed by ESPs as well as HEPA filters. Ultrafines have not been fully characterized with respect to health effects, but it is possible that they will be found to be harmful at some concentrations.

Since in-duct ESPs may have an important health advantage for users, it is important to test them under the conditions of use (that is, installed in a duct). Therefore, if in-duct air

cleaners are in fact covered under this regulation, then the test method should be augmented by a method employing ductwork in the test room to emulate the conditions under which they will be used.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2007-09-22 07:49:43

No Duplicates.

## **Comment 4 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Richard

Last Name: Shaughnessy, PhD

Email Address: rjstulsau@aol.com

Affiliation: Univ of Tulsa, Indoor Air Research

Subject: Comment on proposed regulation

Comment:

I am pleased to see that efforts are being made to regulate devices that emit ozone into the indoor environment. The regulation to my understanding requires any indoor air cleaning device (IACD) to comply with an "emission concentration not exceeding 0.050 ppm O<sub>3</sub>". I assume this level is selected based on current health data, or lack thereof, on the effects of ozone at less than .050 ppm concentration in the space. In addition this coincides with the same level as prescribed by the FDA standard for medical devices. Herein, I would offer the following comments for consideration:

1) The FDA standard was set as an "accumulation level" within a space. It is important to note that the .050 ppm concentration limit is based on all sources which may contribute to the resultant indoor ozone concentration. This would include not only contribution from the use of the ozone generating IACD but also (primarily) that from outdoor air. It is well-established in the literature that typical indoor/outdoor ratios of ozone range from 0.2 to 0.7 (Weschler, 2000). The point being made is that the regulation proposed will limit the emission concentration, within a reasonably sized space, from the IACD to less than .050 ppm. To fully evaluate the indoor accumulation of ozone, one must consider not only contributions from indoor sources but also that from the outdoor environment. The broader scenario of including outdoor air sources should also be considered in the final evaluation as to resultant indoor ozone accumulation and whether or not it is below the 50 ppb level related to the FDA Standard (note: it is recognized that the authors of the CA regulation are only citing the FDA limit as one of the Standards currently in place; thus the information provided here is for reference purposes only). Still, the current proposed CA regulation is the first of its kind, with substance, on IACDs and goes beyond any other Standard on IACDs. This is unequivocally a step in the right direction.

2) Whereas the proposed emission concentration standard in the CA regulation is currently set at 0.050 ppm, I would hope that this limit is reviewed on a periodic basis to account for the abundance of ongoing research on the effects of ozone AND the byproducts of ozone indoor-initiated reactions. The continued research in this field may warrant more stringent ozone limits in the near future based not only on the harmful effects from breathing ozone, but also from the effects of the byproducts of indoor reactions resulting in irritants such as aldehydes, ketones, organic acids, and ultrafine particles.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2007-09-22 22:01:27

No Duplicates.

## **Comment 5 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: William

Last Name: Nazaroff

Email Address: nazaroff@ce.berkeley.edu

Affiliation: UC Berkeley, Civil & Environmental Eng

Subject: Ozone emissions into indoor environments

Comment:

I strongly support the efforts of the CARB to regulate emissions of ozone from indoor air cleaning devices.

At one level, it defies logic that we should invest such remarkable effort as a society to control ozone in urban air (an effort that is well justified, given the health effects evidence) and at the same time allow sale of devices that generate substantial levels of this same pollutant in indoor environments.

Less well understood, but likely of comparable importance is that ozone reacts with indoor materials to produce harmful byproducts. Among these are formaldehyde and ultrafine particles. Product yields are such that the reaction tradeoff is generally bad news for human health.

Consider, for example, formaldehyde. Health-based guidelines are about 50-100 ppb for ozone. For formaldehyde, we are concerned with concentrations that are at least an order of magnitude lower, i.e. 2-10 ppb. Ozone reactions on indoor surfaces might typically produce 3 ppb of volatile byproducts, such as formaldehyde, for every 10 ppb of ozone consumed. An indoor concentration of 50 ppb of ozone typically means that 100 ppb worth of ozone would also have reacted on indoor surfaces, producing about 30 ppb of volatile byproducts, including several ppb of formaldehyde. The best way to control the problem of exposure to ozone byproducts -- and growing evidence suggests that it is a real problem -- is to limit or avoid introducing ozone into occupied spaces.

I have been involved in a related study recently, investigating ozone in aircraft cabins and the health of passengers and crew. In one investigation, we exposed passengers (healthy young adult women) to varying air quality conditions in a simulated cabin during 4-h periods. Ozone levels of 60-75 ppb were strongly correlated with adverse symptoms typical of "sick-building syndrome." A research article focusing on the symptoms is attached; it is "in press" in the Journal of Exposure Science and Environmental Epidemiology (P Strom-Tejsen et al.). Another article that focuses on the reactive chemistry of ozone in the cabin environment has just been published in Environmental Science & Technology (CJ Weschler et al., Ozone-initiated chemistry in an occupied simulated aircraft cabin, ES&T 41, 6177, 2007.)

Simply put, the existing health evidence about the adverse effects of ozone and the emerging evidence about the adverse effects of ozone byproducts combine to provide compelling arguments that

ozone should not be emitted in substantial quantities into indoor air. I know of no scientifically defensible countervailing argument.

Attachment: [www.arb.ca.gov/lists/iacd07/8-strøm-tejsen\\_etal\\_2007.pdf](http://www.arb.ca.gov/lists/iacd07/8-strøm-tejsen_etal_2007.pdf)

Original File Name: Strøm-Tejsen etal 2007.pdf

Date and Time Comment Was Submitted: 2007-09-23 09:18:53

No Duplicates.



## **Comment 6 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: James

Last Name: Marsden

Email Address: [jmarsden@ksu.edu](mailto:jmarsden@ksu.edu)

Affiliation: Kansas State University

Subject: Regulation to Limit Ozone Emissions from indoor air cleaning devices

Comment:

I have prepared a comment in the form of a letter (attached).

Thank you,

James Marsden

Regent's Distinguished Professor

Kansas State University

Attachment: [www.arb.ca.gov/lists/iacd07/9-marsden\\_letter.doc](http://www.arb.ca.gov/lists/iacd07/9-marsden_letter.doc)

Original File Name: marsden Letter.doc

Date and Time Comment Was Submitted: 2007-09-23 12:35:59

No Duplicates.

**Comment 7 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: James

Last Name: Marsden

Email Address: [jmarsden@ksu.edu](mailto:jmarsden@ksu.edu)

Affiliation: KSU

Subject: Regulation to Limit Ozone Emissions from Indoor Air Cleaning Devices

Comment:

In addition to my letter, attached is an excellent White Paper that addresses the Public Health benefits associated with low levels of ozone in indoor environments.

