

# **California Interagency Working Group on Indoor Air Quality**

## **Pre-Meeting Notes**

**March 12, 2003**

**Cal EPA Headquarters  
1001 I Street, Sacramento**

### **GENERAL ANNOUNCEMENTS**

### **SPECIAL PRESENTATION**

### **AGENCY REPORTS ON CURRENT IAQ ACTIVITIES**

American Lung Association of California  
California Air Resources Board / IAQ & Personal Exposure Assessment Program  
California Department of Education / School Facility and Planning Division  
California Department of Health Service / Environmental Health Investigations Branch  
California Department of Health Service / Indoor Air Quality Section  
California Department of Health Service / Occupational Health Branch  
California Department of Health Service / Tobacco Control Section  
California Department of Industrial Relations (Cal/OSHA)  
California Energy Commission  
Lawrence Berkeley National Laboratory / Indoor Environments Program  
Office of Environmental Health Hazard Assessment / Indoor Air Risk Assessment Group  
UC Berkeley Labor Occupational Health Center  
U.S. EPA Region IX / Indoor Environment Team

### **WORKING GROUP COMMITTEES**

Indoor Environmental Quality of Schools  
Building Design and Operations

### **FUTURE MEETINGS**

## GENERAL ANNOUNCEMENTS

**AB 1173.** The Air Resources Board is planning a workshop on activities related to AB 1173 ([see ARB notes](#)). The workshop is scheduled for April 4, 1:30-3:30 at the Cal/EPA building in Sacramento. For more information and updates, check their web site:

<http://www.arb.ca.gov/research/indoor/ab1173/ab1173.htm>

### **IAQ Legislation Introduced**

- **School Sites Nearby Busy Roadways.** Senator Martha Escutia has authored a bill, sponsored by the Natural Resources Defense Council, Senate Bill 352. The purpose of the bill is to reduce exposures to hazardous air pollutants at schools by restricting new school construction near pollutant sources, such as busy freeways, and allowing districts greater flexibility to spend funds to address air pollution with engineering controls. The bill can be viewed on-line at:
- **Environmental Tobacco Smoke.** Three bills were introduced this session addressing secondhand smoke exposures: AB 210 (Nation), AB 384 (Leslie), AB 846 (Vargas). See [DHS-TCS](#) notes for additional details.

### **Upcoming Conferences:**

- 4<sup>th</sup> Annual Recycled Product Trade Show, April 10 & 11, Sacramento, CA. <http://www.associationtradeshows.com/CIWMB/home03.htm>
- Conference on Building & Operating Sustainable College & University Campuses in the 21<sup>st</sup> Century. April 28-29, UC Merced, Modesto, CA. <http://www.cce.csus.edu/cts/merced/>

### **IAQ Tools for Schools Grant Opportunity:**

U.S. EPA Region IX has posted a notice of available funds for EPA's Indoor Air Quality (IAQ) Tools for Schools (TFS) Program to assist the Fresno Teachers Association (FTA) and the Fresno Unified School District (FUSD), Fresno, CA, with implementing the IAQ TFS Program district-wide (99 schools). The Request for Applications can be viewed at:

<http://fedgrants.gov/Applicants/EPA/OGD/GAD/EPA-GRANTS-020703-001/Grant.html>

and the due date is March 31, 2003. Please read eligibility requirements carefully, this is a grant and not a contract for commercial services. Applicants eligible to submit applications under this announcement include: School district or groups of Districts; Community based organizations or coalitions, Voluntary organizations, and other Non-Profit Organizations; Colleges, Universities or other Institutions of Higher Education; State, Tribal, County, City or local Health Departments.

## SPECIAL PRESENTATION

None planned this meeting.

## AGENCY REPORTS ON CURRENT IAQ ACTIVITIES

### American Lung Association of California

<http://www.californialung.org/>

-- Bonnie Holmes-Gen ([bhgen@alac.org](mailto:bhgen@alac.org))

### California Air Resources Board / Indoor Air Quality & Personal Exposure Assessment Program

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

-- Peggy Jenkins ([mjenkins@arb.ca.gov](mailto:mjenkins@arb.ca.gov))

**AB1173 Listserve and Workshop:** Assembly Bill 1173 (Keeley, 2002) requires the Air Resources Board, in consultation with other health and environmental agencies, to prepare a report on indoor air pollution. ARB has established a web page, <http://www.arb.ca.gov/research/indoor/ab1173/ab1173.htm>, to keep the public informed of our progress and plans on this project. The web page currently includes a summary of AB1173 requirements, a link to the complete bill, a tentative schedule for developing the report and receiving public input, and access to the listserv. To register for this or other ARB listserv's, please visit <http://www.arb.ca.gov/listserv/listserv.htm>. Contact: Susan Lum, [slum@arb.ca.gov](mailto:slum@arb.ca.gov); or Dorothy Shimer, [dshimer@arb.ca.gov](mailto:dshimer@arb.ca.gov).

**Portable Classroom Study.** The Research Screening Committee (RSC), an external peer review advisory group for ARB's research program, continued their review of Research Triangle Institute's draft final report on the Portable Classrooms Study (PCS) to their next meeting on April 29, because the February report was not yet completed. It is anticipated that a completed report will be reviewed and discussed at the RSC's April 29 meeting. Interested parties who have not yet signed up for ARB's PCS listserv should be sure to do so at <http://www.arb.ca.gov/research/indoor/indoor.htm>. Contacts: Tom Phillips, [tphillip@arb.ca.gov](mailto:tphillip@arb.ca.gov), and Peggy Jenkins, [mjenkins@arb.ca.gov](mailto:mjenkins@arb.ca.gov).

**Re-thinking the Relocatable Classroom.** Staff participated in a February meeting of state agency representatives convened by Southern California Edison (SCE) to review SCE's plans for their Phase II high performance portable classroom project, review design criteria, and identify potential opportunities for collaboration. The Phase II classrooms will be sited at a school in the Pomona District. Planning is scheduled for the next few months. The meeting served as a useful update for all involved. Peggy Jenkins, [mjenkins@arb.ca.gov](mailto:mjenkins@arb.ca.gov).

