## RESOLUTIONS

| No. | Item | Staff | Hearing Scheduled | Date Adopted | + EIS to Resources |
|---|---|---|---|---|---|
| 84-1 | Repeal of the Toxic Regulations | SSD | 1/27/84 | 1/27/84 | 2/28/84 |
| 84-2 | Cargo Tanks Regulations | SSD | 2/24/84 | 2/14/84 | 4/5/84 |
| 84-3 | Abrasive Blasting Regulations | SSD | 2/24/84 | 2/24/84 | 4/5/84 |
| 84-4 | Subvention Regulations | CD | 2/24/84 | 2/24/84 | 4/5/84 |
| 84-5 | Local APCD'a regulations | Legal | 2/24/84 | 2/24/84 | 4/5/84 |
| 84-6 | Conflict of Interest Regulations | Legal | 2/24/84 | 2/24/84 | 4/5/84 |
| 84-7 | UCD-$62,300. | Research | 2/24/84 | 2/24/84 | N/A |
| 84-8 | UCSB-$426,913- "Chemical & Biological Survey of Lakes & Streams Located in Emerald Lake watershed of Sierras" | Research | 3/23/84 | 3/23/84 | N/A |
| 84-9 | UCLA-$99,191- Vegetation Process Studies | Research | 3/23/84 | 3/23/84 | N/A |
| 84-10 | Public Disclosure Regulations | Legal | 3/23/84 | 4/26/84 | 6/8/84 |
| 84-11 | Motorcycle standard | MSD | 3/23/84 | 4/26/84 | 6/8/84 |
| 84-12 | Board Direction to Research Sreening Committee | Research | 3/22/84 | 5/24/84 | N/A |
| 84-13 | State Health Services-$134,927-"Dry Deposition of Acidic Gases & Particles" | Research | 4/27/84 | 4/27/84 | N/A |
| 84-14 | UCSB-$357,686.-"Snow Deposition, Melt, Runoff & Chemistry in a Small Alpine Watershed, Emerald Basin, Sequoia Park" | Research | 4/27/84 | 4/27/84 | N/A |
| 84-15 | State Dept. of Fish & Game-$400,00- "Statewide Survey of Aquatic Ecosystem Chemistry: Comprehensive Study" | Research | 4/27/84 | 4/27/84 | N/A |
| 84-16 | UCR-$170,976.-"Effects of Acid deposition on Important Soil Processes in a Selected Watershed" | Research | 4/27/84 | 4/27/84 | N/A |

State of California
AIR RESOURCES BOARD

RESOLUTIONS

| No. | Item | Staff | Hearing Scheduled | Date Adopted | + EIS to Resources |
|---|---|---|---|---|---|
| 84-17 | UCLA-$62,952-"Project Basin" | Research | 04/27/84 | 04/27/84 | N/A |
| 84-18 | UCI-$247,528-"Inhalation Toxicology of Combined Acid and Soot Particles" | Research | 04/27/84 | 04/27/84 | N/A |
| 84-19 | Southern Research Inst.-$142,362-" Recommendation of Particle Sizing Metho-dologies" | Research | 04/27/84 | 04/27/84 | N/A |
| 84-20 | Assembly-Line Test Procedures (Reg) | MSD | 04/26/84 | 04/26/84 | 6/08/84 |
| 84-21 | Southern Research Inst.-$263,675-"Development of Analytical Methods for Ambient Monitoring and Source Testing" | Research | 05/24/84 | 05/24/84 | N/A |
| 84-22 | UCR-$195,305-"Formation and Fate of Toxic Chemicals in California's Atmosphere" | Research | 05/24/84 | 05/24/84 | N/A |
| 84-23 | UCD-$192,464-"Ingalation Uptake of Selected Chemical Vapors at Trace Levels" | Research | 05/24/84 | 05/24/84 | N/A |
| 84-24 | Energy and Env. Analyses-$37,070 Aug-Development of Standardized Diagnostic Procedures for Diesel Engine Emissions" | Research | 05/24/84 | 05/24/84 | N/A |
| 84-25 | UCR-$165,888-"Effects of Methanol Substi-tution on Multi-day Air Pollution Episodes" | Research | 05/24/84 | 05/24/84 | N/A |
| 84-26 | Energy and Env. Cons.-$9,940-"Economic Assessment of the Effects of AP on AG Crops in San Joaquin Valley" | Research | 05/24/84 | 05/24/84 | N/A |
| 84-27 | UCD-"$10,000-"Effects of Ozone and $SO_2$ on Crop Shysiology and Productivity" | Research | 05/24/84 | 05/24/84 | N/A |
| 84-28 | State Dept. of Health Scvcs-$87,882-"The Air and Industrial Hygiene Lab/ARB Center for Auto. Particle Analysis" | Research | 05/24/84 | 05/24/84 | N/A |
| 84-29 | $210,000-"Study of Influence of Sediment in Buffering Aquatic Systems and Develop | Research | 05/24/84 | 05/24/84 | N/A |
| 84-30 | Sonoma-$100,000-"Characterization of Reactants Mechanisms, and Species in SCAB Cloudwater | Research | 05/24/84 | 05/24/84 | N/A |
| 84-31 | Lead in Fuel Regulations | SSD | 05/24/84 | 05/24/84 | 6/08/84 |
| 84-32 | Reclassification of Shasta County for Subvention Purposes | CD | 05/24/84 | 05/24/84 | 6/08/84 |

State of California
AIR RESOURCES BOARD

**RESOLUTIONS**

Resolutions 1984-

| No. | Item | Staff | Hearing Scheduled | Date Adopted | + EIS to Resources |
|---|---|---|---|---|---|
| 84-33 | UCD-$210,670-"Study of the Influence of Sediments in Buffering Aquatic systems and Development of a Model of the Acidifi" | Research | 5/24/84 | 5/24/84 | N/A |
| 84-34 | Adoption of Resource Recovery Report | SSD | 5/24/84 | 5/24/84 | N/A |
| 84-35 | UCI-$90,000 "Toxicology of Inhaled Acid, Carbon Soot, and Diesel Particles" | Research | 6/21/84 | 6/21/84 | N/A |
| 84-36 | Energy and Env. Research/Sierra Research-$9,856.05"Evaluation of Maintenance Practices In Ser. Transit Bus Smoke & Part. | " " | " " | " " | N/A |
| 84-37 | Shelton Energy Research-$149,980"Evaluation of Low-Emission Wood Stoves" | " " | " " | " " | N/A |
| 84-38 | Acid Deposition Fee Program | " " | " " | " " | 2/5/85 |
| 84-39 | AB 1223 Protocol | SSD | 6/22/84 | 6/21/84 | N/A |
| 84-40 | Citizens for Better Environment Petition on Flare Emissions | " " | 7/26/84 | 7/24/84 | N/A |
| 84-41 | Regulations Regarding Certification of Heavy-Duty engines and Vehicles | MSD | 8/23/84 | 8/23/84 | 2/5/85 |
| 84-42 | Emissions Warranty Regulations | MSD | 8/23/84 | 8/23/84 | 2/5/85 |
| 84-43 | UCLA-$113,69a"Effect of Pollutant Exposure-Ambient Air in Childhood and Adulthood" | Research | 9/26/84 | 9/26/84 | N/A |
| 84-44 | USC-$96,981"The Role of NO2 & NO3 in Cancer Metastisis & in Systemic Adverse Effects" | " " | " " | " " | N/A |
| 84-45 | UCD-$89,610"Human Physiological Responses to Inhalation of N)2,&NO3 & NO2 plus NO3 during heavy sustained ecercise" | " | " " | " " | N/A |
| 84-46 | UCR-$127,971-"The Effects of Present & Protential AP on Thompson Seedless Grapes & Tomatoes" (SJ Valley Crops) | " " | " " | " " | N/A |
| 84-47 | UCR-$98,000-"A Program to Assess Crop Loss from Air Pollutants" | " " | " " | " " | N/A |
| 84-48 | Cit-$400,000-"Fog, Cloud and Dew Chemistry" | " " | " " | " " | N/A |

State of California
AIR RESOURCES BOARD

RESOLUTIONS

| No. | Item | Staff | Hearing Scheduled | Date Adopted | + EIS to Resources |
|---|---|---|---|---|---|
| 84-49 | DOHS-$279,291"Determination of Acidity in Ambient Air - Phase II" | Research | 09/26/84 | 09/26/84 | N/A |
| 84-50 | Draft Report to the Legislature on Toxics | SSD | 09/26/84 | 09/26/84 | N/A |
| 84-51 | UCR-$440,437"A Coordinated Study of the Role of Nitrogenous Pollutants in Formation of Acid Dep." | Research | 10/25/84 | 10/25/84 | N/A |
| 84-52 | Ambient Air Quality Standards Sections 70100-70201 | " | 10/25/84 | 10/25/84 | 2/05/85 |
| 84-53 | S.R. on Diesel Fuel | SSD | 10/25/84 | 10/25/84 | N/A |
| 84-54 | Long Range Research Plan | Research | 11/30/84 | 11/30/84 | N/A |
| 84-55 | Second Annual Acid Deposition Report to the Legislature | Research | 11/30/84 | 11/30/84 | N/A |
| 84-56 | South Central Coast Aerometric Monitoring Program | TSD | 11/30/84 | 11/30/84 | N/A |
| 84-57 | Ag Burning Regulations - Chaparrall Management | ADD | 11/29/84 | DEFERRED TO Committee AND WORKSHOP TO BE HEARD AGAIN IN MID-85 | |
| 84-58 | Draft Report on the "Effects of NOx on CA Air Quality" | TSD | 11/30/84 | 11/30/84 | N/A |
| 84-59 | "Grey Market" Report | MSD | 11/29/84 | 11/29/84 | N/A |
| 84-60 | FAREWELL TO TOM HAMILTON | Legal | 12/14/84 | 12/14/84 | N/A |
| 84-61 | | | | | |
| 84-62 | | | | | |
| 84-63 | | | | | |
| 84-64 | | | | | |

State of California
AIR RESOURCES BOARD

Resolution 84-1

January 27, 1984

Agenda Item No.: 84-2-1

WHEREAS, the Air Resources Board (the "Board") on December 1, 1982, adopted a new Subchapter 7, in Chapter 1, Part III of Title 17, California Administrative Code, entitled "Toxic Air Contaminants," consisting of Sections 93000-93005;

WHEREAS, Sections 93000-93005 contain procedures and criteria for the identification and listing of toxic air contaminants and establish minimum requirements for the control of toxic air contaminants;

WHEREAS, the Board adopted Sections 93000-93005 pursuant to a finding that the public health, safety and welfare are endangered by the emission into the ambient air of substances which are determined to be carcinogenic or otherwise toxic to human beings; and that the statewide program created by these regulations was authorized, necessary and desirable;

WHEREAS, in September 1983, the Legislature enacted and the Governor signed AB 1807 (Tanner, Stats. 1983, ch. 1047; Health and Safety Code Section 39650 et seq., Food and Agricultural Code Section 14021 et seq.), in which the Legislature finds and declares that:

> The public health, safety, and welfare may be endangered by the emission into the ambient air of substances which are determined to be carcinogenic, teratogenic, mutagenic, or otherwise toxic or injurious to humans; and
>
> It is the public policy of the state that emissions of toxic air contaminants should be controlled to levels which prevent harm to the public health.

