State of California
AIR RESOURCES BOARD

Resolution 85-6

January 25, 1985

Agenda Item No.: 85-2-1

WHEREAS, Sections 39600 and 39601 of the Health and Safety Code authorize the Air Resources Board (the "Board") to do such acts and to adopt such regulations 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 an increase in serious illness, or which may pose a present or potential hazard to human health, and specifies that substances which have been identified by the Environmental Protection Agency (EPA) as hazardous air pollutants pursuant to Section 112 of the federal Clean Air Act (42 U.S.C. Section 7412) shall be identified by the Board as toxic air contaminants;

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, in accordance with the factors specified in Section 39660(b) of the Health and Safety Code for the prioritization of substances for evaluation, benzene was selected for evaluation;

WHEREAS, EPA has identified benzene as a hazardous air pollutant pursuant to Section 112 of the federal Clean Air Act;

WHEREAS, pursuant to the request of the Board, the Department of Health Services (DHS) evaluated the health effects of benzene in accordance with Section 39660 of the Health and Safety Code;

WHEREAS, DHS concluded in its evaluation that benzene is a human and animal carcinogen; benzene should be treated as a substance without a carcinogenic threshold; health effects other than cancer are not expected to occur at existing ambient levels of benzene; and the added lifetime cancer risk from benzene exposure ranges from 22 to 170 cases per million per part per billion;

WHEREAS, for the reasons set forth in its evaluation, DHS has concluded that, in the absence of strong positive evidence that carcinogenic substances act only through mechanisms which ought to have a threshold, these substances should be treated as acting without a threshold, and has determined that no positive evidence of a carcinogenic threshold exists with respect to benzene;

WHEREAS, DHS recommended in its evaluation that benzene should be identified by the Board as a toxic air contaminant without a carcinogenic threshold in humans;

WHEREAS, upon receipt of the DHS evaluation, staff of the Board prepared a health effects report including and in consideration of the DHS 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 formal review to the Scientific Review Panel (SRP) established pursuant to Section 39670 of the Health and Safety Code;

WHEREAS, benzene is ubiquitously emitted in the marketing and burning of gasoline and from stationary sources other than gasoline marketing, is present in the atmosphere in California in significant concentrations, and is relatively persistent in the atmosphere;

WHEREAS, in accordance with Section 39661 of the Health and Safety Code, the SRP reviewed the staff health effects 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 November 27, 1984, submitted its written findings to the Board;

WHEREAS, the SRP found to be prudent interpretations of the available evidence the propositions that:

> Benzene is a human carcinogen;
>
> Benzene should be treated as a carcinogen that may act at all doses without a threshold level;
>
> Health effects, other than cancer, are not anticipated at current ambient benzene exposure levels; and
>
> Under reasonable conservative estimates, the added lifetime cancer risk from exposure to benzene is not negligible;

WHEREAS, the SRP found the staff health effects report to be without serious deficiency, and to constitute a reasonable scientific basis for regulatory action regarding benzene, and included in its findings the statement that it agreed that benzene should be listed as a toxic air contaminant having no threshold level below which significant adverse health effects are not anticipated;

WHEREAS, in accordance with Section 39662, upon receipt of the SRP's findings, staff of the Board issued public notice and a proposed regulation identifying benzene as a toxic air contaminant having no threshold below which no significant adverse health effects are anticipated;

WHEREAS, the California Environmental Quality Act and Board regulations require that no project having significant adverse environmental impacts be

adopted as originally proposed if feasible alternatives or mitigation measures are available;

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

WHEREAS, in consideration of the health effects report, including DHS' evaluation and recommendations, the available evidence, the findings of the SRP, and the written comments and public testimony it has received, the Board finds that:

Benzene is a human carcinogen;

Health effects other than cancer are not anticipated at current ambient benzene exposure levels;

The range of reasonable dose-response curves predicts added lifetime cancer risks from exposure to benzene which are not negligible;

The best available scientific evidence does not support the assumption that the significant adverse health effects which may be anticipated from exposure to benzene in the ambient air are confined to the dose above any threshold; and

Benzene is an air pollutant which because of its carcinogenicity, causes and contributes to an increase in mortality and an increase in serious illness, and poses a hazard to human health; and

WHEREAS, the Board has determined, pursuant to the requirements of the California Environmental Quality Act and Board regulations, that this regulatory action will have no significant adverse impact on the environment.

NOW, THEREFORE BE IT RESOLVED, that the Board adopts Section 93000, Subchapter 7, Chapter 1, Part III, Title 17, California Administrative Code, as set forth in Attachment A, listing benzene as a toxic air contaminant, and specifying that the Board has found there to be no threshold exposure level below which no significant adverse health effects are anticipated from exposure to benzene in the ambient air.

I hereby certify that the above is a true and correct copy of Resolution 85-6, as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

ATTACHMENT A

Adopt Title 17, California Administrative Code, Section 93000 to read as follows:

93000. Substances Identified as Toxic Air Contaminants. Each substance identified in this section has been determined by the state board to be a toxic air contaminant as defined in Health and Safety Code Section 39655. Where the state board has found there to be a threshold exposure level below which no significant adverse health effects are anticipated from exposure to the identified substance, that level is specified as the threshold determination. Where the Board has found there to be no threshold exposure level below which no significant adverse health effects are anticipated from exposure to the identified substance, a finding of "no threshold" is specified.

Substance	Threshold Determination
Benzene (C_6H_6)	No threshold

State of California

Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : August 5, 1985

Subject : Filing of Notice of Decisions of the Air Resources Board

From : Harold Holmes
Board Secretary
Air Resources Board

Pursuant to Title 17, Section 60007 (b), and in compliance with Air Resources Board certification under Section 21080.5 of the Public Resources Code, the Air Resources Board hereby forwards for posting the attached notice of decisions and response to environmental comments raised during the comment period.

ATTACHMENTS
85-6
85-27
85-30
85-63

FILED AND POSTED BY
OFFICE OF THE SECRETARY

AUG 05 1985

Resources Agency of California

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Adoption of Regulation Identifying Benzene as a Toxic Air Contaminant

Agenda Item No.: 85-2-1

Public Hearing Date: January 25, 1985

Response Date: January 25, 1985

Issuing Authority: Air Resources Board

Comment: No comments were received identifying any significant environmental issues pertaining to this item. The staff report identified no adverse environmental effects.

Response: N/A

Certified: Harold Holmes
Board Secretary

Date: 08-19-85