**Economic Analysis of Costs And Benefits of Sustainable Buildings.** Staff commented on the human health and productivity benefits and the outdoor air quality benefits in the draft report on Economic Analysis of costs and benefits of sustainable buildings. This report was prepared for ARB and several other Sustainable Building Task Force members. Contact Tom Phillips, [tphillip@arb.ca.gov](mailto:tphillip@arb.ca.gov).

**Indoor Cooking Emissions.** Staff assisted with draft press releases issued by ARB warning Californians of hazards of indoor CO and indoor cooking emissions (see

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<http://www.arb.ca.gov/newsrel/2002.htm>), and explained how to reduce those hazards. Keeping appliances properly tuned and maintained and using good ventilation are two of many actions people can take to reduce combustion pollutant exposures, which can be higher during winter.

Contact: Tom Phillips, [tphillip@arb.ca.gov](mailto:tphillip@arb.ca.gov); Peggy Jenkins, [mjenkins@arb.ca.gov](mailto:mjenkins@arb.ca.gov).

**Fuel Cell for Christmas Lights.** Staff assisted the Governor's Office of Planning and Research with set-up of a portable fuel cell to light LEDs on a Christmas tree in the courtyard of the Cal/EPA building. Indoor air quality issues were considered because the manufacturer initially proposed operating the unit in the lobby of the building. Contact: Tom Phillips, [tphillip@arb.ca.gov](mailto:tphillip@arb.ca.gov).

**Environmental Technology Verification (ETV) for Improved Exposure Monitors.** At a January 30-31 meeting of the Air Stakeholders Committee for the U.S. EPA's Environmental Technology Verification (ETV) Program, staff presented information on ARB's past and current projects to develop improved indoor air and personal exposure monitoring equipment, and discussed current needs in this area of technology. The ETV stakeholders include representatives from local and state air pollution agencies, industry, and others. The meeting was coordinated by Battelle, which manages the Advanced Monitoring Systems Center for the ETV program. This part of the ETV Program provides an opportunity for third party testing and verification of the performance of air pollution monitoring technologies. Staff discussed RD's previously sponsored projects to develop portable, real-time nitrogen dioxide and ozone monitors for use in indoor air quality and health study applications, and the current effort under ARB's Innovative Clean Air Technologies Program to support the development and demonstration of new, user-friendly monitoring technologies. Contact: Peggy Jenkins, [mjenkins@arb.ca.gov](mailto:mjenkins@arb.ca.gov).

**Fresno Asthmatic Children's Environment Study (FACES).** The Air Resource Board voted in December to continue funding for FACES. The UC Berkeley investigators are about mid-way through the work originally planned. The study is an epidemiology study of more than 200 children with asthma to examine both the immediate and long-term effects of air pollutants on children's asthma. One of its many strengths is that the study includes some of the most extensive exposure assessment ever conducted for such an epidemiology study, which should improve the investigators' ability to identify possible relationships between exposure to air pollutants and the progression of asthma in the children. A one-year field effort to measure pollutants, potential asthma triggers and various home conditions (called the "Home Intensive") in a subset of participants was completed in February. Contact: Peggy Jenkins, [mjenkins@arb.ca.gov](mailto:mjenkins@arb.ca.gov).

**California Department of Education / School Facility and Planning Division**

-- Tony Hesch ([thesch@cde.ca.gov](mailto:thesch@cde.ca.gov))

<http://goldmine.cde.ca.gov/facilities/>

**California Department of Health Service / Environmental Health Investigations Branch -- Sandra McNeel ([SMcNeel@dhs.ca.gov](mailto:SMcNeel@dhs.ca.gov))**

<http://www.dhs.ca.gov/ps/deodc/ehib/>

## California Department of Health Service / Indoor Air Quality Section

-- Jed Waldman ([JWaldman@dhs.ca.gov](mailto:JWaldman@dhs.ca.gov))

<http://www.cal-iaq.org>

**BASE Study.** Derek Shendell has started working with IAQS staff (I mean, Dr. Shendell). An immediate effort will be to combine results originally in separate files into a single file with bioaerosol measurements by building. We plan to start collaborating with the LBNL-IED group to link moisture-indicating microorganisms with symptoms and descriptive evidence of microbial contamination. Abstracts on BASE research results have been submitted for APHA and the Sarasota Springs' Bioaerosol Conference.

**Environmental Tobacco Smoke (ETS) Study.** We have completed the field study at a non-smoking office building with a designated smoking room in Las Vegas. We have completed the analyses of the data from this field study as well as the CATS 2001 data. The final report for this research study is due to TRDRP by August 31<sup>st</sup>.

**Emissions of Building Materials With High-Recycled Contents.** The CIWMB funded DHS to conduct a study to measure emissions of building materials with high recycled -content compared to "standard" products. The study includes three phases on products used in school classrooms, state office buildings, and tire-derived [flooring] products. The final report is due in April 2003. Contact: Leon Alevantis, [llevant@dhs.ca.gov](mailto:llevant@dhs.ca.gov).

**Indoor Air Quality Testing at the Capitol East End Complex.** The IAQ Section conducted side-by-side sampling with the Block 225 contractor during the last IAQ sampling. The DHS-IAQ Section is planning to continue sampling of the indoor air of Block 225 and Blocks 171-174 after occupancy. We are anticipating that we will receive a grant from the U.S. EPA to partially fund this activity.

**Designing Healthy Buildings Course.** Jed Waldman (DHS-IAQS) and Rick Diamond (LBNL-IED) are again offering *Arch 249x: Designing Healthy Buildings* as a 2-credit elective in UC Berkeley's School of Architecture. The class is meeting on Tuesdays, 11 am to 1 pm in Wurster Hall, during the Spring 2003 semester. Information and course materials are posted on the web at <http://www.cal-iaq.org/CLASS/>.

**Portable Classroom Study.** [See related note under ARB.](#)

**Grant Proposals:** The IAQ section recently submitted two extramural proposals:

- California Energy Commission-PIER program. Chemical Source Reduction for Enhanced Building IAQ.
- USEPA: Long-Term Building Air Measurements for VOCs and Aldehydes at a California Five-Building Sustainable Office Complex

**Presentations:**

- Janet Macher was one of the instructors at Cal/OSHA's Mold training (Feb 13, 19, 20).