WHEREAS, in AB 1807, the Legislature clarified the role of the Air Resources Board with regard to the regulation of toxic air contaminants and provided specific legislative direction to the Board and to local air pollution control districts in the identification and control of toxic air contaminants;

WHEREAS, the provisions of AB 1807 override any conflicting provisions of the Board's regulations;

WHEREAS, the Board finds that, because of the adoption of AB 1807, the Board's regulations for the identification and control of toxic air contaminants are no longer necessary;

WHEREAS, the California Environmental Quality Act and Board regulations require that action not be taken as proposed if feasible mitigation measures or alternatives exist which would substantially reduce any significant adverse environmental effects of the proposed action;

WHEREAS, the Board finds that the repeal of Sections 93000-93005 will not result in adverse environmental impacts; and

WHEREAS, a duly noticed public hearing has 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.

NOW, THEREFORE, BE IT RESOLVED that the Board repeals Sections 93000-93005, Title 17, California Administrative Code.

BE IT FURTHER RESOLVED that the Executive Officer is directed to take appropriate measures to assure timely implementation of AB 1807, including coordination with affected agencies in the evaluation and identification of substances which may be toxic air contaminants and with air pollution control districts in the control of substances identified as toxic air contaminants for nonvehicular sources.

I hereby certify that the above is a true and correct copy of Resolution 84-1 as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider the Repeal of Sections 93000-93005, Title 17, California Administrative Code, Regarding Toxic Air Contaminants

Agenda Item No.: 84-2-1

Public Hearing Date: January 27, 1984

Response Date: January 27, 1984

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 impacts.

Response: N/A

CERTIFIED: Marvel Holmes
Board Secretary

Date: 01/27/84

State of California

# Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : February 27, 1984

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 decision and response to environmental comments raised during the comment period.

ATTACHMENTS
83-25

State of California
AIR RESOURCES BOARD

Resolution 84-2

February 24, 1984

Agenda Item No.: 84-4-1

WHEREAS, Health and Safety Code Section 39601 authorizes the Air Resources Board (the "Board") to adopt standards, rules and regulations necessary for the proper execution of the powers and duties granted to and imposed upon the Board by law;

WHEREAS, Health and Safety Code Section 41962 requires the Board to adopt test procedures for determining the compliance of vapor recovery systems of cargo tanks on tank vehicles used to transport gasoline with vapor emission standards which are reasonable and necessary to achieve or maintain any applicable ambient air quality standard;

WHEREAS, the Board has established certification and test procedures for gasoline cargo tank vapor recovery systems in its "Certification and Test Procedures for Vapor Recovery Systems of Gasoline Delivery Tanks," as last amended September 1, 1982 (the "Certification and Test Procedures"), incorporated by reference in Section 94004, Title 17, California Administrative Code;

WHEREAS, effective July 1, 1983, the Board has contracted with the California Highway Patrol to replace the State Fire Marshal in conducting the annual vapor recovery system certification program for individual gasoline delivery tanks pursuant to the Certification and Test Procedures;

WHEREAS, Section 94005, Title 17, California Administrative Code, sets forth the requirements for preparation and submittal of the proof of correction used in the optional alternative, established in Sections 41970-41972 of the Health and Safety Code, to criminal penalties in cases involving violations of statutes and regulations relating to gasoline cargo tank vapor recovery systems;

WHEREAS, the Board staff has proposed amendments to the "Certification and Test Procedures" and to Sections 94004 and 94005, Title 17, California Administrative Code, in order to provide that the California Highway Patrol administers the annual gasoline cargo tank vapor recovery system certification program, to allow annual certification renewal to occur throughout the year, to change the maximum time permitted between delivery tank testing and the issuance or renewal of certification, and to make minor technical and clarifying changes;

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

WHEREAS, a public hearing and other administrative proceedings have been held in accordance with the provisions of the Administrative Procedure Act (Government Code, Title 2, Division 3, Part 1, Chapter 3.5); and

WHEREAS, the Board finds that:

The amendments to Section 94004, Title 17, California Administrative Code, and to the Certification and Test Procedures set forth in Attachment A are necessary and appropriate to reflect changes in the administration of the annual gasoline cargo tank vapor recovery system certification program, to provide for annual certification throughout the year, to assure that annual certification approvals are based on recent data, and to enhance clarity;

The amendments to Section 94005, Title 17, California Administrative Code, set forth in Attachment B reflect the transfer of administration of the annual gasoline cargo tank vapor recovery system certification program to the California Highway Patrol; and

The amendments set forth in Attachments A and B will have no significant adverse impact on the environment.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby amends Section 94004, Title 17, California Administrative Code, and the incorporated "Certification and Test Procedures for Vapor Recovery Systems of Gasoline Delivery Tanks," as set forth in Attachment A hereto.

BE IT FURTHER RESOLVED that the Board hereby amends Section 94005, Title 17, California Administrative Code, as set forth in Attachment B hereto.

I certify that the above is a true and correct copy of Resolution 84-2, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ATTACHMENT A

Amend Section 94004 of Title 17, California Administrative Code, to read as follows:

94004. Certification of Vapor Recovery Systems - Gasoline Delivery Tanks. Gasoline vapor recovery systems for delivery tanks shall be certified in accordance with the Air Resources Board's "Certification and Test Procedures for Vapor Recovery Systems of Gasoline Delivery Tanks," adopted on April 18, 1977, as last amended ~~September 1, 1982~~ February 24, 1984.

NOTE: Authority cited: Sections 39600, 39601, 39607, 41954, and 41962, Health and Safety Code. Reference: Sections 39515, 39516, 39607, 41954, and 41962, Health and Safety Code.

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State of California
AIR RESOURCES BOARD

Adopted: April 18, 1977
Amended: September 1, 1982
Amended: February 24, 1984

# Certification and Test Procedures for Vapor Recovery Systems of Gasoline Delivery Tanks

## I. General Applicability

This procedure is applicable to tank trucks and trailers that are equipped for the transport of gasoline and that must be equipped for gasoline vapor recovery in accordance with air pollution control district rules.

## II. Definitions

A. Delivery tank means any container, including associated pipes and fittings, that is used for the transportation of gasoline on any highway and is required to be certified in accordance with Section 41962 of the California Health and Safety Code.

B. Compartment means a liquid-tight division of a delivery tank.

C. System design means the design of the delivery tank and all associated gasoline delivery and vapor recovery pipes, hoses and fittings. The system design shall be represented by a set of drawings and specifications which conform to good engineering practice.

## III. General Requirements

A. Only a vapor recovery system of a design that is certified by the Executive Officer may be installed on a delivery tank.

B. No person shall operate, or allow the operation of, a delivery tank unless the delivery tank is certified and maintained in accordance with these procedures. ~~Annual~~ ~~C~~certifications shall be issued on an annual basis and shall expire at midnight of the next to the last day of the month one year following the month of issuance of the certification. ~~effective from July 1 through June 30 of the following year.~~

C. The owner or operator of any delivery tank shall:

(1) Annually test such tank(s) in accordance with the provisions of Section IX;

(2) Annually apply for certification of such tank(s) in accordance with the provisions of Section VII.

IV. Design and Performance Standards

A. The design of the vapor recovery system of the delivery tank shall be such that when the delivery tank is connected to an approved underground storage tank vapor recovery system or a vapor recovery system at a bulk plant or terminal it shall not prevent such systems from achieving the required vapor recovery efficiencies. The connectors of the delivery tank shall be compatible with the fittings on the fill-pipes at the service stations and gasoline terminals which the delivery tank will service. Such compatibility may be achieved by the use of adapters.

B. For the annual certification test for delivery tanks, except those tanks described in Section IV-C, a pressure change of not more than one (1) inch of water shall occur in five minutes when the delivery tank is pressurized to 18 inches of water (gauge) or evacuated to six

(6) inches of water (gauge) according to the procedures specified in Section IX. At no time after the annual test, shall a pressure change of 2.5 inches of water occur in five minutes when the delivery tank is tested as above. If, at any time during the year, the delivery tank is found to not be in compliance, it shall be made to comply with the annual certification leak-rate criterion.

C. For delivery tanks of less than 2,500 gallons total capacity and delivery tanks which have to be tested by individual compartment, the pressure change may not exceed the values set forth in the table below.

| Delivery Tank or Compartment Capacity Gallons) | Allowed Pressure Change Per Tank or Compartment Tested (inches water, gauge) (per 5 minutes) | |
|---|---|---|
| | Annual Certification | Year-Round* |
| 2499 to 1500 | 1.5 | 3.0 |
| 1499 to 1000 | 2.0 | 3.5 |
| 999 or less | 2.5 | 4.0 |

*Year-round; not to be exceeded anytime.

