

State of California
AIR RESOURCES BOARD

Resolution 06-1

January 26, 2006

Agenda Item No: 06-1-4

WHEREAS, sections 39600 and 39601 of the Health and Safety Code authorize the Air Resources Board (ARB or Board) to adopt standards, rules, and regulations and to do such acts as may be necessary for the proper execution of the powers and duties granted to, and imposed upon, the Board by law;

WHEREAS, Chapter 3.5 (commencing with section 39650) of Part 2 of Division 26 of the Health and Safety Code establishes procedures for the identification of toxic air contaminants by the Board;

WHEREAS, section 39655 of the Health and Safety Code defines a toxic air contaminant as “an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health;”

WHEREAS, section 39662 of the Health and Safety Code directs the Board to list, by regulation, substances determined to be toxic air contaminants, and to specify for each substance listed a threshold exposure level, if any, below which no significant adverse health effects are anticipated;

WHEREAS, the Children’s Environmental Health Protection Act of 1999 amended the toxic air contaminant statute to explicitly require consideration of exposures of infants and children to candidate toxic air contaminants, and any evidence on special susceptibilities of infants and children to the effects of candidate toxic air contaminants (Health and Safety Code section 39660(c)(1));

WHEREAS, environmental tobacco smoke (ETS) is a complex mixture of thousands of gases and fine particles mostly less than 1.0 μm in size, and many with known adverse health effects;

WHEREAS, ETS is a significant source of exposure to compounds already identified as toxic air contaminants pursuant to Health and Safety Code sections 39660-39662 including, but not limited to, 1,3-butadiene, acetaldehyde, acrolein, arsenic, benzene, benzo[a]pyrene, cadmium, chromium VI, and formaldehyde;

WHEREAS, despite restrictions on smoking and public awareness of health impacts, ETS exposure continues to be a major public health concern;

WHEREAS, annual ETS emissions in California are estimated to include approximately 40 tons of nicotine, 365 tons of respirable suspended particles, and 1,900 tons of carbon monoxide;

WHEREAS, to obtain current near-source levels of ETS in the ambient air of the state, ARB monitored nicotine (a commonly used surrogate for ETS) concentrations at several outdoor smoking areas in California. Depending on the site location and number of smokers present, the results showed nicotine present in ambient air in concentrations ranging from 0.013 to 3.1 $\mu\text{g}/\text{m}^3$ for the 8-hour measurements and 0.016 to 4.6 $\mu\text{g}/\text{m}^3$ for the 1-hour measurements;

WHEREAS, exposure to ETS varies widely among individuals and depends on their daily individual activities and time spent in smoking environments. For Californians who live in non-smoking homes and have only brief encounters with ETS, average 24-hour nicotine exposure concentrations are low, and are estimated to be less than 0.01 $\mu\text{g}/\text{m}^3$. For those who live in homes with indoor smokers and experience in-vehicle exposures, the average exposure concentration to which they are exposed over 24-hours can range up to 7.4 $\mu\text{g}/\text{m}^3$;

WHEREAS, infants and children who live with indoor smokers may be exposed to high levels of ETS in their homes, and even higher levels in vehicles. Such exposures are especially of concern for developing young children because they are likely to recur daily and infants and children are especially susceptible to the health effects of ETS;

WHEREAS, pursuant to the request of the Board, the Office of Environmental Health Hazard Assessment (OEHHA) evaluated the health effects of ETS in accordance with section 39660 of the Health and Safety Code;

WHEREAS, the OEHHA report, a comprehensive update of an earlier report first released in 1997 (Cal/EPA, 1997) and later published by the U.S National Cancer Institute (NCI, 1999), describes the health effects of ETS;

WHEREAS, OEHHA staff found that exposure to ETS is directly associated with a variety of adverse health outcomes involving developmental, respiratory, carcinogenic, and cardiovascular effects. These adverse health outcomes in adults include but are not limited to heart disease; lung cancer; nasal sinus cancer; and breast cancer in younger, primarily premenopausal women;

WHEREAS, OEHHA staff found that ETS also has been shown conclusively to be the cause of a number of serious impacts to children's health, such as sudden infant death syndrome (SIDS); pre-term delivery; low birth weight; induction and exacerbation of asthma; chronic respiratory symptoms; and increased acute lower respiratory and middle ear infections;

WHEREAS, upon receipt of the OEHHA evaluation, ARB staff prepared a report including, and in consideration of, the OEHHA evaluation and recommendations and in

the form required by section 39661 of the Health and Safety Code and, in accordance with the provisions of that section, made the report available to the public and submitted it for review to the Scientific Review Panel on Toxic Air Contaminants (SRP) established pursuant to section 39670 of the Health and Safety Code;

WHEREAS, in accordance with section 39661 of the Health and Safety Code, the SRP reviewed the staff report, including the scientific procedures and methods used to support the data in the report, the data itself, and the conclusions and assessments on which the report was based; considered the public comments received regarding the report; and on June 24, 2005, the SRP approved the report and adopted its findings (Attachment A) for submittal to the Board;