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**Committee Work:**

- Leon attended the ASHRAE 62 committee meeting in January 2003.
- Janet Macher continued participating on the ASHRAE Aircraft Air Quality committee via conference calls (January 3, 22)
- Janet Macher was elected Treasurer for the International Association for Aerobiology.
- Jed Waldman served on the peer-review panel for American Chemistry Council's Long Range Initiative, which is awarding ~\$4 M in funding for air toxic exposure research projects.
- Jed Waldman was appointed to chair the ISEA Publications committee. He is also editing a special issue of the *Journal of Exposure Analysis & Environmental Epidemiology*, which will feature papers selected from *INDOOR AIR 2002* presentations. Co-editors are Dr. Deb Bennett (HSPH) and Dr. Sumi Mehta (WHO).

**California Department of Health Service / Occupational Health Branch**

-- Liz Katz ([Ekatz@dhs.ca.gov](mailto:Ekatz@dhs.ca.gov))

<http://www.dhs.ca.gov/ohb/>

**Pollution Prevention Activities: Joining P2 to Occupational Health and Safety.** HESIS was awarded the National Pollution Prevention Week 2002 Award by the Department of Toxic Substances Control, Cal/EPA, for "exemplary work and efforts" in pollution prevention (P2) throughout 2002. Dr. Julia Quint, HESIS Chief, accepted the award. Dr. Quint has spearheaded HESIS' P2 initiatives, and she serves as a member of a technical panel for the SCAQMD Lithographic Printing Industry Study. This panel will help ensure that alternative cleaning materials are selected as viable alternatives to current high VOC solvents used for cleaning printing press parts do not pose new hazards to workers. HESIS' other ongoing P2 activities include participation in a CARB-funded project to develop, test and demonstrate near-zero VOC water-based aerosol products for automotive repair; and development of integrated strategies to prevent illnesses, injuries, and environmental pollution in automotive repair.

**New HESIS Fact Sheets on Diesel Engine Exhaust, Formaldehyde.** Diesel exhaust can cause lung cancer, and many occupations are at risk. HESIS' new 6-page fact sheet provides up-to-date health information and offers practical ways to reduce worker exposure. Designed for employers and employees, it is available on-line at [www.dhs.ca.gov/ohb/hesis/diesel.pdf](http://www.dhs.ca.gov/ohb/hesis/diesel.pdf), or call (510) 622-4238 for tri-fold, color printed copies.

The HESIS Formaldehyde Fact Sheet has been updated and printed in a color 8-page format. It can be downloaded at <http://www.dhs.ca.gov/ohb/hesis/formaldehyde.pdf> or call to request print copies at (510) 622-4238.

## **California Department of Health Service / Tobacco Control Section**

-- Joanne Wellman-Benson (JWellman@[dhs.ca.gov](mailto:JWellman@dhs.ca.gov))

**News Conference Celebrating California's Successful Smoke-free Work Place Law.** On November 20, 2002, the National Conference on Tobacco or Health hosted a news conference in San Francisco celebrating the anniversary of California's Smoke-free Workplace Act. January 1, 2003 marked the eight-year anniversary of smoke-free indoor workplaces and restaurants and the five-year anniversary of smoke-free bars.

At the news conference, State Health Director Diana M. Bontá, R.N., Dr.P.H. unveiled two opinion polls conducted in Fall 2002 and commissioned by the California Department of Health Services that show overwhelming support for smoke-free bars by bar owners, employees, and patrons.

Some key findings of the "bar establishment" survey included:

- The majority (77 percent) of bar managers and employees surveyed said a smoke-free environment inside their bar is "very" or "somewhat" important to them, compared to 53 percent of those surveyed in 1998.
- The majority of bar managers and employees (77 percent) said complying with the law has been "very" or "fairly" easy.
- More than eight in 10 bar managers and employees (83 percent) surveyed said they think the smoke-free workplace law protects their health and the health of other bar employees, while only 15 percent think it does not.

Some key findings of the "bar patron" survey included:

- The majority of bar patrons (87 percent), including smokers (71 percent), said they are more likely to visit bars, or have not changed their bar-going behavior as a result of the law.
- In 2002, 75 percent of bar patrons surveyed said they approve of the law, compared to 59 percent surveyed in 1998. Even among smokers, support of the law has nearly doubled, increasing from 24 percent in 1998 to 45 percent in 2002.

More than 100 media outlets throughout California and the United States covered the news story. Materials developed for the press conference have been reorganized into a Secondhand Smoke (SHS) Update. Available in April, the new issue includes the Fall 2002, Field Poll data on bar owners, employees, and patrons; an interview with Terry Friedman (original author of Assembly Bill [AB] 13); information on the economic impact of AB 13; and, a timeline of SHS activities in California.

**Tobacco Education and Research Oversight Committee (TEROC) Master Plan.** TEROC released their Master Plan for the Tobacco Control Program for 2003-2005. Of their 6 objectives, one is to decrease exposure to secondhand smoke. Recommended strategies for achieving this are to: 1) continue to educate the public on the health effects and on the tobacco industry's efforts to deny these effects; 2) pass restrictions at the local level eliminating exceptions and expanding

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protections found in Labor Code §6404.5, the California Smoke-free Workplace Act; 3) pass restrictions on outdoor smoking, such as for building entry ways, college campuses, health facilities, prisons, fair grounds, amusement parks, concerts, and sporting events; 4) promote voluntary home/car smoke-free policies; 5) ensure consistent local compliance and enforcement of state and local smoke-free workplace, school, and outdoor area laws; enhance protections through voluntary smoke-free policies to protect residents in multi-unit housing; 6) require the Department of Alcoholic Beverage Control to assist in enforcing the smoke-free bar law; 7) educate policy makers that ventilation technology is not effective in controlling secondhand smoke's health effects; 8) conduct research on indoor and outdoor secondhand smoke exposure.

**Live, Work, and Play Smoke-free Campaign.** The Tobacco Control Section's Secondhand Smoke Workgroup is developing a secondhand smoke campaign that will assist in maximizing compliance with existing smoke-free workplace laws and expand protection from secondhand smoke exposure within indoor and outdoor areas where people live, work, and play. The campaign will focus on the collection of existing strategies, policies and other supportive educational and promotional material that can be implemented at the local level to facilitate adoption of secondhand smoke policies. The end product will be a website and training for TCS-funded projects by early 2004.