D. A delivery tank shall be deemed to exceed the applicable year-round leak-rate criterion established in Sections IV. B and C if the delivery tank is tested pursuant to the Air Resources Board's "Test Procedure for Gasoline Vapor Leak Detection Using A Combustible Gas Detector" with the following results:

1. A vapor leak as defined in such test procedures occurs from the delivery tank; and
2. During the test, a back-pressure of less than 18 inches water (gauge) is created in the delivery tank.

A delivery tank described in the previous sentence shall not be deemed to exceed the applicable year-round leak-rate criterion established in Sections IV. B and C if it is:

1. Taken out of service immediately following notification of the owner or operator of the results of the test conducted pursuant to the Air Resources Board's "Test Procedure for Gasoline Vapor Leak Detection Using A Combustible Gas Detector"; and
2. Tested in accordance with the procedures specified in Section IX without any maintenance being done on the tank, and found to be in compliance with the applicable year-round leak-rate criterion.

E. The internal vapor valve shall be maintained to meet the following requirements by the dates given. By July 1, 1983: A pressure increase in the vapor return line and manifold of no more than 15 inches of water (gauge) shall occur in five (5) minutes when the delivery tank is pressurized to 18 inches of water (gauge) according to the procedures specified in Section IX-E. By July 1, 1984: a pressure increase of no more than ten (10) inches of water (gauge) shall occur in five (5) minutes when the delivery tank is pressurized to 18 inches of water (gauge) according to the procedures specified in Section IX-E. By July 1, 1985: A pressure increase of no more than five (5) inches of water (gauge) shall occur in five (5) minutes when the delivery tank is pressurized to 18 inches of water (gauge) according to the procedures specified in Section IX-E.
Alternatively, a check valve or other equivalent equipment, properly installed and maintained on the delivery tank's vapor recovery adapter(s), may be used providing such equipment prevents the escape

of any vapor from the vapor recovery piping when the system is not connected to any other vapor recovery system.

V. Application for Approval of System Design

Application for approval of a system design shall be made to the Executive Officer on a form approved by the Executive Officer. The applicant shall submit a set of drawings and specifications including but not limited to piping configuration and dimensions, types of seals, and types of couplers for delivery hoses. Data which demonstrate that the delivery tank vapor recovery piping system will work in conjunction with the appropriate underground storage tank vapor recovery system for controlling the gasoline vapors displaced during the filling of underground storage tanks shall also be submitted.

VI. Approval of a System Design

The Executive Officer, upon review of the drawings and specifications of a system design, and upon finding that the system complies with the requirements of Section IV-A, shall issue a System Design Approval Number.

VII. Application for Certification of Individual Delivery Tanks

The application for certification of individual delivery tanks shall ~~is to~~ be submitted ~~annually,~~ to the Executive Officer or his or her designate, and shall ~~is to~~ contain the following information:

1. Name, address, and telephone number of owner or operator, and company name (if applicable).
2. The sizes and number of compartments of the delivery tank.
3. The delivery tank's California Highway Patrol cargo tank ~~State Fire Marshal's~~ identification number.
4. The air pollution control district in which the delivery tank's base of operation is located.

5. A statement that the tank has been tested according to the test procedures in Section IX and complies with the performance standards in Section IV.
6. The test data acquired in 5 above.
7. A declaration under penalty of perjury by the person conducting the test that the information contained in items 5 and 6 is true and correct.
8. A declaration under penalty of perjury by the applicant setting forth his or her relationship to the delivery tank and stating that all information is true and correct.

VIII. Certification of an Individual Delivery Tank

The Executive Officer, or his or her designate, upon review of the application of certification of an individual delivery tank and any other pertinent data, and upon finding that the delivery tank complies with the requirements of Section IV, shall return a copy of the application to the applicant with a stamped acknowledgement of receipt thereon, or other appropriate documentation of certification. The stamped copy of the application or other documentation of certification shall be kept with the delivery tank at all times.

IX. Test Procedures

A. Testing

The delivery tank is to be tested in a location where it will be protected from direct sunlight. The delivery tank, mounted on either the truck or trailer, is to be pressurized, isolated from the pressure source, and the pressure drop recorded to determine the rate

of pressure change. A vacuum test is to be conducted in the same manner. ~~For an~~ Annual recertification tests, ~~the test may not~~ shall be conducted no more than sixty days ~~six months~~ prior to ~~the~~ issuance of the certification ~~period~~.

B. Visual Inspection

The entire tank, including domes, dome vents, cargo tank, piping hose connections, hoses and delivery elbows shall be inspected for evidence of wear, damage, or misadjustment that could be a potential leak source. Any part found to be defective shall be adjusted, repaired or replaced as necessary.

C. Equipment Requirements

1. Source of air or inert gas of sufficient quantity to pressurize tanks to 27.5 inches of water (1 psi) above atmospheric pressure.
2. Low pressure (5 psi divisions) regulator for controlling pressurization of tank.
3. Water manometer with 0 to 25 inch range, with scale readings of 0.1 inch.
4. Test cap for vapor line with a shut-off valve for connection to the pressure and vacuum supply hoses. The test cap is to be equipped with a tap for connecting the manometer.
5. Caps for liquid delivery line.
6. Vacuum pump of sufficient capacity to evacuate tank to ten inches of water.
7. Pressure and vacuum supply hose of 1/4 inch internal diameter.

8. In-line, pressure-vacuum relief valve set to activate at one (1) psi and with a capacity equal to the pressurizing or evacuating pumps.

D. Vacuum and Pressure Tests of Tanks

1. Pressure Test

a. The tank shall be purged of gasoline vapor and tested empty. The tank may be purged by any safe method not in violation of other regulations. Examples of such safe methods are flushing with a diesel fuel, or heating oil.

b. The dome covers are to be opened and closed.

c. Connect static electrical ground connections to tank. Attach the delivery and vapor hoses, remove the delivery elbows and plug the liquid delivery fittings.

d. Attach the test cap to the vapor recovery line of the delivery tank.

e. Connect the vacuum and pressure supply hose and the pressure-vacuum relief valve to the shut-off valve. Attach the pressure source to the hose. Attach a manometer to the pressure tap.

f. Connect compartments of the tank internally to each other if possible.

g. Applying air pressure slowly, pressurize the tank, or alternatively the first compartment, to 18 inches of water.

h. Close the shut-off valve, allow the pressure in the delivery tank to stabilize (adjust the pressure if

necessary to maintain 18 inches of water), record the time and initial pressure.

i. At the end of five minutes, record the final time and pressure.

j. Repeat for each compartment if they were not interconnected.

2. Vacuum Test

a. Connect vacuum source to pressure and vacuum supply hose.

b. Slowly evacuate the tank, or alternatively the first compartment, to six (6) inches of water. Close the shut-off valve, allow the pressure in the delivery tank to stabilize (adjust the pressure if necessary to maintain six inches of water vacuum), record the initial pressure and time. At the end of five (5) minutes, record the final pressure and time.

E. Leak Check of Internal Vapor Valve(s)

1. After completing the vacuum and pressure tests, pressurize the tank as in D.1 above to 18 inches of water.

2. Close the delivery tank's internal valve(s) including the internal vapor valve(s), thereby isolating the vapor return line and manifold from the delivery tank.

3. Relieve the pressure in the vapor return line to atmospheric pressure.

4. Seal the vapor return line and after five (5) minutes record the pressure existing in the vapor return line and manifold.

F. Alternative Test Methods

1. Methods, other than specified above, may be used if prior approval is obtained from the Executive Officer of the Air Resources Board. In order to secure the Executive Officer's approval of an alternative test method, the proponent is responsible for demonstrating to the Executive Officer's satisfaction that the alternative method is equivalent to the adopted method.

X. Conduct of Testing

Tests should be conducted by the owner of the delivery tank, or a consultant, at the expense of the owner. Prior to testing, the owner shall notify the Executive Officer, or his or her designate, of the date, time and location of the testing. The Executive Officer, or his or her representatives or designate may observe the tests or conduct tests.

XI. Fees

A. The Executive Officer, to cover the cost of approving system designs may charge a fee not to exceed the actual cost incurred.

B. The Executive Officer, or his or her designate, to cover the cost of certifying delivery tanks, may charge a fee not to exceed the actual cost of certification.

XII. Application for Variance

A. Any person who cannot comply with the requirements set forth in Section IV because of unreasonable economic hardship, unavailability of equipment or lack of technological feasibility may apply to the Executive Officer for a variance. The application shall set forth:

(1) the specific grounds upon which the variance is sought;

(2) the proposed date(s) by which compliance with the requirements of Section IV will be achieved; and

(3) a plan reasonably detailing the method by which compliance will be achieved.

B. Upon receipt of an application for a variance, the Executive Officer shall hold a hearing to determine whether, and under what conditions and to what extent, a variance from the requirements established by Section IV is necessary and will be permitted. Notice of the time and place of the hearing shall be sent to the applicant by certified mail not less than 30 days prior to the hearing. Notice of the hearing shall also be published in at least one newspaper of general circulation and shall be sent to every person who requests such notice, not less than 30 days prior to the hearing.

C. At least 30 days prior to the hearing the application for the variance shall be made available to the public for inspection. Interested members of the public shall be allowed a reasonable opportunity to testify at the hearing and their testimony shall be considered.

D. No variance shall be granted unless all of the following findings are made:

(1) that the applicant for the variance is, or will be, in violation of the requirements established by Section IV;

(2) that due to unreasonable economic hardship, unavailability of equipment or lack of technological feasibility beyond the reasonable control of the applicant, requiring compliance would

result in either (a) an arbitrary or unreasonable taking of property, or (b) the practical closing and elimination of a lawful business; and

(3) that such taking or closing would be without a corresponding benefit in reducing air contaminants.

E. Any variance order shall include the date(s) by which compliance with the requirements of Section IV will be achieved and any other condition(s) including, where appropriate, increments of progress, that the Executive Officer, as a result of the testimony received at the hearing, find necessary.