Thank you,  
James Marsden

Attachment: [www.arb.ca.gov/lists/iacd07/10-ozonewhite\\_paper-revised.doc](http://www.arb.ca.gov/lists/iacd07/10-ozonewhite_paper-revised.doc)

Original File Name: OzoneWhite\_Paper-Revised.doc

Date and Time Comment Was Submitted: 2007-09-23 12:56:50

No Duplicates.

## **Comment 8 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Richard  
Last Name: Corsi  
Email Address: [corsi@mail.utexas.edu](mailto:corsi@mail.utexas.edu)  
Affiliation: The University of Texas at Austin

Subject: iacd07: Ozone Emissions from Indoor Air Cleaning Devices  
Comment:

To Whom It May Concern:

I whole-heartedly support adoption of the proposed regulation to reduce ozone emissions from devices that are intended to improve indoor air quality. It is a fair first step toward control of an indoor source that I personally believe has several major drawbacks, including (1) significant population exposure to ozone, (2) increased population exposure to ultra-fine particulate matter, (3) increased population exposure to formaldehyde, acetaldehyde, and other irritating to toxic carbonyls, and general ineffectiveness at improving indoor environmental quality.

I hope that the regulation is taken as a first step. The 50 ppb "standard" has absolutely no scientific basis, and it is a shame that regulators have fixed on such a number.

I recently developed a formal report on what I believe to be a sound rationale for selection of a maximum acceptable indoor ozone concentration increment of 5 ppb, with additional constraints imposed on ozone emissions due to building occupant exposures to secondary organic aerosols and formaldehyde. That report is attached. I hope that it is read and considered as part of the discussion regarding adoption of the proposed regulation and, hopefully, more stringent future regulations.

With Sincerity -  
Richard L. Corsi, Ph.D.  
ECH Bantel Professor for Professional Practice  
Director, Program on Indoor Environmental Science and Engineering  
The University of Texas at Austin (but a Californian by birth and in spirit).

Attachment: [www.arb.ca.gov/lists/iacd07/11-o3\\_report\\_public\\_11\\_21\\_06\\_.doc](http://www.arb.ca.gov/lists/iacd07/11-o3_report_public_11_21_06_.doc)

Original File Name: O3\_REPORT\_PUBLIC\_11\_21\_06\_.doc

Date and Time Comment Was Submitted: 2007-09-23 19:08:27

No Duplicates.

**Comment 9 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Sharon

Last Name: Gold

Email Address: [luvbug1611@cox.net](mailto:luvbug1611@cox.net)

Affiliation:

Subject: Sharon Gold Testimonial

Comment:

Please see attached comment

Attachment: [www.arb.ca.gov/lists/iacd07/13-iacdcom80001.pdf](http://www.arb.ca.gov/lists/iacd07/13-iacdcom80001.pdf)

Original File Name: iacdcom80001.pdf

Date and Time Comment Was Submitted: 2007-09-24 13:17:33

No Duplicates.

**Comment 10 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Pamela  
Last Name: Hatesohl  
Email Address: pamelah@cox.net  
Affiliation:

Subject: Regulation to Limit Ozone Emissions from Indoor Air Cleaning Devices  
Comment:

Attached is a letter.

Attachment: [www.arb.ca.gov/lists/iacd07/14-ca\\_epa\\_ltr\\_92007.rtf](http://www.arb.ca.gov/lists/iacd07/14-ca_epa_ltr_92007.rtf)

Original File Name: CA EPA ltr 92007.rtf

Date and Time Comment Was Submitted: 2007-09-24 13:51:13

No Duplicates.

## **Comment 11 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Laurence  
Last Name: Franken  
Email Address: lfran001@waldenu.edu  
Affiliation:

Subject: RE: Proposed Regulation to Limit Ozone Emissions from Indoor Air Cleaning Devices  
Comment:

September 23, 2007

California Environmental Protection Agency  
1001 I Street  
P.O. Box 2815  
Sacramento, CA  
95812-2815

RE: Proposed Regulation to Limit Ozone Emissions from Indoor Air  
Cleaning Devices

To: California Air Resource Board:

My name is Laurence Franken and I am a Ph.D. student in Public Health at Walden University. Prior to entering a Ph.D. program, I was a researcher for STERIS - a provider of infection control technologies to the health care industry. I support the 0.05 ppm standard that is being proposed in the California ARB regulation.

Recently, I wrote a White Paper on ozone and its public health benefits in relation to infection control. A copy of that White Paper has been provided for your consideration. I urge the ARB to recognize the important public health benefits associated with low levels of indoor ozone and to assure that the regulation allows for proper testing and standardization of systems for indoor ozone measurement.

Thank you,

Laurence Franken

Attachment: [www.arb.ca.gov/lists/iacd07/15-ozonewhite\\_paper-revised.doc](http://www.arb.ca.gov/lists/iacd07/15-ozonewhite_paper-revised.doc)

Original File Name: OzoneWhite\_Paper-Revised.doc

Date and Time Comment Was Submitted: 2007-09-24 15:39:17

No Duplicates.

**Comment 12 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Brandi  
Last Name: Kowalczyk  
Email Address: luvbug1611@cox.net  
Affiliation:

Subject: Air Purifiers  
Comment:

See attached comment

Attachment: [www.arb.ca.gov/lists/iacd07/17-iacd07com100001.pdf](http://www.arb.ca.gov/lists/iacd07/17-iacd07com100001.pdf)

Original File Name: iacd07com100001.pdf

Date and Time Comment Was Submitted: 2007-09-24 16:23:26

No Duplicates.

## **Comment 13 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Robert  
Last Name: Brickman  
Email Address: robertbrickman@acweb.com  
Affiliation: California Consumers Freedom of Choice

Subject: Written Comments to the California Air Resources Board  
Comment:

Attached please find our Written Comments to the California Air Resources Board in connection with the September 27, 2007 Hearing To Consider Adoption of A Regulation To Limit Ozone Emissions From Indoor Air Cleaning Devices.

Please confirm back to me your receipt of our Written Comments.