**Secondhand Smoke-Related Bills Recently Introduced.**

- *AB 210 (Nation)*- Smoking in and near residential dwellings. It has three provisions that place limitations on the smoking that can take place in and around residences.
  - A) It defines drifting, wafting, or blowing smoke as a nuisance within common interest developments, with some exceptions.
  - B) It prohibits smoking in the indoor and outdoor common areas of multifamily residential housing.
  - C) By January 1, 2006, it would prohibit smoking in units of multifamily residential housing, except those units that have been specifically designated by a landlord as units where smoking is permitted.
- *AB 384 (Leslie)*- Prohibits tobacco products in prisons and the Youth Authority. It prohibits the Department of Corrections (DC) and the Department of the Youth Authority (DYA) from selling tobacco products to persons confined in their institutions. AB 384 also requires the DC and the DYA to adopt regulations prohibiting the possession of tobacco products by inmates.
- *AB 846 (Vargas)* - Expands the smoke-free perimeter around state-owned and leased building entrances and exits and city and county buildings. It amends the existing smoke-free distance from the entrances and exits of state-owned and leased buildings from 5 feet to 20 feet.

**California Department of Industrial Relations (Cal/OSHA)**

-- Bob Nakamura ([bnakamura@hq.dir.ca.gov](mailto:bnakamura@hq.dir.ca.gov))

<http://www.dir.ca.gov/dosh/>

**Revision of the Sanitation standard, GISO 3362.** The new subsection (g), now in effect as of September 4, 2002 is as follows:

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Title 8, Calif. Code of Regulations; General Industry Safety Orders: Article 9 Sanitation §3362. General Requirements.

*(g) When exterior water intrusion, leakage from interior water sources, or other uncontrolled accumulation of water occurs, the intrusion, leakage or accumulation shall be corrected because of the potential for these conditions to cause the growth of mold.*

For information, contact Bob Nakamura at 415-703-5160.

**IAQ Advisory Committee.** The first meeting was held on November 20, 2002, in Oakland. The meeting included a presentation by the California Energy Commission on the proposed changes to the California Energy Code regarding Demand Control Ventilation (DCV). The latest draft proposal would make it mandatory for some classrooms and additional assembly occupancies, and would raise the carbon dioxide set point from 800 to 1100 (or 700 above outside CO<sub>2</sub>). A discussion of the potential effect of utilizing DCV in school buildings followed. CEC has been preparing the proposed changes for the formal rulemaking process that will begin in early 2003. Possible revisions to General Industry Safety Orders 5142 and 5143 were also discussed.

A second meeting was held on March 6, 2003. Attendees discussed the modified proposal for the use of DCV that CEC plans to submit for rulemaking within the next few weeks. Attendees also discussed suggested changes to Title 8, Section 5142. The modifications are intended to address problems in identifying the entity that can make changes to a HVAC system in a workplace. Another meeting will be held later this year.

For more information contact Bob Nakamura at 415-703-5160 or Deborah Gold at 415-703-5115. For information about the proposed changes to the California Energy Code, contact the CEC via [www.energy.ca.gov](http://www.energy.ca.gov) or 1-800-772-3300.

**Airborne Contaminants: 8CCR 5155.** The Division is continuing to review Threshold Limit Value changes proposed by the ACGIH. The first meeting of the advisory committee was on May 4, 2001. Another meeting will be scheduled soon. The Division coordinator is Bruce Wallace who can be reached at 415-703-5165.

**Laboratory Fume Hoods: 8CCR 5154.1.** The Division has convened five advisory committee meetings to evaluate two different petitions requesting the Standards Board to reduce ventilation rate requirements and establish a performance standard in place of the existing regulation that relies on face velocity measurements. The last meeting was on August 8<sup>th</sup> in San Francisco. Another draft proposal was presented and discussed by the attendees but no final proposal was adopted. A revised proposal has been circulated to the members of the committee. The Division coordinator is Bruce Wallace who can be reached at 415-703-5165.

**Heat Stress Standard.** The Division has held three advisory committee meetings to review the need and issues involved in proposing a standard for heat stress. The last meeting was on February

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15, 2002 in Oakland. A draft proposal was reviewed at the meeting, and revisions will be forthcoming based on the outcome of the meeting. For more information, contact Bob Barish at 415-703-5100.

## **California Energy Commission**

-- Obed Odoemelam ([Oodoemel@energy.state.ca.us](mailto:Oodoemel@energy.state.ca.us))

**Funding for Analysis of PCS Data.** The staff of the California Energy Commission met with the staff of the California Air Resources Board on January 15, 2003 at the Energy Commission, to discuss the work scope for the CEC-funded analysis of the data from the Portable Classroom Study (PCS). The CEC-funded data review is intended for a more detailed review of the generated data as related to school building performance – especially mechanical ventilation and natural ventilation, lighting, and thermal comfort – and their relationship to indoor environmental quality. For more information, contact Marala Mueller at the Energy Commission at [Mmueller@energy.state.ca.us](mailto:Mmueller@energy.state.ca.us) or Obed Odoemelam at [odoemel@energy.state.ca.us](mailto:odoemel@energy.state.ca.us)

**Development of Low-cost IAQ Monitors.** The Commission staff reviewed the 13 research proposals submitted in the second phase of the ongoing assessment of the proposals submitted by various research groups for the development and commercialization of low-cost, easy-to-use monitors for indoor and indoor pollutants. This project is being funded in collaboration with the ARB, the Energy Commission, and the State of New York. For more information, contact Marla Mueller or Obed Odoemelam at the Energy Commission or Peggy Jenkins ([mjenkins@arb.ca.gov](mailto:mjenkins@arb.ca.gov)) at the ARB

## **Lawrence Berkeley National Laboratory / Indoor Environments Program**

-- Mike Apte ([MGAPte@lbl.gov](mailto:MGAPte@lbl.gov))

<http://eetd.lbl.gov/iep/iep.html>

## **Office of Environmental Health Hazard Assessment / Indoor Air Risk Assessment Group**

-- Richard Lam ([RLam@oehha.ca.gov](mailto:RLam@oehha.ca.gov))

<http://www.oehha.org/>

**School Sites.** OEHHA has made available the first Draft Guidance for Assessing Exposures and Health Risks at Existing and Proposed School Sites. This draft guidance document was prepared to comply with California Health and Safety Code Section 901(f), which requires OEHHA to develop and publish a guidance document for use by the Department of Toxic Substances Control and other state and local environmental and public health agencies to assess exposures and health risks at existing and proposed school sites, and including child-specific routes of exposure unique to the school environment, in addition to those in existing exposure models. The draft document was posted on the OEHHA Web site on December 20, 2002; see [http://www.oehha.ca.gov/public\\_info/public/kids/schoolsrisk.html](http://www.oehha.ca.gov/public_info/public/kids/schoolsrisk.html). A one-day public workshop was held on January 24, 2003 to discuss the scientific basis of the proposed guidance document.