F. If the Executive Officer determines that, due to conditions beyond the reasonable control of the applicant, the applicant needs an immediate variance from the requirements established by Section IV, the Executive Officer may hold a hearing without complying with the provisions of Section XII B or Section XII C above.

No variance granted under the provisions of this subparagraph may extend for a period of more than 45 days. The Executive Officer shall maintain a list of persons who in writing have informed the Executive Officer of their desire to be notified by telephone in advance of any hearing held pursuant to this section, and shall provide advance telephone notice to any such person.

G. Upon the application of any person, the Executive Officer may review and for good cause modify or revoke any variance from the requirements of Section IV after holding a hearing in accordance with the provisions of this section.

Amend Section 94005 of Title 17, California Administrative Code, to read as follows:

94005. Preparation and Submittal of Proof of Correction for Gasoline Cargo Tanks.

(a) Whenever any person has received a notice to appear issued pursuant to Health and Safety Code Section 41970, and the preparation and submittal of a proof of correction by verification is authorized by Health and Safety Code Section 41972, such proof of correction shall contain:

(1) Name of owner or operator, company name (if applicable), and address.

(2) Date, time and violation specified in notice to appear.

(3) ~~State Fire Marshal~~ California Highway Patrol cargo tank number.

(4) Manufacturer's number of tank.

(5) California Air Resources Board vapor-emission-certification decal number.

(6) License number of vehicle carrying cargo tank at the time of issuance of notice to appear.

(7) A statement that the violation was corrected, including the following information and documentation:

(A) A brief description of the corrections that were made.

(B) The date on which the corrections were made.

(C) The name, address, and company affiliation (if any) of the person making the correction.

(D) If the violation consists of operation of the cargo tank without issuance of the required vapor recovery certification, a copy of the application for vapor recovery certification and a copy of the issued certification.

(E) If in order to correct the violation it was necessary to test the cargo tank to determine compliance with the annual leak rate criteria, (i) the name, address and company affiliation (if any) of the person conducting the test; (ii) the date of the test; (iii) presssure change in five minutes (in inches of water); (iv) vacuum change in five minutes (in inches of water); (v) a statement by the person conducting the test that the cargo tank was tested in accordance with the procedures established by the Air Resources Board (ARB).

(8) Date, time, and means by which the issuing agency was notified of the opportunity to inspect the corrections.

(9) Location of cargo tank and time specified for inspection.

(10) Statement that the representative of the issuing agency failed to appear at the designated place and time.

(11) Declaration under penalty of perjury by person making correction and/or conducting test that the information contained in Item 7 is true and correct.

(12) Declaration under penalty of perjury by owner or operator named in the notice to appear that all information submitted is true and correct and the violation has been corrected.

(b) The executive officer shall have the authority to approve any modification to the form used for submittal of the information set forth in subsection (a) consistent with said subsection, and shall provide the form to

the ~~State Fire Marshal~~ California Highway Patrol and all air pollution control districts. Every "Proof of Correction by Verification" shall be prepared in triplicate on the form approved by the ARB. The original, along with the copy of the notice to appear, shall be submitted pursuant to Health and Safety Code Secton 41970 to the court specified in the notice to appear. No later than the date of presentment to the court, copies shall be mailed to the agency issuing the notice to appear and to the ~~Enforcement~~ Compliance Division of the ARB.

NOTE: Authority cited: Sections 39600, 39601 and 41972, Health and Safety Code. Reference: Sections 41970, 41971 and 41972, Health and Safety Code.

State of California

# Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : April 5, 1984

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 decision and response to environmental comments raised during the comment period.

ATTACHMENTS
[redacted]
84-3
84-4
84-5
84-6

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Amendments to Title 17, California Administrative Code, Sections 94004 and 94005, and Incorporated Procedures, Regarding Vapor Recovery Systems for Gasoline Delivery Tanks

Agenda Item No.: 84-4-1

Public Hearing Date: February 24, 1984

Response Date: February 24, 1984

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: Elizabeth Schwall for
Board Secretary

Date: 4-24-84

State of California
AIR RESOURCES BOARD

Resolution 84-3

February 24, 1984

Agenda Item No.: 84-4-2

WHEREAS, Sections 39600 and 39601 of the Health and Safety Code authorize the Air Resources Board (the "Board") to adopt standards, rules, and regulations necessary for the proper execution of the powers and duties granted to and imposed upon the Board by law;

WHEREAS, Sections 41900 through 41905 of the Health and Safety Code provide that the Board shall adopt air pollution standards for sandblasting operations, pursuant to the recommendations of the Abrasive Blasting Advisory Committee (the "Advisory Committee") convened in accordance with the provisions of Section 41900 of the Health and Safety Code;

WHEREAS, Section 39607(d) of the Health and Safety Code authorizes the Board to adopt test procedures to measure compliance with its nonvehicular emissions standards and those of districts;

WHEREAS, in Sections 92000-92520, Title 17, California Administrative Code, (the "Abrasive Blasting regulations"), the Board has adopted standards for sandblasting operations and procedures to measure compliance with those standards, pursuant to the recommendations of the Advisory Committee;

WHEREAS, pursuant to Section 41903 of the Health and Safety Code, the Advisory Committee has reviewed the Abrasive Blasting regulations in light of changes in sandblasting technology, and, pursuant to Section 41902 of the Health and Safety Code, has determined where changes can be made so that the regulations reflect the strictest standards that can be reasonably achieved;

WHEREAS, pursuant to its review, the Advisory Committee has proposed and recommended that the Board adopt new regulations, Sections 92530 and 92540, and amend its current Abrasive Blasting regulations, as set forth in Attachment A hereto;

WHEREAS, the California Environmental Quality Act (CEQA) and Board regulations require that action not be taken as proposed if feasible alternatives or mitigation measures exist which would substantially avoid or reduce any significant environmental impacts of the proposed action;

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; and

WHEREAS, the Board finds that:

The regulatory changes recommended by the Advisory Committee take into account advances in abrasive blasting technology and implement the statutory directive that the standards be the strictest that can be reasonably achieved;

The proposed regulatory changes are expected to reduce the amount of air pollution resulting from abrasive blasting operations;

The proposed change in the distance from which opacity will be read is not expected to affect significantly the number of emissions violations determined and, therefore, will not result in significant adverse environmental impacts; and

The potential adverse air quality impacts that could result from reading opacity at a distance greater than 25 feet will be limited by the requirement that the observer reasonably determine that the greater distance will not significantly affect the reading; and

WHEREAS, the Board has determined, pursuant to the requirements of the California Environmental Quality Act and Air Resources Board regulations, that this regulatory action will not have a significant adverse effect on the environment;

NOW, THEREFORE, BE IT RESOLVED that the Board hereby adopts the amendments to Section 92000-92520, Title 17, California Administrative Code, and adopts new Sections 92530 and 92540, Title 17, California Administrative Code, all as set forth in Attachment A hereto.

I certify that the above is a true and correct copy of Resolution 84-3, as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Amendments to Sections 92000-92520, and the Adoption of Sections 92530 and 92540, Title 17, California Administrative Code, Regarding Abrasive Blasting

Agenda Item No.: 84-4-2

Public Hearing Date: February 24, 1984

Response Date: February 24, 1984

Issuing Authority: Air Resources Board

Comment: The change in the distance from which opacity is read would require that readings be made at a distance of 25 feet. At this distance, dilution of the emissions may bring opacity within regulatory limits without any reduction in the air pollution generated.

Response: Staff believes that the number of violations that will be determined at the twenty-five foot distance will not differ significantly from the number identified under the existing regulation and thus concludes that no significant adverse environmental impact will occur.

CERTIFIED: Harold Holmes
Board Secretary

Date: 05/31/84

ATTACHMENT A

Amend Section 92000, Title 17, California Administrative Code, to read as follows:

92000. Definitions. For the purposes of this subchapter:

(a) "Abrasives" means any material used in abrasive blasting operations including, but not limited to sand, slag, steel shot, garnet or walnut shells.

(b) "Abrasive blasting" means the operation of cleaning or preparing a surface by forcibly propelling a stream of abrasive material against the surface.

(c) "Abrasive blasting equipment" means any equipment utilized in abrasive blasting operations.

(d) "Air contaminant" includes smoke, charred paper, dust, soot, grime, carbon, fumes, gases, odors, particulate matter, acids or any combination thereof.

(e) "Brushoff blasting" means a method of cleanup performed in order to achieve surface uniformity or impurity removal after wet blasting, hydroblasting, or vacuum blasting operations.

~~(e)~~ (f) "Confined blasting" means any abrasive blasting conducted in an enclosure which significantly restricts air contaminants from being emitted to the ambient atmosphere, including, but not limited to shrouding, tanks, drydocks, buildings, and structures.

(g) "Facility" means any property site at which one or more blasting operations, either confined or unconfined, are carried out or maintained as part of an identifiable business.

~~(f)~~ (h) "Hydroblasting" means any abrasive blasting using high pressure liquid as the propelling force.

~~(g)~~ (i) "Multiple nozzles" means more than one nozzle being used to abrasive blast the same surface in such close proximity that their separate plumes are indistinguishable.

~~(h)~~ (j) "Permanent abrasive blasting operations or equiment" means abrasive blasting operations conducted, or abrasive blasting equipment located, in a building which is used, in whole or in part, for abrasive blasting operations.

~~(i)~~ (k) "Person" means any individual, firm, association, organization, partnership, business trust, corporation, company, contractor, supplier, installer, user or owner, or any state or local governmental agency or public district or any officer or employee thereof. "Person" also means the United States Government or its agencies to the extent authorized by federal law.

~~(j)~~ (l) "Sandblasting" means abrasive blasting.

~~(k)~~ (m) "Source" means the impact surface from any single abrasive blasting nozzle.

(n) "Steel or iron shot/grit" means abrasives which meet either the Society of Automotive Engineers (SAE) recommended practices J827 and J444 or Steel Founders' Society of America Standards 21-68 or 20T-66, as those practices and standards existed on (insert date of adoption of amended regulation).

