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Sent: Friday, August 20, 2004 1:59 PM
Subject: Comments on CARB Report on IAQ

Air Quality Sciences, Inc. (AQS) is submitting this document to comment on the June 2004 Draft *Report to the California Legislature on Indoor Air Pollution in California*. AQS has been working with manufacturers to improve their products' effects on Indoor Air Quality (IAQ) for the past 15 years. In the past, many important IAQ issues in California have been handled by organizations that did not have the authority or expertise to put together a comprehensive and meaningful program. AQS is excited about the recent developments taking place at the California Air Resources Board (CARB).

Many of California's new green building programs focus around the Section 01350 procedures for evaluating materials for indoor use. The referenced Section 01350 procedures were used for the first time in 2002 as part of the East End Complex in Sacramento, California. Since Section 01350 contains very few details on product testing and product handling procedures, laboratories were left on their own to evaluate products. In this short period of time, very few products have been tested to the Section 01350 procedures, and for those products that have been tested, different approaches to sample preparation have been taken without any consistency. Further, these procedures have not been externally validated. Finally, Section 01350 is not very stringent and as a result, most manufactured products can meet the standard without much effort.

The vast majority of historical data regarding chemical emissions of building products have been collected using protocols developed in the State of Washington IAQ program and the EPA's purchasing requirements. AQS has used these protocols over the past 15 years to support adoption of "cleaner" technologies that benefit consumers. These protocols have been verified to produce repeatable results through the EPA's stringent Environmental Technology Verification process. About 2 years ago, these protocols were adopted by the GREENGUARD Environmental Institute as the basis for their low-emitting products certification program.

The GREENGUARD protocol includes stringent chain of custody requirements that allow for proper documentation and consistency in the handling of all products from production to testing. When newly manufactured products are tested according to the GREENGUARD protocols, the data can be used to control exposure to acute IAQ effects as well as long-term chronic exposure using EPA exposure models.

Under the GREENGUARD testing protocols, all products are screened for more than 2,000 different chemicals, including irritants, odorants, carcinogens and reproductive toxins. Acceptable emission levels for VOCs are based on the American Council of Governmental Industrial Hygienists (ACGIH) Total Limit Values (TLVs), which were developed for indoor exposure situations. Because the ACGIH levels were developed for occupational exposure, these levels were divided by a safety factor of 10 to arrive at the levels required by GREENGUARD. The GREENGUARD program also tests for specific chemicals that are known irritants and odorants that can be emitted from specific product types.

GREENGUARD testing protocols also include a standard for total volatile organic compounds (TVOC), as a measure for the total load of VOCs. Testing for TVOCs is being added to all product requirements on an international basis. Many studies by European health researchers and the EPA have shown that TVOC can be used to predict irritation and classic building-related symptom complaints among building occupants. Further, the GREENGUARD testing protocols require that the emissions level be attained within days of installation of a new product, much sooner than the 14 days as prescribed by Section 01350.

The current draft of the CARB report makes no mention of IAQ programs supported by the State of Washington or the USEPA, and also neglects to mention the more comprehensive and widely accepted GREENGUARD Certification program. To ensure that accurate information regarding this program is incorporated into the DRAFT report, the CARB should contact the GREENGUARD Environmental Institute to

further discuss this matter. Additionally, if you would like to further discuss issues surrounding qualification of products for IAQ concerns, a representative of AQS will be available for a meeting at your request.

Sincerely,
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P.S. Contact info for the GEI is as follows:

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