**Hot Spots – Toxicity Equivalency Factors.** OEHHA released a draft document, Proposal for the Adoption of the Revised Toxicity Equivalency Factor (TEFWHO-97) Scheme to solicit public

comment. This draft document has been developed by OEHHA for use in implementing the programs for Toxic Air Contaminants and Air Toxics Hot Spots. Chlorinated dioxin-like compounds are widespread and persistent environmental contaminants, emitted by various combustion processes, which are suspected of causing cancer and other adverse health impacts. In 1986, the California Air Resources Board identified chlorinated dibenzo-p-dioxins and dibenzofurans as toxic air contaminants, and OEHHA determined a cancer potency value for 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD). The cancer potency for other dioxin-like congeners varies according to their chemical structure. Toxicity Equivalency Factors (TEFs) are numerical factors that express the toxicity of an individual dioxin-like compound relative to the toxicity of TCDD. The original International TEFs were developed by a group of scientists convened by the World Health Organization (WHO). These are used in the Air Toxics Hot Spots Program to evaluate the cancer risk due to exposure to mixtures of chlorinated dibenzo-p-dioxins and dibenzofurans. More recently, WHO has sponsored revisions of the original TEF table, in order to reflect new data and improved understanding of the nature and mechanisms of toxicity of dioxin-like compounds. Chlorinated dioxins and dibenzofurans were recently identified as priority chemicals for evaluation of their impact on children's health under the Children's Environmental Health Protection Act (SB25, 1999). OEHHA proposes that the revised version of the TEF scheme (TEF<sub>WHO-97</sub>) should be adopted for use by the Toxic Air Contaminants Program. Following the public comment period, the document and any comments received, along with OEHHA's response to these comments, will undergo review by the state's Scientific Review Panel on Toxic Air Contaminants. The draft can be found on-line at

[http://www.oehha.ca.gov/air/toxic\\_contaminants/pdf\\_zip/TEQDioxin2002.pdf](http://www.oehha.ca.gov/air/toxic_contaminants/pdf_zip/TEQDioxin2002.pdf).

**Hot Spots – Cancer Potency Factors.** The Technical Support Document for Describing Available Cancer Potency Factors (TSD) contains cancer unit risks and potency factors for 121 of the 201 carcinogenic substances or groups of substances for which emissions must be quantified in the Air Toxics Hot Spots program. The purpose of this document is to provide a summary of the data supporting the carcinogenic potential of the substance or group of substances and to provide the calculation procedure used to derive the estimated unit risk and cancer potency factors. This document has been revised from the April 1999 version; link to it on-line at [http://www.oehha.ca.gov/air/hot\\_spots/pdf/TSDNov2002.pdf](http://www.oehha.ca.gov/air/hot_spots/pdf/TSDNov2002.pdf). You can download just the table of Hot Spots Unit Risks and Cancer Potency Values at [http://www.oehha.ca.gov/air/hot\\_spots/pdf/TSDlookup2002.pdf](http://www.oehha.ca.gov/air/hot_spots/pdf/TSDlookup2002.pdf)

**Wildfire Guide – A Guide for Public Health Officials.** This document was written the California Office of Environmental Health Hazard Assessment, the U.S. Environmental Protection Agency; and the Missoula County Health Department, with input from individuals in several other state and federal agencies, in particular the California Department of Health Services, the California Air Resources Board, and editorial support Washington State Department of Health. It was developed in part as a result of a workshop held at the University of Washington in June 2001, under the auspices of the U.S. Environmental Protection Agency, Region X, and the Department of Environmental Health, School of Public Health and Community Medicine of the University of

Washington. The Wildfire Guide (27 pp) is on-line at:  
[http://www.oehha.ca.gov/air/risk\\_assess/wildfirev8.pdf](http://www.oehha.ca.gov/air/risk_assess/wildfirev8.pdf).

**Proposed Public Health Goals for Drinking water.** Chemicals present in drinking water can impact indoor environments due to their use in cleaning and washing (baths, showers, dish washings, etc), laundry, and other activities. OEHHA has released draft Public Health Goals (PHG) for Arsenic and Chromium 6.