~~(l)~~ (o) "Unconfined blasting" means any abrasive blasting which does not conform with definitions ~~(e)~~ f or ~~(h)~~ j of this article.

~~(m)~~ (p) "Vacuum blasting" means any abrasive blasting in which the spent abrasive, ~~and~~ surface material, and dust ~~is~~ are immediately collected by a vacuum device.

~~(n)~~ (q) "Wet abrasive blasting" means any abrasive blasting using compressed air as the propelling force, which in the judgment of the air pollution control officer uses an amount of water adequate to minimize the plume.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code. Reference: Sections 41900, 41902, 41904, and 41905, Health and Safety Code.

Amend Section 92200, Title 17, California Administrative Code, to read as follows:

92200. Visible Emission Standards

(a) No person shall, if he complies with an applicable performance standard in Article ~~-5~~ 4, discharge into the atmosphere from any abrasive blasting any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:

(1) As dark or darker in shade as that designated at No. 2 on the Ringelmann Chart, as published by the United States Bureau of Mines, or

(2) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subdivision (a) (1).

(b) No person shall, if he is not complying with an applicable performance standard in Article ~~5~~ 4, discharge into the atmosphere from any abrasive blasting any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:

(1) As dark or darker in shade as that designated at No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or

(2) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subdivision (b) (1).

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code. Reference: Sections 41900, 41902, 41904, and 41905, Health and Safety Code.

Amend Section 92400, Title 17, California Administrative Code, to read as follows:

92400. Visible Emission Evaluation Techniques

Visible emission evaluation of abrasive blasting operations shall be conducted in accordance with the following provisions:

(a) Emissions shall be read in opacities and recorded in percentages.

(b) The light source should be at the rear of observer during daylight hours.

(c) The light source should be behind the emission during hours of darkness.

(d) Observer position should be at approximately right angles to wind direction and at a distance no less than twice the height of the source but not more than one quarter of a mile from the base of the source.

(e) Emissions from unconfined blasting shall be read at the densest point of the emission after a major portion of the spent abrasive has fallen out, at a point ~~not less than five feet nor more than~~ twenty five feet from the source; provided, however, that emissions may be read from a greater distance, if the observer reasonably determines that the greater distance will not significantly affect the reading.

(f) Where the presence of uncombined water is the only reason for a failure to meet the limitations of Subsection 92200, that Subsection shall not apply. The burden of proof which establishes that Subsection 92200 should not apply shall be upon the person seeking to come within its provisions.

(g) Emissions from unconfined blasting employing multiple nozzles shall be judged as a single source unless it can be demonstrated by the owner or operator that each nozzle, evaluated separately, meets the emission and performance standards provided for in this subchapter. The owner or operator shall be offered the opportunity to make such a demonstration.

(h) Emissions from confined blasting shall be read at the densest point after the air contaminant leaves the enclosure.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code. Reference: Sections 41900, 41902, 41904, and 41905, Health and Safety Code.

Amend Section 92500, Title 17, California Administrative Code, to read as follows:

92500. General Provisions.

Any abrasive blasting operation except as provided for in Sections 92510, 92530, and 92540 shall comply with at least one of the following performance standards:

(a) Confined blasting shall be used;

(b) Wet abrasive blasting shall be used;

(c) Hydroblasting shall be used; or

(d) Dry unconfined blasting shall use abrasives as defined in Section 92520.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code. Reference: Sections 41900, 41902, 41904, and 41905, Health and Safety Code.

Amend Section 92520, Title 17, California Administrative Code, to read as follows:

92520. Abrasives.

(a) Except as provided in (c), all abrasives used for dry unconfined blasting shall comply with the following performance standards:

(1) Before blasting the abrasive shall not contain more than 1 percent by weight material passing a #70 U.S. Standard sieve when tested in accordance with "Method of Test for Abrasive Media Evaluation," Test Method No. California 371-A.

(2) After blasting the abrasive shall not contain more than 1.8 percent by weight material five micron or smaller when tested in accordance with "Method of Test for Abrasive Media Evaluation," Test Method No. California 371-A.

(b) No person shall conduct dry unconfined blasting unless the abrasive(s) used in such operation have been certified by the Air Resources Board, on at least an annual basis, to comply with the performance standards set forth in (a) above. Any person who desires certification of an abrasive shall furnish to the Air Resources Board an adequate test sample, together

with fees to defray the cost of testing. The Air Resources Board shall maintain an up-to-date list of certified abrasives.

(c) Certified abrasives reused for dry unconfined blasting are exempt from (a)(2) above, but must conform with (a)(1) above.

(d) A blend of certified abrasives shall be considered certified for purposes of Section 92520(b), unless found not to meet the requirements of Section 92520(a) pursuant to testing initiated by the Air Resources Board.

~~(d)~~ (e) All manufacturers and suppliers of abrasives certified for dry unconfined abrasive blasting shall legibly and permanently label the invoice, bill of lading and abrasive packaging or container with the following statement:

"ARB certified for dry unconfined blasting."

This subsection shall be effective through (insert date 89 days after filing of amendments with Secretary of State).

~~(e) The provisions of this section shall become effective on May 1, 1976.~~

(f) All manufacturers and suppliers of abrasives certified for dry unconfined abrasive blasting shall legibly and permanently label the invoice, bill of lading and abrasive packaging or container with each of the following:

(1) The manufacturer's name or identification trade name;

(2) The grade, weight proportion, and brand name of the abrasive or of the abrasive blend; and

(3) The statement "ARB certified for dry unconfined blasting."

This subsection shall become effective on (insert date 90 days after filing of the amendments with Secretary of State).

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code. Reference: Sections 41900, 41902, 41904, and 41905, Health and Safety Code.

Adopt Section 92530, Title 17, California Administrative Code to read as follows:

92530. Facility Blasting Operations

(a) Confined blasting shall be used for all abrasive blasting operations at an abrasive blasting facility except under the following conditions:

(1) When steel or iron shot/grit is used;

(2) When the item to be blasted exceeds 8 feet in height, 8 feet in width, or 10 feet in length; or

(3) When the structure or surface is blasted at its permanent or ordinary location.

(b) The provisions of this section shall become effective on (insert date eighteen months after the date of adoption).

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code. Reference: Sections 41900, 41902, 41904, and 41905, Health and Safety Code.

Adopt Section 92540, Title 17, California Administrative Code, to read as follows:

92540. Stucco and Concrete

Abrasive blasting of stucco and concrete shall be performed by wet blasting, hydroblasting, or vacuum blasting with the following exceptions:

Dry blasting may be used for:

(1) Window and door returns and frames;

(2) Eaves, overhangs and ceilings;

(3) Brush off blasting except for stucco surfaces;

(4) Completely shrouded structures and blast areas that effectively control emissions;

(5) Abrasive cleaning operations other than aggregate exposure or paint removal related to new concrete construction or repair activity if such operations are performed onsite.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code. Reference: Sections 41900, 41902, 41904, and 41905, Health and Safety Code.

State of California

# Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : April 5, 1984

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 decision and response to environmental comments raised during the comment period.

ATTACHMENTS
84-2
[redacted]
84-4
84-5
84-6

State of California
AIR RESOURCES BOARD

Resolution 84-4

February 24, 1984

Agenda Item No. 84-4-3

WHEREAS, Health and Safety Code Section 39601 authorizes the Air Resources Board (the "Board") to adopt standards, rules and regulations necessary for the proper execution of the powers and duties granted to and imposed upon the Board by law;

WHEREAS, Health and Safety Code Section 39801 requires the Board to administer, pursuant to Chapter 5 (commencing with Section 39800), Part 2, Division 26 of the Health and Safety Code, the air pollution control subvention program with such funds as may be appropriated for the purposes of said chapter, and Health and Safety Code Sections 39800-39811 establish the framework and requirements of the subvention program;

WHEREAS, the Board has adopted regulations for administering the subvention program in Sections 90050-90500, Title 17, California Administrative Code;

WHEREAS, Section 39806 provides that money shall be subvened under the subvention program to districts engaged in the reduction of air contaminants pursuant to the basinwide air pollution control plan and related implementation programs, and that any findings of the Board that a district is not so engaged in the reduction of air contaminants shall be based on criteria established by the Board jointly with the districts;

WHEREAS, Section 90115, Title 17, California Administrative Code, establishes evaluation criteria for determining whether a district is engaged in the reduction of air contaminants pursuant to the basinwide air pollution control plan and related implementation programs;

WHEREAS, Section 90115, Title 17, California Administrative Code, further provides that following cooperation between Board and district staffs in proposing recommendations, the Board shall annually consider in the first quarter of the calendar year revisions to the evaluation criteria;

WHEREAS, the Board staff has proposed amendments to Section 90115, Title 17, California Administrative Code, which would delete the requirement for an annual hearing to consider revisions to the evaluation criteria and would instead require a public hearing to consider revisions to evaluation criteria when a basin control council or a district which includes an entire air basin requests revisions, or when such revisions are considered appropriate by the Board or the Executive Officer;

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 the provisions of the Administrative Procedure Act (Government Code, Title 2, Division 3, Part 1, Chapter 3.5); and

WHEREAS, the Board finds that:

The evaluation criteria are sufficiently refined that the requirement for an annual public hearing to consider revisions to the evaluation criteria is no longer necessary;

The amendment to Section 90115, Title 17, California Administrative Code, set forth in Attachment A, contains an appropriate procedure to assure that needed revisions to the evaluation criteria will be considered and acted upon by the Board, while providing flexibility in scheduling hearings; and

The amendment set forth in Attachment A would have no significant adverse environmental impacts.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby adopts the amendments to Section 90115, Title 17, California Administrative Code, set forth in Attachment A hereto.