Thank you in advance for your assistance with this filing,

Greg Montoya, Chairman  
Robert I. Brickman, General Counsel  
California Consumers for Freedom of Choice  
2631 Acuna Court  
Carlsbad, California 92009  
Telephone: (888) 218-4608

Attachment: [www.arb.ca.gov/lists/iacd07/18-ccfc\\_092707\\_hearing\\_written\\_comments\\_-\\_final\\_092407.pdf](http://www.arb.ca.gov/lists/iacd07/18-ccfc_092707_hearing_written_comments_-_final_092407.pdf)

Original File Name: CCFC 092707 Hearing Written Comments - FINAL 092407.pdf

Date and Time Comment Was Submitted: 2007-09-25 02:28:53

No Duplicates.



## **Comment 14 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Allen

Last Name: Johnston

Email Address: allenj@ecoquestintl.net

Affiliation: EcoQuest International, CTO

Subject: Testimonials from users of EcoQuest Air Purifiers

Comment:

EcoQuest International is a manufacturer of Air Purification Equipment designed to produce low - effective levels of ozone for occupied spaces and moderately elevated levels of ozone for short-term quicker treatment of unoccupied spaces.

EcoQuest has manufactured millions of air purifiers with countless satisfied customers. Attached are letters from just a few of those customers showing the broad range of benefits this technology provides. For the sake of protecting CA consumers freedom of choice, please consider these testimonials before the regulation becomes final.

Thank you for your consideration.

Sincerely,

Allen Johnston  
Chief Technology Officer

Attachment: [www.arb.ca.gov/lists/iacd07/19-testimonials\\_with\\_cover\\_letter.pdf](http://www.arb.ca.gov/lists/iacd07/19-testimonials_with_cover_letter.pdf)

Original File Name: Testimonials with cover letter.pdf

Date and Time Comment Was Submitted: 2007-09-25 11:47:28

No Duplicates.

## **Comment 15 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Charles

Last Name: Weschler

Email Address: [weschlch@umdnj.edu](mailto:weschlch@umdnj.edu)

Affiliation: Robert Wood Johnson Medical School/UMDNJ

Subject: Support for regulation to limit indoor ozone emissions

Comment:

I strongly support the adoption of a regulation to limit ozone emissions from indoor air cleaning devices. My reasons in support of this proposed regulation mirror those already stated by Professors Nazaroff and Corsi.

For almost twenty years I, together with my co-workers, have investigated reactions between ozone and other chemicals commonly found indoors. Evidence is accumulating that some of the resulting products of ozone chemistry are even more harmful than ozone itself (see attached paper that recently appeared in Environmental Health Perspective titled "Ozone's Impact on Public Health: Contributions from Indoor Exposures to Ozone and Products of Ozone-Initiated Chemistry"). Even 50 ppb of ozone is sufficient to have meaningful undesirable consequences in terms of indoor chemistry.

Attachment: [www.arb.ca.gov/lists/iacd07/20-weschler\\_ozone\\_ehp\\_2006\\_pub.pdf](http://www.arb.ca.gov/lists/iacd07/20-weschler_ozone_ehp_2006_pub.pdf)

Original File Name: [Weschler\\_ozone\\_EHP\\_2006\\_pub.pdf](#)

Date and Time Comment Was Submitted: 2007-09-25 12:57:30

No Duplicates.

## **Comment 16 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Howard  
Last Name: McClary  
Email Address: Hmcclary@cwtozone.com  
Affiliation: ClearWater Tech

Subject: Regulation to limit Ozone emissions from indoor air cleaning devices  
Comment:

To: California Air Resource Board

RE: Proposed Regulation to Limit Ozone Emissions from Indoor Air Cleaning Devices

ClearWater Tech is a manufacturer of Ozone generators located in San Luis Obispo, Ca.

We support the need to regulate indoor Ozone generators and are in agreement with the proposed regulation as written.

The comments we have concern the UL test procedure.

1) The room that the device is tested in needs some amount of air exchanges or it will not be a realistic test. The test calls for 0 to 0.35 changes /hr. We would propose that the spec be 0.2 to 0.35 changes/hr.

Reason. A room that has no air exchanges over a 24 hour period would be most likely unbearable for a human.

2) The test room should have some sort of typical household material placed in it such as carpet, drapes or upholstery material.

Reason: In a normal room occupied by humans, these materials would be present.

3) The Ozone level in the room should be monitored at a greater distance than two inches from the product. We suggest at least two feet.

Reason: We can't imagine someone putting his or her face 2 inches from an Ozone generator for 24 hours.

Best Regards

Cameron Tapp  
President

Howard McClary

Director of Engineering  
ClearWater Tech

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2007-09-25 14:53:11

No Duplicates.

## Comment 17 for Indoor Air Cleaning Devices (iacd07) - 45 Day.

First Name: Glenn

Last Name: Morrison

Email Address: gcm@umr.edu

Affiliation: University of Missouri-Rolla

Subject: Proposed regulation of indoor air cleaning devices

Comment:

The California Air Resources Board (ARB) has proposed to regulate ozone emitting air cleaners. The effect of this regulation is to reduce consumer exposure to ozone, a criteria pollutant recognized to be associated with morbidity and mortality. The regulation has the further benefit of reducing exposure to the byproducts of ozone reactions with surfaces and some gas-phase compounds. I support the California Air Resource Board's efforts to reduce Californian's exposure to ozone and its byproducts.

Ozone is a very reactive compound that oxidizes compounds present in the air and on indoor surfaces, releasing a wide variety of chemicals. Commercial efforts to chemically improve indoor air with ozone have been misguided at best, dangerous at their worst. The fact that ozone can react rapidly to remove a small number of organic compounds have led manufacturers of ozone generating "air cleaners" to claim that their products effectively destroy organic pollutants. The reaction rates with most indoor odors are far too small to effect any significant change in exposure. For those compounds that are "destroyed", such as the "terpenes" used to as scents, the chemical products of these reactions appear to be worse than the original scent. Ozone also reacts with surfaces with adverse outcomes. In early work, Weschler et al. (1992) showed that adding ozone to a chamber with carpet actually INCREASES the total mass concentration of inhalable compounds. Ozone has been consistently shown to increase indoor concentrations of aldehydes, ketones and carboxylic acids due to reactions with materials that would be present in almost any indoor environment. Most of these materials are themselves benign and "natural", including natural terpenes used as scent and triglycerides derived from vegetable oils.

In the attached file, I briefly review the chemistry of ozone in indoor environments. The growing literature on this subject shows us that a substantial fraction of ozone injected into indoor environments will raise indoor levels of reaction products that are troubling.

Given the clear benefits of reducing ozone exposure, and the suspected and known hazards associated with ozone reaction products, every effort should be made to reduce and eliminate ozone emissions from consumer devices. The ARB regulation is a step in the right direction. However, I echo the sentiments expressed by Richard Corsi of the University of Texas, Austin: I hope that the Air Resources Board reviews their proposed 50 ppb limit and considers a lower value in the near future.