- Arsenic in Drinking Water. OEHHA has released a draft Public Health Goal (PHG) for arsenic in drinking water. The draft PHG proposes to identify 4 parts per trillion as a level of arsenic in drinking water that would not be expected to pose a human health risk. In developing the draft PHG, OEHHA conducted an exhaustive analysis of all available scientific studies on the health effects of arsenic. The proposed PHG of 4 parts per trillion is based upon studies of hundreds of thousands of patients in Taiwan, Chile and Argentina with lung and bladder cancers associated with elevated levels of arsenic in drinking water. OEHHA estimates that a level of 4 parts per trillion of arsenic in drinking water would cause not more than one additional cancer case in a population of one million people drinking two liters of water daily for 70 years. OEHHA will hold a public workshop to accept public comments on the draft document on May 2, 2003 in Oakland. OEHHA will also accept written comments on the draft document until May 2, 2003. Arsenic is found naturally in air, water, soil, mineral deposits, and food. While arsenic in water typically is naturally occurring, the improper disposal of waste chemicals can also contaminate water supplies with arsenic. Long-term exposure to arsenic in drinking water can increase the risk of lung and bladder cancer and, to a lesser extent, increase the risk of skin, liver and kidney cancer. Other serious health effects stemming from long-term ingestion of arsenic in drinking water include heart attacks, stroke, diabetes mellitus, high blood pressure, liver and nerve damage, abnormal skin growths, and some reproductive and developmental problems. The existing state and federal drinking water standards for arsenic have been set at 50 parts per billion for many years. A new federal arsenic standard of 10 parts per billion will take effect in 2006. A legislative bill authored by Senator Don Perata and enacted into law in 2001. The Draft PHG for Arsenic in Drinking Water is on-line at <http://www.oehha.ca.gov/water/phg/030703Ars.html>.
- Chromium in Drinking Water. OEHHA in November 2001 withdrew its Public Health Goal (PHG) for chromium in drinking water. The PHG, adopted in February 1999, was 2.5 parts per billion (ppb). OEHHA and DHS are committed to develop the nation's first drinking-water standard for chromium 6, also known as hexavalent chromium. The chromium 6 PHG, which OEHHA will develop by Spring 2003, will replace the withdrawn PHG for "total" chromium, which consists of both chromium 6 and a less-toxic form of the metal, chromium 3. A University of California report released recently has been under attack. Senator Ortiz, who sponsors legislation (senate Bill 351) to require the state to adopt chromium 6 standard by January 2004, is seeking to have the report thrown out. There are allegations that the state-mandated blue ribbon panel that prepared this report

was manipulated to favor corporate interests. See report from LA Times at <http://www.latimes.com/la-gnp-chromium01mar01,0,5916357.story>.

**East Bay Children's Respiratory Health Study.** Two manuscripts are prepared for publications: one on the East Bay Children's Respiratory Health Study and the second on the statewide assessment of school proximity to busy roads. For East Bay Kids, we are still validating the data analysis, but we are seeing increased respiratory outcomes in children attending schools with higher pollutant measurements.

Contact person: Janice Kim, [www.Jkim@oehha.ca.gov](mailto:www.Jkim@oehha.ca.gov)

**Proposition 65 – Carbon Black.** OEHHA is adding carbon black (airborne, unbound particles of respirable size) to the list of chemicals known to the State to cause cancer for purposes of the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). The listing of carbon black is effective February 21, 2003. The listing only pertains to airborne, unbound carbon black particles of respirable size. OEHHA and the California Air Resources Board have also noted that, "In general, particles 10 µm or less in diameter are considered respirable by humans. Thus, for the purposes of Proposition 65, carbon black particles 10 µm or less shall be considered respirable. Exposure to carbon black, per se, does not occur when it remains bound within a product matrix, such as rubber, ink or paint. You can find the notice on-line at

[http://www.oehha.ca.gov/prop65/prop65\\_list/files/22103not.pdf](http://www.oehha.ca.gov/prop65/prop65_list/files/22103not.pdf) and the latest Prop 65 list (February 21, 2003) on-line at

[http://www.oehha.ca.gov/prop65/prop65\\_list/files/22103LSTA.html](http://www.oehha.ca.gov/prop65/prop65_list/files/22103LSTA.html).

## UC Berkeley – Labor Occupational Health Center

--Robin Dewey, ([rdewey@uclink4.berkeley.edu](mailto:rdewey@uclink4.berkeley.edu)) <http://socrates.berkeley.edu/~loh/>

**California's Lead-Safe Schools Project.** Over the past four years, the Labor Occupational Health Program at U.C. Berkeley has been funded by the California Department of Health Services' (DHS) Childhood Lead Poisoning Prevention Branch to develop, implement and evaluate California's *Lead-Safe Schools Project*. The *Lead-Safe Schools Project* provides information and training to school district maintenance departments on lead-safe work practices and setting up a lead management plan. The need for this project was determined through a study conducted by DHS which found that 96% of the state's schools have lead in the paint and that maintenance workers were routinely performing tasks that expose school children and themselves to lead dust. To address this need, project staff developed a kit, modeled on EPA's Tools for Schools Kit, that includes an easy-to-understand guide for supervisors on how to implement a lead management plan, booklets in English and Spanish for workers, and a curriculum with an introductory videotape for teaching maintenance staff about lead-safe work practices.

Staff also created a six-hour "training of trainers" (ToT) program for training supervisors how to teach the curriculum to staff, a website, and a technical assistance hotline. Development of all materials and activities have been guided by an advisory board comprised of agency and school district representatives as well as the union representing school maintenance employees in California

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and state associations such as the California Association of School Business Officials (CASBO). The *Lead-Safe Schools Project* was also actively endorsed by then State Superintendent of Education in California, Delaine Easton. She wrote a cover letter to all elementary school districts about the program and appeared in the educational videotape.

The Lead-Safe Schools Guide and worker booklets have been sent to 881 school districts around California. As of January 31, 2003, project staff had provided 77 ToTs around the state, with a total attendance of 1279 participants, representing 416 California school districts. Attendees have been very enthusiastic about the ToTs which include numerous participatory activities such as small group activities, hands-on practice and review games.

Project staff have also conducted over 20 presentations at statewide, regional and national meetings of organizations serving school maintenance staff, including the California Association of School Business Officials, the Coalition for Adequate School Housing, and the California School Employees Association as well as the American Industrial Hygiene Association, the American Public Health Association, and EPA. There have been numerous hits on our website which includes copies of our materials as well as a section on frequently asked questions.

The project has been evaluated by an outside evaluator who found, using a quasi-experimental design, that twice as many districts in the intervention group had at least partially implemented a lead management plan than those in the control districts. Sixty-two percent of supervisors attending one of the project's ToTs returned to their district and trained employees. The evaluator also found substantial differences between the two groups in reports of most lead-safe work practices. Those from districts trained by the project were much more likely to report that their workers keep kids away from the work area, work wet, use plastic sheeting, clean the sheeting, and never throw paint chips in the trash. Project funding ends June 30, 2003.