I certify that the above is a true and correct copy of Resolution 84-4, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ATTACHMENT A

Amend Section 90115, Title 17, California Administrative Code, to read as follows:

90115. Evaluation Criteria. The ~~ARB~~ state board staff shall develop in cooperation with the districts and the ~~Board~~ state board shall adopt evaluation criteria for each category established in Section 90120 which are appropriate to determine, in accordance with Section 39806 of the Health and Safety Code, whether districts are engaged in the reduction of air contaminants pursuant to the basinwide air pollution control plan and related implementation programs. ~~Following cooperation between ARB and district staff in proposing recommendations, the Board shall hold a public hearing annually in the first quarter of the calendar year to consider revisions to the evaluation criteria.~~ The evaluation criteria are set forth in the Air Resources Board's "Evaluation Criteria for Air Pollution Control Districts Participating in the Subvention Program," adopted on April 23, 1981, and amended May 27, 1983. Revisions to the evaluation criteria shall be considered by the state board when the state board or the executive officer determines that revisions are appropriate, or when an air basin control council or a district which includes an entire air basin makes a request for revisions to the state board. When such a request is made by a basin control council or district, the state board shall hold a public hearing not later than April of the next calendar year to consider the proposed revisions to the evaluation criteria.

NOTE: Authority cited: Sections 39600, 39601 and 39801, Health and Safety Code. Reference: Sections 39801 and 39806, Health and Safety Code.

State of California

# Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : April 5, 1984

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 decision and response to environmental comments raised during the comment period.

ATTACHMENTS
84-2
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State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Amendments to Title 17, California Administrative Code, Section 90115, Regarding Procedures for Revising the Subvention Program Evaluation

Agenda Item No.: 84-4-3

Public Hearing Date: February 24, 1984

Response Date: February 24, 1984

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: 5/3/84

State of California
AIR RESOURCES BOARD

Resolution 84-5

February 24, 1984

Agenda Item No. 84-4-4

WHEREAS, Section 39600 of the Health and Safety Code authorizes the Air Resources Board (the "Board") 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, and Section 39601 of the Health and Safety Code authorizes the Board to adopt standards, rules, and regulations necessary for the proper execution of such powers and duties;

WHEREAS, Section 40001 requires that air pollution control districts adopt and enforce rules and regulations which assure that reasonable provision is made to achieve and maintain the state ambient air quality standards for the area under their jurisdiction;

WHEREAS, Sections 41500-41507 authorize the Board to review district rules and regulations to determine whether they assure that reasonable provision is made to achieve and maintain state ambient air quality standards, and, pursuant to a finding that the rules and regulations will not likely achieve and maintain the ambient air quality standards, to establish for any district rules and regulations it deems necessary;

WHEREAS, pursuant to the statutory oversight authority set forth in Sections 41500-41507 of the Health and Safety Code, the Board has established for several districts specific rules and regulations;

WHEREAS, pursuant to Section 11343.8 of the Government Code, a listing of these rules and regulations was filed with the Secretary of State and published as Sections 70300 and 70301, Title 17, in the California Administrative Code;

WHEREAS, on November 17, 1983, the Board reviewed Sections 70300-70301 under criteria established by the Governor's Task Force on Regulatory Reform and concluded the repeal of these provisions should be considered at a public hearing;

WHEREAS, a public hearing has 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, the Board finds that:

The rules and regulations listed in Sections 70301 are not of statewide applicability but apply only in the districts for which they were adopted;

Sections 70300 and 70301 do not include the text of the listed rules and regulations or reflect district actions to amend the listed regulations;

Since the listing of district rules in Section 70301, and the related explanation in Section 70300, were published for informational purposes only, the repeal of these sections will not in any manner alter the force and effect of the listed provisions; and

The full and current text of the regulations listed in Section 70301 is available at the offices of the districts in which the regulations apply and in the Board's Sacramento offices, so that repeal of Sections 70300 and 70301 will reduce the volume of the California Administrative Code without reducing public accessibility to district regulations.

WHEREAS, the Board has determined, pursuant to the requirements of the California Environmental Quality Act and Air Resources Board regulations, that the repeal of Sections 70300 and 70301 will have no significant adverse effect on the environment.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby repeals Sections 70300 and 70301, Title 17, California Administrative Code.

I certify that the above is a true and correct copy of Resolution 84-5, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider the Repeal of Sections 70300 and 70301, Title 17, California Administrative Code, Regarding Local Air Pollution Control District Regulations

Agenda Item No.: 84-4-4

Public Hearing Dates: February 24, 1984

Response Date: February 24, 1984

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: Elizabeth Schwall for
Board Secretary

Date: 4-24-84

State of California

# Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : April 5, 1984

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 decision and response to environmental comments raised during the comment period.

ATTACHMENTS
84-2
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84-6

State of California
AIR RESOURCES BOARD

Resolution 84-6

Agenda Item No.: 84-4-5

WHEREAS, Section 39601 of the Health and Safety Code authorizes the Air Resources Board (the "Board") to adopt standards, rules and regulations necessary for the proper execution of the powers and duties granted to and imposed upon the Board by law;

WHEREAS, Sections 87300-87302 of the Government Code authorize and require the Board to adopt a Conflict of Interest Code containing certain specified provisions;

WHEREAS, the Board has established a Conflict of Interest Code in Sections 95000-95007, Title 17, California Administrative Code;

WHEREAS, the Board's Conflict of Interest Code incorporates by reference the Standard Conflict of Interest Code established by the Fair Political Practices Commission (the "FPPC") in Section 18730, Title 2, California Administrative Code, designates the Board and staff positions which involve the making or participation in the making of decisions which may foreseeably have a material effect on financial interests, and establishes disclosure categories which specify the kinds of financial interests that must be reported by the various designated employees;

WHEREAS, since the last formal amendment of the Board's Conflict of Interest Code, the Board's staff has been reorganized and the new employment classification of Biostatistician has been added;

WHEREAS, Board staff has proposed amendments to Sections 95001, 95002, 95003, 95005, and 95006, Title 17, California Administrative Code, which would reflect the recent reorganization of the Board's staff and add Biostatistician to the list of professional employees;

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 the provisions of Chapter 3.5 (commencing with Section 11340), Part 1, Division 3, Title 2 of the Government Code; and

WHEREAS, the Board finds that:

The amendments to Sections 95001, 95002, 95003, 95005, and 95006, Title 17, California Administrative Code, set forth in Attachment A appropriately reflect the recent reorganization of the Board's staff and add Biostatistician to the list of professional employees;

The amendments set forth in Attachment A meet the requirements of Sections 87300-87313 of the Government Code; and

The regulatory amendments set forth in Attachment A will have no adverse environmental impacts.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby amends Sections 95001, 95002, 95003, 95005, and 95006, Title 17, California Administrative Code, as set forth in Attachment A.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to submit the amendments to the FPPC for approval.

I certify that the above is a true and correcty copy of Resolution 84-6, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ATTACHMENT A

Amend Title 17, California Administrative Code, Sections 95001, 95002, 95003, 95005, and 95006, to read as follows:

[For ease of understanding, the text of Title 17, California Administrative Code, Sections 95000, 95004, and 95007 are included below, although they would not be changed by the proposed amendments.]

## SUBCHAPTER 9. CONFLICT OF INTEREST CODE

### Article 1. General Provisions

95000. Incorporation by Reference of Standard Conflict of Interest Code.

The Political Reform Act, Government Code Sections 81000, et seq., requires state and local government agencies to adopt and promulgate Conflict of Interest Codes. The Fair Political Practices Commission has adopted a regulation, 2 Cal.Adm.Code Section 18730, which contains the terms of a standard Conflict of Interest Code which can be incorporated by reference into the Conflict of Interest Code of a state agency. The regulation may be amended by the Fair Political Practices Commission to conform to amendments in the Political Reform Act after public notice and hearings. Therefore, the terms of 2 Cal.Adm.Code Section 18730 and any amendments to it duly adopted by the Fair Political Practices Commission are hereby incorporated herein by reference and, along with the following Appendix in which officials and employees are designated and disclosure categories are set forth, constitute the Conflict of Interest Code of the California Air Resources Board.

Pursuant to Section 4(A) of the standard Code (2 Cal.Adm.Code Section 18730(g)(4)(A)), designated employees shall file statements of economic interests with the person designated to perform this function for the agency. Upon receipt of the statement of the Board Members and the Executive Officer

of the Air Resources Board, said person shall make and retain a copy and forward the original of these statements to the Fair Political Practices Commission.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code; Sections 87300 and 87306, Government Code. Reference: Sections 87300, 87301, 87302 and 87500, Government Code; Section 18730 of Title 2, California Administrative Code.

Article 2. Appendix: Designated Employees and Disclosure Categories

95001. Professional Employees.

For purposes of the following disclosure categories persons at all levels of the following employment classifications are deemed to be professional employees:

Engineers

Meteorologists

Biologists

Chemists

Physicists

Spectroscopists

Engineering Specialists

Engineering Associates

Air Pollution Research Specialists

Air Pollution Specialists

Data Processing Analysts

Planners

Economists

Government Program Analysts

Management Analysts

Staff Analysts

Air Resources Field Representatives

Vehicle Coordinators

Biostatisticians

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code; Sections 87300 and 87306, Government Code. Reference: Section 87302, Government Code.

95002. Category I.

(a) Air Resources Board Members, Executive Officer, Deputy Executive Officers, Legislative Liaisons, Public Information Officers, all Division Chiefs and Assistant Division Chiefs, all staff Attorneys, all professional staff of the Office of Program Planning Evaluation and Coordination and the Office of External Affairs, professional employees and special consultants* attached to the Executive Office, and Branch Chiefs, Administrative Services Division.

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* With respect to consultants, however, the Executive Officer may determine in writing that a particular consultant, although a "designated person", is hired to perform a range of duties that are limited in scope and thus is not required to comply with the disclosure requirements described in this Section. Such determination shall include a description of the consultant's duties and, based upon that description, a statement of the extent of disclosure requirements. The Executive Officer shall forward a copy of this determination to the Fair Political Practices Commission. Nothing herein excuses any consultant from any other provision of this Conflict of Interest Code. (This footnote applies to consultants in all disclosure categories, as indicated by the asterisks in the following Sections.)