Attachment: [www.arb.ca.gov/lists/iacd07/22-response\\_to\\_carb\\_regulation\\_review.pdf](http://www.arb.ca.gov/lists/iacd07/22-response_to_carb_regulation_review.pdf)

Original File Name: Response to CARB regulation\_review.pdf

Date and Time Comment Was Submitted: 2007-09-25 16:00:33

No Duplicates.

## **Comment 18 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Kent  
Last Name: Sorrells  
Email Address: kmsorrells@yahoo.com  
Affiliation: consultant

Subject: Reg. to Limit Ozone Emissions from Indoor Air Cleaning Devices  
Comment:

Please see comments in attached letter.

Thank you,  
Kent M. Sorrells, Ph.D.

Attachment: [www.arb.ca.gov/lists/iacd07/23-epa\\_letter.doc](http://www.arb.ca.gov/lists/iacd07/23-epa_letter.doc)

Original File Name: EPA letter.doc

Date and Time Comment Was Submitted: 2007-09-25 17:40:43

No Duplicates.

## **Comment 19 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Robert  
Last Name: Brickman  
Email Address: robertbrickman@aceweb.com  
Affiliation: CCFC

Subject: September 27, 2007 ARB Hearing - Regulation Limiting Ozone Emissions  
Comment:

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

Attached for filing in connection with the September 27, 2007 ARB Hearing To Consider Adoption of A Regulation To Limit Ozone Emissions From Indoor Air Cleaning Devices, please find approximately six hundred and twenty-six (626) letters submitted to the CCFC from California consumers, consumers with California family and friends, and those who travel to California frequently on business or for vacations, or both.

All of these letters support the adoption of reasonable and common sense regulation that preserves a consumer's freedom of choice to select from the widest variety of safe and viable air cleaning product and technology solutions for themselves and their families in all indoor environments (personal, home, business, employment, school, healthcare, recreational, travel, other) from both known and unknown forms of indoor pollution & contamination: airborne, surface, or other sources for microbial contamination.

Due to privacy concerns expressed over outside third parties capturing their complete address information, street addresses have been removed. However, full addresses can be made available upon request to the ARB by non-electronic means.

Sincerely,

Greg Montoya

Greg Montoya, Chairman  
California Consumers for Freedom of Choice  
2631 Acuna Court  
Carlsbad, California 92009  
Telephone: (888) 218-4608

Attachment: [www.arb.ca.gov/lists/iacd07/24-ca\\_arb\\_letters\\_final.doc](http://www.arb.ca.gov/lists/iacd07/24-ca_arb_letters_final.doc)

Original File Name: CA\_ARB\_Letters\_Final.doc

Date and Time Comment Was Submitted: 2007-09-25 23:33:31



No Duplicates.

## **Comment 20 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Robert  
Last Name: Brickman  
Email Address: robertbrickman@aceweb.com  
Affiliation: CCFC

Subject: Consumer Letter for Filing  
Comment:

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

Attached is a letter from Amy Woodford for filing.

Thank you.

Attachment: [www.arb.ca.gov/lists/iacd07/25-amy\\_woodford\\_letter\\_to\\_ccfc.pdf](http://www.arb.ca.gov/lists/iacd07/25-amy_woodford_letter_to_ccfc.pdf)

Original File Name: Amy Woodford Letter to CCFC.pdf

Date and Time Comment Was Submitted: 2007-09-25 23:50:55

No Duplicates.

## **Comment 21 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Robert  
Last Name: Brickman  
Email Address: robertbrickman@aceweb.com  
Affiliation: CCFC

Subject: Consumer Letter for Filing  
Comment:

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

Attached is a letter from Karen S. Kavin for filing.

Thank you.

Attachment: [www.arb.ca.gov/lists/iacd07/26-karen\\_kavin\\_letter\\_to\\_ccfc.pdf](http://www.arb.ca.gov/lists/iacd07/26-karen_kavin_letter_to_ccfc.pdf)

Original File Name: Karen Kavin Letter to CCFC.pdf

Date and Time Comment Was Submitted: 2007-09-25 23:53:56

No Duplicates.

## **Comment 22 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Robert  
Last Name: Brickman  
Email Address: robertbrickman@aceweb.com  
Affiliation: CCFC

Subject: Consumer Letter for Filing  
Comment:

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

Attached is a letter from Rebecca Barnes for filing.

Thank you.

Attachment: [www.arb.ca.gov/lists/iacd07/27-rebecca\\_barnes\\_letter\\_to\\_ccfc.pdf](http://www.arb.ca.gov/lists/iacd07/27-rebecca_barnes_letter_to_ccfc.pdf)

Original File Name: Rebecca Barnes Letter to CCFC.pdf

Date and Time Comment Was Submitted: 2007-09-25 23:57:11

No Duplicates.

## **Comment 23 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Robert  
Last Name: Brickman  
Email Address: robertbrickman@acweb.com  
Affiliation: CCFC

Subject: Consumer Letter for Filing  
Comment:

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

Attached is a letter from Angela Elder for filing.

Thank you.

Attachment: [www.arb.ca.gov/lists/iacd07/28-angela\\_elder\\_letter\\_to\\_ccfc.pdf](http://www.arb.ca.gov/lists/iacd07/28-angela_elder_letter_to_ccfc.pdf)

Original File Name: Angela Elder Letter to CCFC.pdf

Date and Time Comment Was Submitted: 2007-09-25 23:57:58

No Duplicates.

## **Comment 24 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Robert  
Last Name: Brickman  
Email Address: robertbrickman@aceweb.com  
Affiliation: CCFC

Subject: Consumer Letter for Filing  
Comment:

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

Attached is a letter from Joseph Arthur for filing.

Thank you.

Attachment: [www.arb.ca.gov/lists/iacd07/29-joseph\\_arthur\\_testimonial.pdf](http://www.arb.ca.gov/lists/iacd07/29-joseph_arthur_testimonial.pdf)

Original File Name: Joseph Arthur Testimonial.pdf

Date and Time Comment Was Submitted: 2007-09-25 23:59:11

No Duplicates.

## **Comment 25 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Robert  
Last Name: Brickman  
Email Address: robertbrickman@aceweb.com  
Affiliation: CCFC

Subject: Consumer Letter for Filing  
Comment:

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

Attached is a letter from Mike Rano for filing.

Thank you.