**U.S. EPA Region IX / Indoor Environment Team**

<http://www.epa.gov/iaq/>

-- Barbara Spark ([spark.barbara@epamail.epa.gov](mailto:spark.barbara@epamail.epa.gov))

-- Bill Jones ([jones.bill@epamail.epa.gov](mailto:jones.bill@epamail.epa.gov))

**Agency Guidelines for Carcinogen Risk Assessment.** In early March 2003, EPA announced the availability of draft final Agency Guidelines for Carcinogen Risk Assessment for a 60-day public comment period. EPA also released for public comment draft supplemental guidance for assessing children's risk, entitled Supplemental Guidance for Assessing Cancer Susceptibility from Early-Life Exposure to Carcinogens. This draft supplemental guidance provides the proposed approach for assessing cancer risk resulting from early-life exposure to mutagenic environmental contaminants. When completed, the Cancer Guidelines (along with the supplementary guidance on children's risk) will set forth a revised set of principles and procedures to guide EPA scientists and risk assessors in assessing the cancer risks resulting from exposure to chemicals or other agents in the environment. They will also inform Agency decision makers and the public about these procedures. This draft supplemental guidance is new and will be peer reviewed by U.S. EPA's Science Advisory Board. Information is available on-line at: <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=55445>.

**Measures of Contaminants, Body Burdens, and Illnesses in Children** EPA recently released a report, America's Children and the Environment: Measures of Contaminants, Body Burdens, and Illnesses (Second Edition), showing presenting key measures of children's health and the environment that show trends and progress in protecting children's environmental health and show areas that need improvement. Information is available on-line at:  
<http://www.epa.gov/envirohealth/children>

**Clean Air Act Violations Settlement**. The Department of Justice and the Environment Protection Agency finalized a settlement of the government's lawsuit against Toyota Motor Corporation for Clean Air Act violations involving 2.2 million vehicles manufactured between 1996 and 1998. Under the settlement, Toyota will spend \$20 million on a supplemental environmental project to retrofit up to 3,000 public diesel fleet vehicles to make them run cleaner and extend the emission control system warranty on affected vehicles. In addition, Toyota will accelerate its compliance with certain new emission control requirements, and pay a \$500,000 civil penalty. The settlement will cost Toyota an estimated \$34 million.

**HQ Division Director moves on**. Mary Smith, Director of the Indoor Environments Division for the past seven and a half years, has been appointed as the new Director of the Engineering and Analysis Division in the Office of Science and Technology in the Office of Water, effective February 1, 2003.

**Grants**. On January 24, 2003 IED published and Request for Applications (RFA): "Indoor Air Quality: Communication, Education, and Outreach Programs: Announcement of Availability of Funds and Request for Applications," with applications due February 28. These grants are for national organizations only, as described in the document. Also, a new rule requires that our program, both nationally and in the regions, compete virtually all of the kinds of grants which our program provides, even the small ones which we usually award for IAQ in Region 9. This new situation has led to significant delays our awarding local grants since October 1, 2002.

**California Assembly Asthma Hearing, Feb. 19**. Barbara Spark has been invited to speak on the "IAQ Tools for Schools" program during the "Improving Air Quality" panel at the February 19 California Assembly Committee hearing: "Asthma: Why California's Children Can't Breathe." The hearing is sponsored by the California Assembly Committee on Health, Chair Dario Frommer, California Assembly Committee on Environmental Safety and Toxic Materials, Chair John Laird, and California Assembly Select Committee on California Children's School Readiness and Health, Wilma Chan Chair. Information is posted at  
<http://democrats.assembly.ca.gov/members/a16/selectcom/selectcomhearings.html#anchor>

**Media**. Barbara Spark was interviewed by KRON TV-4 San Francisco for a 9PM news segment for which viewers "vote" for the topic they want to see addressed. The topic on 10/30 was "Is Sick Building Syndrome Real?" Barbara discussed EPA's approach to SBS, as well the syndrome's recognition by other cognizant authorities. The segment ended with a display of a number of our

guidance materials, including "IAQ Tools for Schools".

### **IAQ Tools for Schools**

- **M.O.U. with California Association of School Business Officials (CASBO).** A USEPA/CASBO memorandum of understand formalizing our cooperative partnership to promote implementation of the IAQ Tools for Schools program has been signed by our Regional Administrator Wayne Nastri, and CASBO Executive Director Kevin Gordon. Contact:: Barbara Spark.
- **Fresno Unified School District.** The project to implement the IAQ Tools for Schools (IAQ TfS) program at all schools in the Fresno Unified School District was officially launched at a large (130 person) training workshop on November 13, 2002, in Fresno. This project, led by Shelly Rosenblum, is notable not only for the fact that FUSD is the fourth largest district in California (and in an area with very high asthma rates), but that the this endeavor is a full partnership between the district, the Teachers' Union (FTA), and EPA, with an signed MOU pledging that all parties will work cooperatively together to improve the indoor environment for students, teachers and staff. About one-half of the people attending the Nov. 13 event were teacher's union site representatives, and the other half came from district operations administration or field work (HVAC techs, Enviro. H & S, etc.). Richard Shaugnessy and Shelly Rosenblum were the primary trainers. EPA Region 9 Air Division Director Jack Broadbent presented a "Great Start" award to the district Superintendent Dr. Santiago V. Wood and teachers' union President Sherry Wood. Contact: Shelly Rosenblum
- **Workshop for Asthma Coalitions** - An all day workshop focusing on programmatic and "marketing" aspects of IAQ TfS was presented by Barbara Spark to representatives of asthma coalitions in eight counties at the annual meeting of the Central California Asthma Project, October 11, 2002. In Shelly Rosenblum's absence, Barbara was ably assisted by Sue Cox, Risk Manager of Visalia USD, and Adina Neale, IAQ Coordinator at Saugus USD. Also attending was David Nunez, MD, Chief of the California Asthma Public Health Initiative. Thanks in part to substantial grants from the California Endowment ("CAFA grants"), increasing numbers of asthma groups are addressing indoor (as well as outdoor) environmental issues related to asthma, including implementation of the IAQ Tools for Schools program.

**RAMP/Schools** - A retreat of the Advisory Committee of the Regional Asthma Management and Prevention Initiative (RAMP) (Barbara Spark is an Advisory Group member), identified asthma in schools as one of four areas of key concern for new hands-on work groups. On a parallel track, Shelly Rosenblum and Barbara Spark have met with a RAMP "schools" sub-committee" looking into the feasibility of an asthma-friendly schools initiative in the five SF Bay Area RAMP counties, with "IAQ Tools for Schools" as a first project.