(b) Every person in this Category must report: all investments, all interests in real property, all sources of income, and his or her status as a director, officer, partner, trustee, employee, or holder of any position of management in any business entity.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code; Sections 87300 and 87306, Government Code. Reference: Section 87302, Government Code.

95003. Category II.

(a) All professional employees in and special consultants* attached to the ~~Regional-Programs-Division-and-the-Energy-Strategy-Development-Branch~~ Toxic Pollutants Branch, Project Review Branch and the ~~Industrial~~ Strategy ~~Development~~ Assessment Review Branch of the Stationary Source ~~Control~~ Division, and the Local Project Support Branch of the Technical Support Division.

(b) Every person in this Category must report: all investments in, income from, and his or her status as a director, officer, partner, trustee, employee, or holder of any position of management, (i) in any business entity which is subject to any laws of the State of California, or regulations promulgated by the Air Resources Board, relating to the control of air pollution from nonvehicular sources, or subject to any rules or regulations promulgated by any local air pollution control district; (ii) in any business entity of the type which has contracted with the board to provide services, supplies, materials, machinery, instrumentation, or equipment to the board; (iii) in any business entity, including a construction company, which is regularly engaged in the development of or investment in real property in California; and (iv) in any business entity which is regularly engaged in the preparation of environmental impact reports or environmental impact statements.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code; Sections 87300 and 87306, Government Code. Reference: Section 87302, Government Code.

95004. Category III.

(a) All professional employees in and special consultants* attached to the Research Division, and all members of the Research Screening Committee.

(b) Every person in this Category must report: all investments in, income from, and his or her status as a director, officer, partner, trustee, employee, or holder of any position of management in (i) any business entity which is subject to any laws of the State relating to the control of air pollution from vehicular or nonvehicular sources, or which is subject to any rules or regulations promulgated either by the Air Resources Board or by any local air pollution control district; and (ii) any business entity or non-profit institution involved in activities relating to air pollution research, the development of air pollution control strategies or any activity which for the past two years has been the subject of a board research proposal, bid or contract.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code; Sections 87300 and 87306, Government Code. Reference: Section 87302, Government Code.

95005. Category IV.

(a) All professional employees in and special consultants* attached to the ~~Enforcement~~ Compliance Division, the Aerometric Data Division, the Emissions Inventory Branch, the Data Processing Branch and the Analysis and Modeling Branch of the Technical ~~Services~~ Support Division, and the Engineering Evaluation Branch ~~and the Emission Inventory Branch~~ of the Stationary Source ~~Control~~ Division.

(b) Every person in this Category must report: all investments in, income from, and his or her status as a director, officer, partner, trustee, employee, or holder of any position of management, in any business entity which is subject to the laws of the State of California relating to the control of air pollution from vehicular or nonvehicular sources, or which is subject to any rules or regulations promulgated either by the Air Resources Board or by any local air pollution control district.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code; Sections 87300 and 87306, Government Code. Reference: Section 87302, Government Code.

95006. Category V.

(a) All professional personnel in and special consultants* attached to the Mobile Source ~~Control~~ Division and the Haagen-Smit Laboratory Division.

(b) Every person in this Category must report: all investments in, income from, and his or her status as a director, officer, partner, trustee, employee, or holder of any position of management, (i) in any business entity associated with the manufacture, distribution, sale, leasing, repair, or (except for entities associated solely with the news media) the advertisement of motor vehicles, vehicular emission control devices or equipment, or vehicle aftermarket parts or vehicle fuels or fuel additives which may affect emissions; and (ii) in any business entity of the type which has contracted within the previous two years with the board to provide services, supplies, materials, machinery, instrumentation, or equipment to the board.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code; Sections 87300 and 87306, Government Code. Reference: Section 87302, Government Code.

95007. Advisory Committees.

The board finds that all members of advisory groups or committees appointed by the board pursuant to Health and Safety Code Section 39603, and all members of the Sandblasting Committee appointed by the board pursuant to Health and Safety Code Section 41900, perform a solely advisory function, and hence are not "designated employees" within the meaning of this Code, and are therefore exempt from the requirements of this Code.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code; Sections 87300 and 87306, Government Code. Reference: Section 87302, Government Code.

State of California

# Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : April 5, 1984

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 decision and response to environmental comments raised during the comment period.

ATTACHMENTS
84-2
84-3
84-4
84-5
84-6

State of California
AIR RESOURCES BOARD

Resolution 84-7
February 23, 1984

WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution, pursuant to Health and Safety Code Sections 39700 through 39705;

WHEREAS, an unsolicited research Proposal Number 1239-105 entitled, "Development and Evaluation of a Method for Determining Vapor Pressure of Petroleum Mixtures by Vapor Composition Analysis", has been submitted by the University of California, Davis to the Air Resources Board;

WHEREAS, the Research staff has reviewed and recommended this proposal for approval;

WHEREAS, the Research Screening Committee has reviewed and recommends for funding:

> Proposal Number 1239-105 entitled "Development and Evaluation of a Method for Determining Vapor Pressure of Petroleum Mixtures by Vapor Composition Analysis", submitted by the University of California, Davis to the Air Resources Board for a total amount not to exceed $92,309; and

WHEREAS, THE Governor's Executive Order D-30-84 prohibits State agencies from awarding research contracts through June 30, 1984;

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

> Proposal Number 1239-105 entitled "Development and Evaluation of a Method for Determining Vapor Pressure of Petroleum Mixtures by Vapor Composition Analysis", submitted by the University of California, Davis to the Air Resources Board for a total amount not to exceed $92,309; and

BE IT FURTHER RESOLVED, that, should an exemption from the prohibition contained in Executive Order D-30-84 on awarding contracts for research be granted, the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $92,309.

I certify that the above is a true and correct copy of Resolution 84-7 as passed by the Air Resources Board.

Harold Holmes
BOARD SECRETARY

State of California
AIR RESOURCES BOARD

ITEM NO.: 84-3-3b1
DATE: February 23, 1984

ITEM: Research Proposal No. 1239-105 entitled "Development and Evaluation of a Method for Determining Vapor Pressure of Petroleum Mixtures by Vapor Composition Analysis".

RECOMMENDATION: Adopt Resolution 84-7 approving Research Proposal No. 1239-105 for funding in an amount not to exceed $92,309.

SUMMARY: The objective of this project is to develop an accurate technique for determining the vapor pressure of heavy crude oils for routine use by Board staff, district staffs and analytical laboratories. Vapor pressure provides a measure of the tendency of such oils to release hydrocarbons to the atmosphere. This information will be used to upgrade hydrocarbon emissions inventories for petroleum production and crude oil processing operations.

The University of California, Davis submitted this proposal to implement a recent recommendation from a joint EPA/Stationary Source Division study. U.C. Davis will evaluate vapor composition analysis as a means of providing data needed for calculating the vapor pressures of heavy crude oils. Vapor composition will be determined by gas chromatography after sampling the vapors above equilibrated liquids containing standard hydrocarbon mixtures or heavy crude oils enclosed in a container at elevated temperature. The resulting chemical composition and published vapor pressure data on individual hydrocarbons will be used to calculate vapor pressures of mixtures. Detailed quantitative chemical analyses will be reported so that the photochemical reactivity of the volatilized hydrocarbons can be estimated by staff.

EPA Region IX has agreed to provide $30,000 toward the cost of this project. Accordingly, the ARB's share of the cost will not exceed $62,309.

The proposal was favorably reviewed by ARB and EPA staff and oil industry representatives and was recommended for funding by the Research Screening Committee.

State of California
AIR RESOURCES BOARD

Resolution 84-8
March 23, 1984

WHEREAS, the Air Resources Board has been directed to design and implement a comprehensive program of research monitoring and of acid deposition in California pursuant to Health and Safety Code Sections 39900 through 39915; and

WHEREAS, a solicited research Proposal Number 017-3 entitled, "Chemical and Biological Survey of Lakes and Streams Located in Emerald Lake Watershed (Sequoia National Park) of the Sierra Nevada", has been submitted by the University of California, Santa Barbara; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Scientific Advisory Committee on Acid Deposition has reviewed and recommends for funding:

> Proposal Number 017-3 entitled "Chemical and Biological Survey of Lakes and Streams Located in Emerald Lake Watershed (Sequoia National Park) of the Sierra Nevada", submitted by the University of California, Santa Barbara for a total amount not to exceed $426,913.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39906, hereby accepts the recommendation of the Scientific Advisory Committee on Acid Deposition and approves the following:

> Proposal Number 017-3 entitled "Chemical and Biological Survey of Lakes and Streams Located in Emerald Lake Watershed (Sequoia National Park) of the Sierra Nevada", submitted by the University of California, Santa Barbara for a total amount not to exceed $426,913.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $426,913.

I certify that the above is a true and correct copy of Resolution 84-8 as passed by the Air Resources Board.

Harold Holmes
Board Secretary

State of California
AIR RESOURCES BOARD

ITEM NO.: 84-5-2b1
DATE: March 23, 1984

ITEM: Research Proposal No. 017-3 entitled, "Chemical and Biological Survey of Lakes and Streams Located in Emerald Lake Watershed (Sequoia National Park) of the Sierra Nevada".

RECOMMENDATION: Adopt Resolution 84-8 approving Research Proposal No. 017-3 for funding in an amount not to exceed $426,913.

SUMMARY: In parts of the world known to be affected by acid deposition, lakes and streams located at high altitudes have been the first to exhibit adverse changes due to acidic inputs. Weakly buffered lakes and streams located in granite basins have been found to be the most sensitive. Such alpine ecosystems are characteristic of the Sierra Nevada in California. However, currently available data are not adequate to assess reliably the present or future potential for acid deposition damage to natural ecosystems in the State.

The Kapiloff Acid Deposition Act requires that the Air Resources Board initiate a program to identify sensitive areas within California that may be damaged by acid deposition. The Board is also responsible for assessing present or future impacts due to acidic inputs to natural ecosystems in the State.