WHEREAS, OEHHA, based on available scientific evidence, did not find an ETS exposure level below which no significant adverse health effects are anticipated;

WHEREAS, because of the convincing evidence of childhood exposure to ETS, which may be higher under certain scenarios, and because of the conclusive evidence of associations with a number of illnesses in infants and children, the SRP concluded that exposure to ETS “may cause infants and children to be especially susceptible to illness”; and, upon listing as a toxic air contaminant by the Board, the SRP recommended that OEHHA propose to add ETS to the list of toxic air contaminants that may cause infants and children to be especially susceptible to illness, as stipulated by the Children’s Environmental Health Protection Act of 1999 (Health and Safety Code section 39669.5);

WHEREAS, the SRP found the report to be based on sound scientific knowledge, methods and practices and was a complete and balanced assessment of current scientific understanding, and recommended that ARB list ETS as a toxic air contaminant;

WHEREAS, ETS meets the definition of a toxic air contaminant as defined in section 39655 of the Health and Safety Code;

WHEREAS, the California Environmental Quality Act (CEQA), section 21080.5 of the Public Resources Code and Board regulations at title 17, California Code of Regulations, section 60006, require that no project which may have significant adverse environmental impacts be adopted as originally proposed if feasible alternatives or mitigation measures are available to reduce or eliminate such impacts;

WHEREAS, a public hearing and other administrative proceedings have been held in accordance with the provisions of Chapter 3.5 (commencing with section 11340), Part 1, Division 3, title 2 of the Government Code;

WHEREAS, in consideration of the Initial Statement of Reasons, written comments, and public testimony it has received, the Board finds that:

The proposed identification of ETS as a toxic air contaminant is authorized by California law and satisfies the requirements of Chapter 3.5 (commencing with section 39650) of Part 2 of Division 26 of the Health and Safety Code;

ETS is present in the ambient air of the state and was confirmed by the near-source air monitoring for nicotine conducted by ARB staff at several outside smoking areas and concentrations can range from 0.013 to 4.6 µg/m³;

Infants and children who live with indoor smokers may be exposed to high levels of ETS in their homes, and even higher levels in vehicles;

Pursuant to the request of the Board, OEHHA evaluated the health effects of ETS in accordance with section 39660 of the Health and Safety Code;

OEHHA found that exposure to ETS is directly associated with a variety of adverse health outcomes such as heart disease; lung cancer; nasal sinus cancer; and breast cancer in younger, primarily premenopausal women;

OEHHA staff also found that ETS has been shown to conclusively cause a number of serious impacts to children's health: SIDS, pre-term delivery, low birth weight, induction and exacerbation of asthma, chronic respiratory symptoms, and increased acute lower respiratory and middle ear infections;

The ETS report was reviewed and approved by the SRP pursuant to Health and Safety Code section 39661;

ETS meets the definition of a toxic air contaminant specified in Health and Safety Code section 39655 and that there is not a threshold exposure level below which no significant adverse health effects are anticipated;

The proposed action will not directly have any economic impact on sources of ETS because the act of identifying a toxic air contaminant does not mandate any specific risk management action; and

No reasonable alternative considered or that has otherwise been identified and brought to the attention of ARB would be more effective in carrying out the purpose for which the identification of ETS as a toxic air contaminant are proposed, or be as effective and less burdensome to affected private persons and businesses than the proposed action of identifying ETS as a toxic air contaminant.

WHEREAS, the Board further finds, based on its independent judgment and analysis of the entire record before it, that with respect to the requirements of Health and Safety Code sections 39660-39662, the proposed identification of ETS as a TAC will not have a significant adverse environmental impact.

NOW, THEREFORE, BE IT RESOLVED that, pursuant to Health and Safety Code section 39662, the Board finds that ETS meets the definition of a toxic air contaminant contained in Health and Safety Code section 39655 and hereby identifies ETS as a toxic air contaminant without a threshold exposure level below which no significant adverse health effects are anticipated and adopts the proposed regulatory amendment to section 93000, title 17, California Code of Regulations, as set forth in Attachment B hereto.

BE IT FURTHER RESOLVED that the Board directs the staff to begin the risk management phase of the program for ETS and directs the staff to conduct a needs assessment according to Health and Safety Code section 39665 to determine if any additional actions are warranted to reduce further public exposure to ETS.

I hereby certify that the above is a true and correct copy of Resolution 06-1, as adopted by the Air Resources Board.

Lori Andreoni, Clerk of the Board

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Identification of Attachments to the Resolution

Attachment A: Findings of the Scientific Review Panel, as set forth in Appendix II of the Initial Statement of Reasons released December 9, 2005

Attachment B: Amendment to section 93000, title 17, California Code of Regulations, as set forth in Appendix I of the Initial Statement of Reasons released December 9, 2005