Attachment: [www.arb.ca.gov/lists/iacd07/30-mike\\_rano\\_letter.pdf](http://www.arb.ca.gov/lists/iacd07/30-mike_rano_letter.pdf)

Original File Name: Mike Rano Letter.pdf

Date and Time Comment Was Submitted: 2007-09-26 00:00:26

No Duplicates.

## **Comment 26 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Robert  
Last Name: Brickman  
Email Address: robertbrickman@aceweb.com  
Affiliation: CCFC

Subject: Consumer Letter for Filing  
Comment:

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

Attached is a letter from Frank Maple for filing.

Thank you.

Attachment: [www.arb.ca.gov/lists/iacd07/31-frank\\_maple\\_letter.pdf](http://www.arb.ca.gov/lists/iacd07/31-frank_maple_letter.pdf)

Original File Name: Frank Maple Letter.pdf

Date and Time Comment Was Submitted: 2007-09-26 00:01:16

No Duplicates.



**Comment 27 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Kathleen

Last Name: Norlien

Email Address: [kathleen.norlien@health.state.mn.us](mailto:kathleen.norlien@health.state.mn.us)

Affiliation: Minnesota Department of Health

Subject: RE: Support of the Proposed Regulation to Limit Ozone Emissions from Indoor  
Comment:

Attached is the electronic copy. A hard copy of our letter of support is in the mail.

Best wishes with this and thanks for the opportunity to comment!

Sincerely,

Kathleen Norlien

Attachment: [www.arb.ca.gov/lists/iacd07/32-electronic\\_submittal.doc](http://www.arb.ca.gov/lists/iacd07/32-electronic_submittal.doc)

Original File Name: Electronic submittal.doc

Date and Time Comment Was Submitted: 2007-09-26 08:18:10

No Duplicates.

## **Comment 28 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Robert  
Last Name: Brickman  
Email Address: robertbrickman@aceweb.com  
Affiliation: CCFC

Subject: Consumer Filing  
Comment:

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

Consumer Filing

Attached is a letter from Michelle Giddens for filing.

Thank you.

Attachment: [www.arb.ca.gov/lists/iacd07/33-michelle\\_giddens\\_letter\\_to\\_arb.pdf](http://www.arb.ca.gov/lists/iacd07/33-michelle_giddens_letter_to_arb.pdf)

Original File Name: Michelle Giddens Letter to ARB.pdf

Date and Time Comment Was Submitted: 2007-09-26 08:18:52

No Duplicates.

## **Comment 29 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Mark

Last Name: Grijalva

Email Address: mark.grijalva@ca.rr.com

Affiliation:

Subject: Support for Air Purification Systems

Comment:

Please see attached letter from a teacher and user of an air purifier impacted by the ARB's proposed regulation.

Attachment: [www.arb.ca.gov/lists/iacd07/34-lori\\_\\_ricatto\\_testimonial\\_\\_2\\_.pdf](http://www.arb.ca.gov/lists/iacd07/34-lori__ricatto_testimonial__2_.pdf)

Original File Name: Lori Ricatto testimonial \_2\_.pdf

Date and Time Comment Was Submitted: 2007-09-26 08:22:58

No Duplicates.

**Comment 30 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Allen

Last Name: Johnston

Email Address: allenj@ecoquestintl.net

Affiliation: EcoQuest International CTO

Subject: Detailed comments on Proposed Regulation to Limit Ozone Emissions

Comment:

Please see attached comments

Attachment: [www.arb.ca.gov/lists/iacd07/35-arb\\_regulation\\_-\\_comments\\_by\\_ecoquest\\_9-25-07.pdf](http://www.arb.ca.gov/lists/iacd07/35-arb_regulation_-_comments_by_ecoquest_9-25-07.pdf)

Original File Name: ARB Regulation - Comments by EcoQuest 9-25-07.pdf

Date and Time Comment Was Submitted: 2007-09-26 08:38:03

No Duplicates.

**Comment 31 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Dr. Robert  
Last Name: Baskin, MD  
Email Address: kwb\_1980@yahoo.com  
Affiliation:

Subject: Support for Air Purification Systems  
Comment:

See attached letter

Attachment: [www.arb.ca.gov/lists/iacd07/36-family\\_practice.pdf](http://www.arb.ca.gov/lists/iacd07/36-family_practice.pdf)

Original File Name: Family Practice.pdf

Date and Time Comment Was Submitted: 2007-09-26 08:57:13

No Duplicates.

## **Comment 32 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Claire  
Last Name: Kammer  
Email Address: [claire.a.kammer@us.ul.com](mailto:claire.a.kammer@us.ul.com)  
Affiliation: Underwriters Laboratories Inc.

Subject: Underwriters Laboratories Comments - Air Cleaning Device Ozone Emissions Regulations

Comment:

Underwriters Laboratories Inc. (UL) would like to comment on the Proposed Regulation Order - Regulation for Limiting Ozone Emissions From Indoor Air Cleaning Devices. UL's comments address two issues we would like the California Air Resources Board (ARB) to consider prior to final publication of the regulation.

UL is concerned with the signature requirements of the Indoor Air Cleaning Device Certification Application ("Appendix D"). Within our organization, the project reviewer is the staff responsible for determining compliance with applicable requirements and for authorization to use the UL Mark. Laboratory technicians are not authorized to determine if an air cleaning device complies with the electrical safety requirements of ANSI/UL standards. UL recommends modification of Appendix D to include the signature of those individuals or job titles responsible for determining compliance with regulatory requirements.

UL would also like to express concern about the timeline for implementation of these regulatory requirements. We are currently working to establish a new service offering, testing products to these requirements, but with many variables still outstanding, we anticipate not having a program ready until September 2008. Recognizing that certification bodies do not currently have a program or infrastructure in place to certify products to these new regulatory requirements, UL believes that a January 2009 effective date may pose a market barrier for products being sold in the state of California.

We thank you for your consideration of these comments. Please feel free to contact us should you have any questions or require any additional information.

Sincerely,  
Claire A. Kammer  
Manager, Government Affairs

Attachment: [www.arb.ca.gov/lists/iacd07/37-ul\\_comments\\_air\\_cleaner\\_reg\\_sept07.pdf](http://www.arb.ca.gov/lists/iacd07/37-ul_comments_air_cleaner_reg_sept07.pdf)

Original File Name: UL Comments Air Cleaner Reg Sept07.pdf

Date and Time Comment Was Submitted: 2007-09-26 09:06:40

No Duplicates.

## **Comment 33 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Allen

Last Name: Johnston

Email Address: allenj@ecoquestintl.net

Affiliation: EcoQuest International CTO

Subject: EcoQuest is recognized for Positive Impact of Air Purification Systems  
Comment:

The attached file is "EcoQuest's Technology Proof Book", a compilation of press releases, news stories, research papers, and testimonials for EcoQuest's air purification products.

