State of California
AIR RESOURCES BOARD

Resolution 87-9

January 23, 1987

Agenda Item No.: 87-2-1

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;

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 California, cadmium (metallic cadmium and cadmium compounds, hereinafter "cadmium") is emitted from certain industrial processes such as secondary smelting operations, cement manufacturing, and combustion of fossil fuels, and has been measured in the atmosphere;

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

WHEREAS, DHS concluded in its evaluation that cadmium is an animal carcinogen with epidemiological evidence of carcinogenicity in humans; cadmium should be treated as a substance without a carcinogenic threshold; health effects other than cancer are not expected to occur at existing or expected ambient levels of cadmium; and the maximum excess lifetime cancer risk from cadmium exposure is estimated to range from 2 to 12 cases per million people exposed per nanogram per cubic meter;

WHEREAS, for the reasons set forth in its evaluation, DHS has concluded that, in the absence of strong positive evidence that cadmium acts only through mechanisms which ought to have a threshold, cadmium should be treated as acting without a threshold, and DHS has determined that there is not sufficient available scientific evidence at this time to support the identification of a cadmium exposure level below which carcinogenic effects would not have some probability of occurring;

WHEREAS, upon receipt of the DHS evaluation, staff of the Board prepared a 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 review to the Scientific Review Panel (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 October 30, 1986, adopted for submittal to the Board findings which included the following:

"1. Cadmium is an animal carcinogen for which there is epidemiologic evidence of carcinogenicity in humans exposed in occupational settings.

"2. Cadmium is emitted into the air by a variety of sources in California, and its presence has been documented in the ambient air around the state.

The SRP notes that the sub-population of Californians who smoke tobacco or breathe second-hand tobacco smoke will be exposed to cadmium at concentrations several orders of magnitude greater than the exposure of the general population.

The SRP also wishes to emphasize that estimates of cumulative exposure to cadmium should account for cadmium levels in indoor air which, in the absence of tobacco smoke, may be lower than those in outdoor air.

"3. Adverse health effects other than cancer are not expected to occur at measured or predicted cadmium concentrations in the ambient air.

"4. Based on available scientific information, a cadmium exposure level below which carcinogenic effects are not expected to occur cannot be identified.

"5. Based on an interpretation of available scientific evidence by DHS, the range of lifetime excess cancer risk from exposure to 1 ng/m3 of atmospheric cadmium based on the best estimate of risk and the upper 95% confidence limit is estimated to be 2 to 12 cases per million people exposed; it is unlikely that the risk will exceed this range, and may be lower.

"NOTE: DHS has assumed that the carcinogenic dose response of cadmium is linear and that dose rate does not influence the magnitude of carcinogenic effects. These assumptions are justified by DHS on the basis of being health conservative. While the SRP understands the reasons for this, weighing of the available scientific evidence indicates that the upper bound of the low dose risk estimate obtained by using these assumptions is likely to be high. The available data are also consistent with the possibility that the risk of lung cancer from current ambient exposures to cadmium in Califonia may be vanishingly small."

WHEREAS, the SRP found the staff report to be without serious deficiency, and included in its findings the statement that it agreed that cadmium should be listed by the Air Resources Board as a toxic air contaminant, and that there is not sufficient available scientific evidence at this time to support the designation of an exposure level below which carcinogenic effects would not have some probablility of occurring;

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;

WHEREAS, 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 staff 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:

Cadmium is an animal carcinogen with epidemiological evidence of carcinogenicity in humans;

Health effects other than cancer are not anticipated at existing ambient cadmium exposure levels;

There is not sufficient available scientific evidence to support the identification of a threshold exposure level for cadmium; and

Cadmium is an air pollutant which, because of its carcinogenicity, may cause or contribute 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 approves the proposed regulatory amendments to Section 93000, Title 17, California Administrative Code, as set forth in Attachment A.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to adopt the amendments, as set forth in Attachment A, after making it available to the public for a period of 15 days, provided that the Executive Officer shall consider such written comments regarding the changes in the regulations as originally proposed as may be submitted during this period, shall make such modifications as may be appropriate in light of the comments received, and shall present the regulations to the Board for further consideration if he determines that this is warranted.