### **Mold Miscellany:**

- **Roundtable.** Barbara Spark gave a presentation on the evolution of EPA's (IED's) program and policies related to mold at a West Coast meeting of the Environmental Policy Advisory Committee of the Real Estate Roundtable, Nov. 6, 2002. (The roundtable describes itself as: "the organization that brings together leaders of the nation's top public and privately-held real

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estate ownership, development, lending and management firms with the leaders of major national real estate trade associations to jointly address key national policy issues relating to real estate and the overall economy." A number of California real estate interests organizations participated. EPA Region 9 Administrator Wayne Nastri was the key speaker.

- **ICMA Webcast.** Barbara Spark gave the introduction, and hosted a national webcast on mold for the International City/County Management Association in October.
- **Toxic Mold Litigation Conference.** Barbara Spark spoke on EPA's mold guidance and program at a mold litigation conference provided by the American Conference Institute in San Francisco in October. Attendees primarily were defense attorneys and insurance companies. The luncheon speaker was the Judge in the \$32M "Ballard" case in Texas.

### **New on the Indoor Environments Division National IAQ Web Page:**

- **"IAQ Tools for Schools Program: Benefits of Improving Air Quality in the Indoor Environment."** [EPA-402-K-02-005, October 2002] This full-color, 20 page brochure pulls together a compelling set of endorsements about a range of positive outcomes from the Tools for Schools program based on feedback from school districts across the country. Sure to be a very useful "marketing" and outreach tool, the brochure is currently available only as an Adobe Acrobat PDF file (1.8MB file size). The printed brochure will be available from the IAQ INFO Clearinghouse in early spring of this year. (Posted on home page, or click on Schools.)
- **Presentations from the 3<sup>rd</sup> Annual IAQ Tools for Schools Symposium**, held in Washington, DC August 8-10, 2002, have been posted on the national EPA Indoor Environments Division web page (click on Schools).
- **CIAQ Minutes** - Minutes and meeting schedules of the Federal Interagency Committee on Indoor Air Quality (CIAQ) beginning with the January 2002 quarterly meeting, are now posted on our national web page. <http://www.epa.gov/iaq/ciaq/index.html> (click on meetings schedule), or <http://www.epa.gov/iaq/ciaq/meetingschedule.html>
- **Three checklists from the IAQ Tools for Schools Action Kit** (building maintenance; 2) waste management; and 3) food service **are now available in Spanish**. <http://www.epa.gov/iaq/schools/index.html>
- **A Brief Guide to Mold, Moisture, and Your Home'** [EPA 402-K-02-003] , initially published on the web, is now available in print.
- **Asthma Research Strategy** - In October, 2002 EPA and the American Lung Association announced a new research strategy. A link to EPA's Office of Research and Development's National Center for Environmental Assessment's Asthma Research Strategy is provided on our Asthma page.

## WORKING GROUP COMMITTEES

### Indoor Environmental Quality of Schools

-- Jed Waldman ([JWaldman@dhs.ca.gov](mailto:JWaldman@dhs.ca.gov))

## Building Design and Operations

-- Leon Alevantis ([LAlevant@dhs.ca.gov](mailto:LAlevant@dhs.ca.gov))

**Capitol Area East End Complex.** Construction on Block 225 was completed last summer, and the building is now fully occupied. Indoor air quality testing occurred before occupancy and once after occupancy. The final IAQ testing at this building will occur in the near future. Blocks 171-174 are planned for occupancy in April 2003. Air quality testing was conducted before furniture installation and will be conducted again shortly before occupancy. Block 225 has been awarded the Gold LEED rating. Blocks 171-174 anticipate a Silver LEED rating. The most recent quarterly report on the CAEEC to the Legislature's Joint Rules Committee can be found on-line at: <http://www.legi.dgs.ca.gov/Publications/default.htm>.

**Article on California's Road to Sustainability.** The USC Marshall School of Business Women's Leadership Board, a group of undergraduate students (both men and women), is developing a case study on the State's *Road to Sustainability*. The State and Consumer Services Agency, representatives from the Green Team, as well as numerous other state agencies involved with the Capitol Area East End Project were interviewed on February 3. Professor Suzanne Savary is organizing this case as well several of the students are working on the project. This is an opportunity to educate young people about organizational behavior and the process required to make major policy changes in state government. A report will be issued in the near future.

**Environmentally Preferable Products (EPP) Database.** In October 2001, the California legislature passed Senate Bill 373, which included a provision charging the State Architect to develop and maintain on its Web site a database of environmentally preferable products (EPP) that are used in school construction and renovation. Given that identical products are used for both school and office building construction, the development of such a database of construction products is a tremendous opportunity to promote sustainable building materials throughout California. Leon Alevantis is a member of the advisory group for this project.

A draft Sustainable Procurement Charter has been prepared between DGS and CIWMB. This charter outlines a program to provide state agencies with information and assistance regarding environmentally preferable purchasing. It is a result of implementation of Assembly Bill 498 (Chan, Chapter 575, Statutes of 2002), which requires the procurement of goods and services that have a reduced effect on human health and the environment in comparison to competing goods or services that serve the same purpose. Other agencies and departments are being encouraged to sign this Charter. The draft will be presented at the Undersecretary's meeting on 3/11/03.

**Economic Analysis of Green Building.** Under the direction of the Task Force and with funding from numerous state agencies, a draft report on green building economic analysis has been developed by the subcontractor retained for this purpose. The report seeks to determine how much green buildings cost, what financial benefits they provide, and whether or not green buildings are cost-effective over their lifetime. This report will help determine the level of state funding towards future sustainable state construction.

**UC Merced Conference.** Members of the Task Force will also participate and give presentations at the UC Merced Conference on sustainable building for higher education scheduled for April 28 and 29, 2003.

## **FUTURE MEETINGS**

Upcoming meetings of the CIWG-IAQ are scheduled as follows:

- June 11, 2003, Department of Health Services, Berkeley, Oakland or Richmond
- September 10, 2003, CalEPA Building, 10<sup>th</sup> & I St., Sacramento
- December 10, 2003, Department of Health Services, Richmond
- March 11, 2003, CalEPA Building, 10<sup>th</sup> & I St., Sacramento