Included in the Proof Book is a story detailing how EcoQuest was recognized by the Pentagon for efforts to clean the air after the 9/11 attacks. The attacks left portions of the Pentagon with significant odors which made working immediately after the disaster nearly impossible. EcoQuest donated purifiers and the results were significant and immediate.

The Proof Book also contains stories on how EcoQuest Air Purification products have been used in the 911 Museum in New York City to overcome the intense odors and chemical contamination from the Jet Fuel deposits on the 911 artifacts. EcoQuest products are also used to clean the air at the Liberty Bell Museum in Philadelphia and have been used by the Red Cross in Southern California to fight the smoke and odors that migrated indoors from the wildfires.

EcoQuest International Air Purification Systems reduce indoor contaminants including smoke, odors, microbials and VOC's using low-level ozone and other Advance Oxidation Products (AOPs).

We look forward to working with the Board to develop a regulation which both protects consumers and gives them access to this vital indoor air treatment technology.

Allen Johnston  
Chief Technology Officer  
EcoQuest International

Attachment: [www.arb.ca.gov/lists/iacd07/38-eq\\_proofbook\\_0807.pdf](http://www.arb.ca.gov/lists/iacd07/38-eq_proofbook_0807.pdf)

Original File Name: EQ\_ProofBook\_0807.pdf

Date and Time Comment Was Submitted: 2007-09-26 09:28:54

No Duplicates.



**Comment 34 for Indoor Air Cleaning Devices (iacd07) - 45 Day.**

First Name: Robert

Last Name: Naylor

Email Address: rnaylor@nmgovlaw.com

Affiliation:

Subject: Comments on Proposed Air Cleaner Regulation

Comment:

Comments on behalf of Ecoquest International, Inc.

Attachment: [www.arb.ca.gov/lists/iacd07/39-arbcomments2.pdf](http://www.arb.ca.gov/lists/iacd07/39-arbcomments2.pdf)

Original File Name: ARBComments2.pdf

Date and Time Comment Was Submitted: 2007-09-26 09:50:39

No Duplicates.

## **Comment 1 for Indoor Air Cleaning Devices (iacd07). (At Hearing)**

First Name: Brian

Last Name: King

Email Address: Non-web submitted comment

Affiliation:

Subject: Website: Understanding Ozone

Comment:

Please visit website: <http://www.understandingozone.com>

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2007-10-10 11:20:59

No Duplicates.

## **Comment 2 for Indoor Air Cleaning Devices (iacd07). (At Hearing)**

First Name: Otana

Last Name: Jakpor

Email Address: Non-web submitted comment

Affiliation:

Subject: Indoor Air Pollution: The Pulmonary Effects of Ozone-Generating Air Purifiers  
Comment:

Please see attached

Attachment: [www.arb.ca.gov/lists/iacd07/41-0793com0001.pdf](http://www.arb.ca.gov/lists/iacd07/41-0793com0001.pdf)

Original File Name: 0793com0001.pdf

Date and Time Comment Was Submitted: 2007-10-10 13:54:47

No Duplicates.

### **Comment 3 for Indoor Air Cleaning Devices (iacd07). (At Hearing)**

First Name: Levi

Last Name: White

Email Address: Non-web submitted comment

Affiliation:

Subject: Air Purifer Testimony

Comment:

Please see attached

Attachment: [www.arb.ca.gov/lists/iacd07/42-0793com0002.pdf](http://www.arb.ca.gov/lists/iacd07/42-0793com0002.pdf)

Original File Name: 0793com0002.pdf

Date and Time Comment Was Submitted: 2007-10-10 14:04:28

No Duplicates.

## **Comment 4 for Indoor Air Cleaning Devices (iacd07). (At Hearing)**

First Name: Lee

Last Name: Webb

Email Address: Non-web submitted comment

Affiliation:

Subject: Testimony of Lee A. Webb Jr.

Comment:

Please see attached

Attachment: [www.arb.ca.gov/lists/iacd07/43-0793com0003.pdf](http://www.arb.ca.gov/lists/iacd07/43-0793com0003.pdf)

Original File Name: 0793com0003.pdf

Date and Time Comment Was Submitted: 2007-10-10 14:07:20

No Duplicates.

**Comment 5 for Indoor Air Cleaning Devices (iacd07). (At Hearing)**

First Name: Gary

Last Name: Pruitt

Email Address: Non-web submitted comment

Affiliation:

Subject: Testimony of Gary Pruitt

Comment:

Please see attached

Attachment: [www.arb.ca.gov/lists/iacd07/44-0793com0004.pdf](http://www.arb.ca.gov/lists/iacd07/44-0793com0004.pdf)

Original File Name: 0793com0004.pdf

Date and Time Comment Was Submitted: 2007-10-10 14:11:10

No Duplicates.

## **Comment 6 for Indoor Air Cleaning Devices (iacd07). (At Hearing)**

First Name: Sally

Last Name: Andreatta

Email Address: Non-web submitted comment

Affiliation:

Subject: Testimony of Sally Andreatta

Comment:

Please see attached

Attachment: [www.arb.ca.gov/lists/iacd07/45-0793com0005.pdf](http://www.arb.ca.gov/lists/iacd07/45-0793com0005.pdf)

Original File Name: 0793com0005.pdf

Date and Time Comment Was Submitted: 2007-10-10 14:14:14

No Duplicates.

## **Comment 7 for Indoor Air Cleaning Devices (iacd07). (At Hearing)**

First Name: Colleen

Last Name: Quintana

Email Address: Non-web submitted comment

Affiliation:

Subject: Testimony of Colleen Quintana

Comment:

Please see attached

Attachment: [www.arb.ca.gov/lists/iacd07/46-0793com0001.pdf](http://www.arb.ca.gov/lists/iacd07/46-0793com0001.pdf)

Original File Name: 0793com0001.pdf

Date and Time Comment Was Submitted: 2007-10-10 14:16:40

No Duplicates.



## **Comment 8 for Indoor Air Cleaning Devices (iacd07). (At Hearing)**

First Name: James

Last Name: Marsden

Email Address: Non-web submitted comment

Affiliation:

Subject: Testimony of Dr. James marsden on Ozone Emissions fro Indoor Air Cleaning Devices  
Comment:

Please see attached

Attachment: [www.arb.ca.gov/lists/iacd07/48-0793com0006.pdf](http://www.arb.ca.gov/lists/iacd07/48-0793com0006.pdf)

Original File Name: 0793com0006.pdf

Date and Time Comment Was Submitted: 2007-10-10 14:21:43

No Duplicates.