I hereby certify that the above is a true and correct copy of Resolution 87-9, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

Attachment A

Amend 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. If 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. If 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, determination of "no threshold" is specified. If the board has found that there is not sufficient available scientific evidence to support the identification of a threshold exposure level, the "Threshold" column specifies "None identified."

Substance	Threshold
Benzene (C_6H_6)	None identified
Ethylene Dibromide ($BrCH_2CH_2Br$; 1,2-dibromoethane)	None identified
Ethylene Dichloride ($ClCH_2CH_2Cl$; 1,2-dichloroethane)	None identified
Hexavalent Chromium, Cr(VI)	None identified
Asbestos [asbestiform varieties of serpentine (chrysotile) riebeckite (crocidolite) cummingtonite-grunerite (amosite), tremolite, actinolite, and anthophyllite]	None identified
Dibenzo-p-dioxins and Dibenzofurans chlorinated in the 2,3,7 and 8 positions and containing 4,5,6 or 7 chlorine atoms*	None identified
Cadmium (metallic cadmium and cadmium compounds)	None identified

NOTE: Authority cited: Sections 39600, 39601 and 39662, Health and Safety Code. Reference: Sections 39650, 39660, 39661 and 39662, Health and Safety Code.

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider the Adoption of a Regulatory Amendment Identifying Metallic Cadmium and Cadmium Compounds as Toxic Air Contaminants

Agenda Item No.: 87-2-1

Public Hearing Date: January 23, 1987

Response Date: March 2, 1987

Issuing Authority: Air Resources Board

Comments: 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: Pat Hutchens for Harold Holmes
Board Secretary

Date: 9/21/87

State of California

MEMORANDUM

To : Gordon Van Vleck
Secretary
Resources Agency

Date : November 19, 1987

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

Harold Holmes
Board Secretary
From : **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
86-68
86-70
86-71
86-94
86-98
86-99
86-115
87-9
87-61
87-66

State of California

MEMORANDUM

To : Gordon Van Vleck
Secretary
Resources Agency

Date : January 13, 1988

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

Cary Allison
Board Secretary
From : **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.

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87-62
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88-1
88-8

State of California
AIR RESOURCES BOARD

Resolution 87-10

January 23, 1987

Agenda Item No.: 87-2-2

WHEREAS, Health and Safety Code Section 41805.5 requires the Air Resources Board ("Board"), in coordination with the air pollution control districts, to develop and publish test guidelines for landfill gas and ambient air testing at active solid waste disposal sites on or before February 1, 1987;

WHEREAS, the Board approved "Testing Guidelines for Active Solid Waste Disposal Sites" at a public meeting held December 18, 1986;

WHEREAS, Health and Safety Code Section 41805.5 defines a solid waste disposal site to include sites which accept or have accepted hazardous waste;

WHEREAS, the Air Resources Board staff, with the participation of representatives of local air pollution control districts, the Department of Health Services and the Water Resources Control Board, have prepared a proposed guidance document titled "Hazardous Waste Disposal Site Testing Guidelines" ("guidelines");

WHEREAS, Health and Safety Code Section 41805.5 requires owners of active solid waste disposal sites to submit a solid waste air quality assessment test report to the local air pollution control districts;

WHEREAS, Health and Safety Code Section 41805.5 requires the Air Resources Board to publish guidelines specifying air contaminants to be tested for and identifying acceptable testing, analytical and reporting methods;

WHEREAS, the California Environmental Quality Act and Board regulations require that no project having significant adverse environmental impacts be adopted as proposed is feasible alternatives or mitigation measures are available;

WHEREAS, the Board has held a noticed public meeting to consider approval of the proposed guidelines and has received and considered the comments presented by its staff, representatives of the districts, affected government agencies, affected businesses, and other interested persons and agencies on the proposed guidelines; and