

CALIFORNIA INDUSTRIAL HYGIENE COUNCIL

August 19, 2004

Ms. Dorothy Shimer
Research Division
Air Resources Board
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Re: Air Resources Board: Indoor Air Quality Study

The California Industrial Hygiene Council (CIHC) respectfully submits the following recommendation and comments regarding the Report to the California Legislature titled "Indoor Air Pollution in California," dated June 2004. The CIHC was founded in 1990 to establish a legislative presence in the California State Capitol for the industrial hygiene profession. Our board consists of Certified Industrial Hygienist (CIH) representatives from all of the California local sections of the American Industrial Hygiene Association. The local sections consist of Northern CA, Orange County, Sacramento, San Diego, and Southern CA.

The CIHC is concerned with the "science" behind this report and feels that many sections are flawed, which could negatively impact the development of future public policy. Further, it is surprising that there was no apparent attempt to obtain input on this topic from industrial hygienists, the group of professionals who have the most extensive experience in monitoring indoor air environments.

Recommendation:

1. Submit the report for a peer review by an independent scientific panel that includes Certified Industrial Hygienists, since they are the principal practitioners performing Indoor Air Quality evaluations.

Comments:

1. In order for the CIHC to conduct a thorough evaluation of the report and prepare comments of greater value, a deadline date later than August 20, 2004 is needed. We respectfully request an extension until September 17, 2004.
2. The report fails to address the dose-response relationship and the fact that there exists a No Observable Effect Level (NOEL) for most chemicals. The mere fact that a chemical can be detected at very low levels should not necessarily lead to the conclusion that a health hazard exists.
3. The statement that "significant gains could be achieved in public health protection from reductions in indoor source emissions..." begs the question of what epidemiology has been done to demonstrate that "significant gains" would be achieved. The referenced studies on asthma, for example, only find that limited, suggestive, or in some cases, sufficient evidence "of an association" exists. That tenuous association in many instances does not appear to support the statement that significant gains could be achieved.

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4. The statement that indoor levels of pollutants are “often elevated to levels that can result in adverse health impacts” does not appear to be supported by real scientific data, nor supported by epidemiologic studies. The “risk” issue would appear to be based solely on ethereal calculative risk assessments.
5. The stated potential health effects of “major indoor pollutants” are based on the known effects of truly toxic levels of exposure. The extremely low level of these “indoor pollutants” is not adequately recognized in the draft report and, thereby, the risk of health effects would appear to be overstated. One example of overstatement is that “formaldehyde nearly always exceeds recommended levels.” While it is true that indoor levels of formaldehyde generally exceed outdoor levels, CIHC members with extensive experience monitoring residential and commercial buildings have not found this to be the case.
6. In Section 2, while there were specific sampling results quoted for particulate matter PM_{2.5} and PM₁₀, few sampling results were presented for other contaminants such as toluene, xylene, methylene chloride, and other materials, which have a workplace Permissible Exposure Limit (PEL). All indoor sampling results for these hazards were far below the levels considered safe for the workplace.
7. Scientific evidence was not presented – either laboratory or epidemiological – that the low levels found indoors actually cause the health effects mentioned in Table 2.1, even for environmental tobacco smoke (ETS). The report concluded that available studies document the known effects of ETS particles and infectious and allergenic indoor biological contaminants but few studies have been designed to specifically identify effects of other types of indoor particulate matter.
8. According to Section 2, only 0.8% of houses in California exceed 4 pCi/L radon, yet the report repeatedly warned of cancer caused by indoor contaminants, including radon.
9. In Section 6, we were concerned about the casual use of the word “toxic,” without having an objective definition. It implied that the simple presence of a chemical is “toxic” without any regard to the concentration.
10. Section 6 includes the statement, “Composite wood products made with phenol-formaldehyde resin or methyl diisocyanate (MDI) have much lower formaldehyde emissions than those made with urea-formaldehyde resin.” While that may be true, it is also known that MDI is a known sensitizer at very low concentrations, and that phenol has a low odor threshold. These types of problems may create more of a true health hazard than a calculated risk of developing cancer from exposure to very low concentrations of formaldehyde.
11. In Section 7, the recommendations provided in the chapter are well thought out, but most of the statements are not specific enough on how or who would implement the recommendations. Some of the recommendations will no doubt cause financial and administrative hardship for the schools, especially under the current California economic climate.
12. Also in Section 7, the Solutions for Schools section is complete and cites specific studies. However, if the report recommends that all school buildings meet all relevant state regulations, especially the Cal OSHA workplace regulations, why is the recommendation not consistent with the Cal OSHA Permissible Exposure Limits, STELs, and Ceiling Limits?

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These are our impressions from only a limited review of the draft report. It represents our reasoning as to why significant additional time for review is needed and why there should be peer review by an independent scientific panel, which includes Certified Industrial Hygienists.

Industrial Hygiene professionals are dedicated to the recognition, evaluation, and control of chemical, biological, and physical hazards to workers and to communities. We applaud all efforts to reduce occupational and environmental hazards. However, with limited resources available to mitigate hazards, we advocate focusing on efforts that will achieve the maximum benefit to the greatest number of people.

Sincerely,



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