## **Comment 9 for Indoor Air Cleaning Devices (iacd07). (At Hearing)**

First Name: Michael

Last Name: Kleinman

Email Address: Non-web submitted comment

Affiliation:

Subject: Ozone Exposure and Health

Comment:

Please see attached

Attachment: [www.arb.ca.gov/lists/iacd07/49-0793com0007.pdf](http://www.arb.ca.gov/lists/iacd07/49-0793com0007.pdf)

Original File Name: 0793com0007.pdf

Date and Time Comment Was Submitted: 2007-10-10 14:42:36

No Duplicates.

## **Comment 10 for Indoor Air Cleaning Devices (iacd07). (At Hearing)**

First Name: Wayne

Last Name: Morris

Email Address: Non-web submitted comment

Affiliation:

Subject: AHAM on Air Cleaner Ozone Emissions

Comment:

Please see attached

Attachment: [www.arb.ca.gov/lists/iacd07/50-0793com0008.pdf](http://www.arb.ca.gov/lists/iacd07/50-0793com0008.pdf)

Original File Name: 0793com0008.pdf

Date and Time Comment Was Submitted: 2007-10-10 14:46:55

No Duplicates.

## **Comment 11 for Indoor Air Cleaning Devices (iacd07). (At Hearing)**

First Name: Ronald

Last Name: Chares

Email Address: Non-web submitted comment

Affiliation:

Subject: Testimony of Ronald Chares

Comment:

Please see attached

Attachment: [www.arb.ca.gov/lists/iacd07/51-0793com0009.pdf](http://www.arb.ca.gov/lists/iacd07/51-0793com0009.pdf)

Original File Name: 0793com0009.pdf

Date and Time Comment Was Submitted: 2007-10-10 14:50:24

No Duplicates.

## **Comment 12 for Indoor Air Cleaning Devices (iacd07). (At Hearing)**

First Name: Bonnie

Last Name: Holmes-Gen

Email Address: Non-web submitted comment

Affiliation:

Subject: American Lung Association on AB 2276 Air Cleaner Ozone Regulation

Comment:

Please see attached

Attachment: [www.arb.ca.gov/lists/iacd07/53-0793com0010.pdf](http://www.arb.ca.gov/lists/iacd07/53-0793com0010.pdf)

Original File Name: 0793com0010.pdf

Date and Time Comment Was Submitted: 2007-10-10 14:56:06

No Duplicates.

## **Comment 13 for Indoor Air Cleaning Devices (iacd07). (At Hearing)**

First Name: Ronald

Last Name: Barnes

Email Address: ronaldbarnes@hotmail.com

Affiliation:

Subject: Re: aircleaners- Air Cleaner Regulation

Comment:

Please see attached.

\*Note\*

This comment was submitted via email on Wednesday, September 26, 2007 at 15:08.

Attachment: [www.arb.ca.gov/lists/iacd07/54-iacd070001.pdf](http://www.arb.ca.gov/lists/iacd07/54-iacd070001.pdf)

Original File Name: iacd070001.pdf

Date and Time Comment Was Submitted: 2008-06-03 14:52:54

No Duplicates.

## **Comment 1 for Indoor Air Cleaning Devices (iacd07) - 15-1.**

First Name: Lance

Last Name: Wallace

Email Address: lwallace73@comcast.net

Affiliation:

Subject: Comment on ANSI 867 test method

Comment:

I would like to comment on Section 37.4 of the revised ANSI Standard 867 for testing air cleaners. This section allows monitoring for 8 hours instead of 24 hours if a steady state has been reached. "Steady state" is defined as one in which the slope between hours 7 and 8 is not positive. This definition is defective.

Let us assume that a true steady-state has been achieved. Then half of the measured slopes will show a small positive value and half will show a small negative value.

According to the defective definition, half of all cases that indeed achieved a steady state after 7 hours would be wastefully required to complete 24 hours of testing.

The economic impact of this depends on the fraction of cases that do reach a steady state in 7-8 hours, and on the difference in cost involved in monitoring for 24 hours instead of 8.

The definition of the steady state should allow de minimus positive slopes to be proof of a steady state. The value of this positive cutoff can be determined as a function of the allowed precision of the measurement method (2%) coupled with observations of the slopes obtained by a sufficient number of Monte Carlo runs of 60 1-minute averages on a constant concentration subject to random 2% errors.

I am aware that the ARB can not themselves change the ANSI Standard but in view of the possible economic consequences of the ARB regulation based on this standard, perhaps the Board can bring this to the attention of ANSI.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2008-07-01 08:09:04

No Duplicates.

**Comment 2 for Indoor Air Cleaning Devices (iacd07) - 15-1.**

First Name: Wayne

Last Name: Morris

Email Address: wmorris@aham.org

Affiliation: AHAM

Subject: AHAM Comments on Ozone Regulations--15 Day Language  
Comment:

See Enclosed Comments.

Attachment: [www.arb.ca.gov/lists/iacd07/56-aham\\_comments\\_arbozone\\_071508.pdf](http://www.arb.ca.gov/lists/iacd07/56-aham_comments_arbozone_071508.pdf)

Original File Name: AHAM Comments\_ARBOzone\_071508.pdf

Date and Time Comment Was Submitted: 2008-07-15 14:27:34

No Duplicates.



### **Comment 3 for Indoor Air Cleaning Devices (iacd07) - 15-1.**

First Name: Catherine  
Last Name: Jacobson  
Email Address: cfjacobson@mmm.com  
Affiliation: 3M Company

Subject: Modified Text for the Regulation to Limit Ozone Emissions from Indoor Air Cleaning Devices

Comment:

3M's comments are attached.

Attachment: [www.arb.ca.gov/lists/iacd07/58-3m\\_comments\\_air\\_cleaner\\_regulation.pdf](http://www.arb.ca.gov/lists/iacd07/58-3m_comments_air_cleaner_regulation.pdf)

Original File Name: 3M comments Air Cleaner Regulation.pdf

Date and Time Comment Was Submitted: 2008-07-16 13:56:43

No Duplicates.

## Comment 4 for Indoor Air Cleaning Devices (iacd07) - 15-1.

First Name: Ronald  
Last Name: Barnes  
Email Address: rbarnes@prozoneint.com  
Affiliation: Prozone

Subject: Comments  
Comment:

TO ARB COMMITTEE

Clerk of the board  
Air Resources Board  
1001 I Street  
Sacramento, California 95814

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

Facsimile submittal: (916) 322-3928

### APPENDIX II

Modified text for 15- day public comment period  
June 30, 2008 - July 15, 2008  
Regulations for Limiting Ozone Emissions from Indoor Air  
Cleaning devices.

It is assumed that responses to this June 30, 2008 proposed regulation will be acknowledged by mail because responses to the August 10, 2007 were never acknowledged or acted on in the September 27, 2007 board meeting.

#### SUGGEST ADDITIONS

94803

Air cleaning system to be used in ducting system are to meet the requirements of Definition 94801 (a)(14) and does not exempt "in duct" electrostatic air cleaners. Systems may not have to be completely contained within air duct. Further the 94801 (a)(14) device for ducting systems does not require integration by the OEM manufacturer only and can be attached at a later installation date.

Current "in ventilation systems requirements" to limit use of these devices constitutes a "restriction of trade" and is not practical.

94803 or 94801 (33)

Definition of "industrial supply outlet" is a distributor, or retailer of service organization that sells to industrial customers as part of normal business. Not definition at all.

94803(17)

Listing mark.... or other "certified lab" listing mark (ie ETL, other).

94803(d)

Germicidal lamp systems including titanium dioxide or any other photo catalytic or advanced oxidation devices.

94803(e)

Any contact communicator fans, blowers and mechanical filters (filtration only) that generate ozone by brush bounce, or dirty contactors.

94803(f)

Any cooling/air cleaning fans that cool high voltage or inductive electronic equipment capable of producing or distributing corona discharge.

94809(add)

The Executing Officer must provide manufacturer with a "right of due process," proper testing verification, description of violation and a proper time to cure a violation. Financial losses incurred by manufacture or distributor by improper or inappropriate recall shall be the financial responsibility of ARB or the State of California (as appropriate).

Tests of all units conducted by ARB will be supplied along with any analysis done by ARB.

94804

Once data is submitted it shall be acted on timely and approval shall not be unduly held or prioritized. There shall be no requirement on the manufacture to conform to undue ARB imposed manufacturing standards.

94800(a)(15)(j)

Any industrial application, with people not physically present, that completely contains the ozone process or any ozone process that completely contains the ozone in a container incapable of having people occupy the container, are exempt from this Standard but must still comply with Equipment Safety Standards.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2008-07-16 16:39:58

No Duplicates.

**Comment 5 for Indoor Air Cleaning Devices (iacd07) - 15-1.**

First Name: Gary

Last Name: Feder

Email Address: gfeder@hunterfan.com

Affiliation: Hunter Fan Company

Subject: Comments on Ozone Regulations--15 Day Language

Comment:

Please see attached comments.

Attachment: [www.arb.ca.gov/lists/iacd07/60-proposed\\_regulation\\_comments.pdf](http://www.arb.ca.gov/lists/iacd07/60-proposed_regulation_comments.pdf)

Original File Name: Proposed Regulation Comments.pdf

Date and Time Comment Was Submitted: 2008-07-16 16:41:09

No Duplicates.

## **Comment 6 for Indoor Air Cleaning Devices (iacd07) - 15-1.**

First Name: Robert  
Last Name: Brickman  
Email Address: robertbrickman@acweb.com  
Affiliation: CCFC

Subject: July 16, 2008 CCFC Written Comments  
Comment:

Attached please find the July 16, 2008 CCFC Written Comments for filing in this proceeding.

Kindly confirm receipt of the attached.

Should you have any questions relating to this transmittal, kindly contact me at 602.405.2879.

Thank you in advance for your assistance here,

Robert Brickman

Attachment: [www.arb.ca.gov/lists/iacd07/61-ccfc\\_july\\_16\\_2008\\_written\\_comments.pdf](http://www.arb.ca.gov/lists/iacd07/61-ccfc_july_16_2008_written_comments.pdf)

Original File Name: CCFC July 16 2008 Written Comments.pdf

Date and Time Comment Was Submitted: 2008-07-16 16:46:21

No Duplicates.

## **Comment 7 for Indoor Air Cleaning Devices (iacd07) - 15-1.**

First Name: Robert

Last Name: Naylor

Email Address: [rnaylor@nmgovlaw.com](mailto:rnaylor@nmgovlaw.com)

Affiliation: Ecoquest International

Subject: Comments on Proposed Air Cleaner Regulation

Comment:

Comments on behalf of Ecoquest International, Inc.

Attachment: [www.arb.ca.gov/lists/iacd07/62-15daycomments.pdf](http://www.arb.ca.gov/lists/iacd07/62-15daycomments.pdf)

Original File Name: 15daycomments.PDF

Date and Time Comment Was Submitted: 2008-07-16 16:55:29

No Duplicates.

**Comment 8 for Indoor Air Cleaning Devices (iacd07) - 15-1.**

First Name: Cheri

Last Name: Wright

Email Address: cwright@kaz.com

Affiliation:

Subject: Comments on 15-day Proposed Regulation on Air Cleaner Ozone Emissions  
Comment:

Comments on Attachment

Attachment: [www.arb.ca.gov/lists/iacd07/63-kaz\\_comments\\_to\\_arb\\_7-16-08.doc](http://www.arb.ca.gov/lists/iacd07/63-kaz_comments_to_arb_7-16-08.doc)

Original File Name: Kaz Comments to ARB 7-16-08.doc

Date and Time Comment Was Submitted: 2008-07-17 06:10:32

No Duplicates.



## **Comment 1 for Indoor Air Cleaning Devices (iacd07) - 15-2.**

First Name: Camille

Last Name: Scott

Email Address: meelyroo@verizon.net

Affiliation:

Subject: ozone from air cleaning products

Comment:

When my son got asthma at age 5, a relative gave us an air purifier. The model we got did not emit ozone however my husband and I couldn't believe or understand why these products give off ozone. The reason people buy these is mainly for respiratory conditions, so please don't allow the models that release this harmful byproduct.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2008-07-29 08:26:55

No Duplicates.

## **Comment 2 for Indoor Air Cleaning Devices (iacd07) - 15-2.**

First Name: Ronald

Last Name: Barnes

Email Address: kwatkins@prozoneint.com

Affiliation:

Subject: Prozone Water Products

Comment:

As per our discussion, here is the reference that was used as basis of my prior question on the standard. Please enter in your database for public availability.

Attachment: [www.arb.ca.gov/lists/iacd07/69-air\\_quality.doc](http://www.arb.ca.gov/lists/iacd07/69-air_quality.doc)

Original File Name: air quality.doc

Date and Time Comment Was Submitted: 2008-07-31 14:25:59

No Duplicates.