A Request for Proposals was issued to solicit proposals to study intensively, through an integrated series of studies, one watershed in the Sierra Nevada. The Research Division received six proposals to survey the chemistry and biology of lakes and streams in a selected watershed.

The proponent selected by the Board's Scientific Advisory Committee has been active in lake and stream research in the mountainous regions located on the western slope of the Sierra Nevada. This research, much of it performed in Sequoia National Park, has provided evidence of the sensitivity of aquatic systems in this region.

A much more comprehensive program of research into the chemistry and biology of such high-elevation lakes and streams is needed for two reasons: (1) to provide baseline data on ecosytem processes and biological populations in sensitive aquatic systems of the Sierra Nevada, and (2) to identify any changes that may now be occurring in these systems due to acid deposition.

The general approach taken by the proponent to meet these objectives will be: to collect physical, chemical and biological baseline information on lakes and streams in Emerald Lake Basin in Sequoia National Park, to investigate biogeochemical processes at work in these aquatic systems and to evaluate the stress to these aquatic systems in an attempt to determine if acid deposition induced changes are already occurring.

The proponent has proposed a thirty-month program which can be divided into two parts: (1) basic measurements and (2) an expanded program of data collection and *in situ* experimental work. This work will complement and be coordinated with work being performed by the National Park Service at the same site. The proponent will make use of laboratory facilities at the National Park Service headquarters at Ash Mountain and at the University of California, Santa Barbara.

The basic measurement program will include regular sampling of lakes and streams to determine the hydrology, chemistry and biology of these systems. Aquatic processes including primary productivity, nitrogen cycling and sediment/water column exchange, will be investigated on-site. Biological populations will be monitored and compared with other similar lakes and streams in the area. The expanded research program will include a study of lake sediment cores to determine historical chemical trends in the lake.

*In situ* acidification of enclosed bags in the lake and artificial stream channels will be performed to assess biological and chemical changes that might occur following surface water acidification. This program will be coordinated with other components of the integrated watershed study. The data will be used to formulate a hydrological and biogeochemical model of sensitive aquatic systems applicable throughout the Sierra Nevada.

State of California
AIR RESOURCES BOARD

Resolution 84-9
March 23, 1984

WHEREAS, the Air Resources Board has been directed to design and implement a comprehensive program of research and monitoring of acid deposition in California pursuant to Health and Safety Code Section 39903;

WHEREAS, a solicited research Proposal Number 014-3 entitled, "Vegetation Process Studies", has been submitted by the University of California, Los Angeles, to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Scientific Advisory Committee on Acid Deposition has reviewed and recommends for funding:

Proposal Number 014-3 entitled "Vegetation Process Studies", submitted by the University of California, Los Angeles for a total amount not to exceed $99,191.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39906, hereby accepts the recommendation of the Scientific Advisory Committee on Acid Deposition and approves the following:

Proposal Number 017-3 entitled "Vegetation Process Studies", submitted by the University of California, Los Angeles for a total amount not to exceed $99,191.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $99,191.

I certify that the above is a true and correct copy of Resolution 84-9 as passed by the Air Resources Board.

Harold Holmes
Board Secretary

State of California
AIR RESOURCES BOARD

ITEM NO.: 84-5-2b2
DATE: March 23, 1984

ITEM: Research Proposal No. 014-3 entitled, "Vegetation Process Studies".

RECOMMENDATION: Adopt Resolution 84-9 approving Research Proposal No. 014-3 for funding in an amount not to exceed $99,191.

SUMMARY: Damage from acid precipitation to aquatic ecosystems in Sweden and the northeastern U.S. has been documented. Because the effects of acid deposition on vegetation are not yet fully understood, it is not known whether such damage may occur in California.

The Kapiloff Acid Deposition Act requires the Air Resources Board to establish a comprehensive research program, including acid deposition studies on forest ecosystems with priority given to poorly buffered soil systems. A Request for Proposals was issued to solicit proposals to study intensively, through an integrated series of studies, one watershed in the Sierra Nevada. The Research Division received five proposals to study the vegetation of the watershed. The total funding requested by all proponents was $504,198.

The proponent selected by the Board's Scientific Advisory Committee will collect and analyze existing vegetation surveys of Emerald Lake (9000 feet elevation) and Log Meadow (6000 feet elevation) in Sequoia National Park, which is the watershed study site selected by the Board's Scientific Advisory Committee. Data summaries from this research project will include mapped stand data of tree populations, identification of understory plants and species diversity of all groups of vascular plants.

Lichens are known to be sensitive to air pollution. Therefore lichen frequency and quantity of species will be determined. Lichens will also be analyzed for concentrations of toxic trace elements.

Tree-ring cores from lodgepole pine and western pine at Emerald Lake will be divided into 10 year increments and analyzed for concentrations of aluminum, cadmium, lead, copper, iron, manganese, zinc and titanium. This will determine if toxic trace elements have accumulated in trees over time.

The proponent will also estimate the biomass and production of above-ground parts of giant sequoia, red fir, white fir, sugar pine and California black oak. An estimate of below-grand root production will also be made.

An analysis of mortality data for white fir, red fir, giant sequoia and ponderosa-Jeffery pine hybrids will be done.

The information from this study, together with the other components of the Board's Integrated Watershed Study, will provide baseline data on an ecosystem sensitive to acid deposition that can be compared with similar data taken in the future so that trends in plant populations can be identified and followed. The information may also be used to detect possible changes in plant populations that are related to acid deposition.

State of California
AIR RESOURCES BOARD

Resolution 84-10

March 23, 1984

Agenda Item No.: 84-6-2

WHEREAS, Sections 39600 and 39601 of the Health and Safety Code authorize the Air Resources Board (the "Board") to adopt standards, rules, and regulations necessary for the proper execution of the powers and duties granted to and imposed upon the Board by law;

WHEREAS, the California Public Records Act (Government Code, Section 6250 et seq.) provides that public records of state and local agencies shall be open to inspection at all times during business hours, except as specifically provided therein;

WHEREAS, Section 6253 of the Public Records Act authorizes the Board to adopt regulations to fulfill its duties under the Act, and pursuant to that section the Board has adopted public disclosure regulations in Sections 91000-91022, Title 17, California Administrative Code, including procedures for the submission of data claimed to be confidential and for the Board's review of requests for disclosure;

WHEREAS, Section 6255 of the Public Records Act requires an agency to justify withholding any records from disclosure; and Sections 6256 and 6256.1 set forth time limits within which an agency must determine whether to comply with requests for records;

WHEREAS, in fulfilling its statutory responsibilities, the Board receives data claimed to be confidential from numerous sources, including other state and local agencies;

WHEREAS, Section 39660(e) of the Health and Safety Code (AB 1807, Stats. 1983, Ch. 1047) authorizes the Board to obtain information regarding substances which may be toxic air contaminants and sets forth procedures for the protection of trade secret information obtained pursuant to that section;

WHEREAS, on November 17, 1983, the Board reviewed its public disclosure regulations under criteria established by the Governor's Task Force on Regulatory Reform and concluded that amendments to these provisions should be considered at a public hearing;

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

WHEREAS, a public hearing has 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, the Board finds that:

The proposed amendments would decrease the burden to persons submitting data to the Board, while continuing to provide for access to public records and to protect confidential data;

The proposed amendments would provide for the making of determinations regarding requests for records within the time limits specified in the Public Records Act;

The proposed amendments would provide specifically for coordination with other state and local agencies from which the Board receives data;

The proposed amendments would establish procedures for the submission of documentation supporting claims of confidentiality made with regard to information concerning substances which may be toxic air contaminants; and

This regulatory action will not have a significant adverse impact on the environment.

NOW, THEREFORE BE IT RESOLVED that the Board hereby approves the amendments to Sections 91011 and 91022, Title 17, California Administrative Code, as set forth in Attachment A, and directs the Executive Officer to adopt the amendments after making them available to the public for at least 15 days.

I hereby certify that the above is a true and correct copy of Resolution 84-10 as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

ATTACHMENT A

Amend Section 91011, Title 17, California Administrative Code, to read as follows:

91011. ~~Trade-Secret-Claims.~~ Submission of Confidential Data.

~~(a)~~ Any person ~~from-whom-the-state-board-obtains-any-records-may-submit-a written-claim-identifying-as-"confidential"-all-data-which-may-be-entitled-to confidentiality~~ submitting to the state board any records containing data claimed to be "trade secret" or otherwise exempt from disclosure under Government Code Section 6254 or 6254.7 ~~of-the-Government-Code~~ or under other applicable provisions of law ~~prohibiting-disclosure-of-the-data~~ shall, at the time of submission, identify in writing the portions of the records containing such data as "confidential" and shall provide the name, address and telephone number of the individual to be contacted if the state board receives a request for disclosure of or seeks to disclose the data claimed to be confidential. Emission data shall not be identified as confidential. The state board shall not disclose data identified as confidential, except in accordance with the requirements of this subchapter or Section 39660(e) of the Health and Safety Code.

~~--Any-such-claim-shall-contain-at-least-the-following-information:-~~

~~(1)--the-statutory-provision(s)-under-which-a-claim-of-confidentiality-is asserted;~~

~~(2)--a-specific-description-of-the-portions-of-the-data-which-are-claimed to-be-entitled-to-confidential-treatment;~~

~~(3)--the-period-of-time-for-which-confidential-treatment-is-requested;~~

~~(4)--the-extent-to-which-the-data-has-been-disclosed-to-others-and-whether its-confidentiality-has-been-maintained-or-its-release-restricted;~~

~~(5)--confidentiality-determinations,-if-any,-made-by-other-public-agencies as-to-all-or-part-of-the-data-and-a-copy-of-any-such-determinations,-if available;-and~~

~~(6)--whether-it-is-asserted-that-the-data-is-used-to-fabricate,-produce,-or compound-an-article-of-trade-or-a-service-and-that-the-disclosure-of-the-data-would-result-in-harmful-effects-on-the-business'-competitive-position,-and-the nature-and-extent-of-such-anticipated-harmful-effects.~~

~~(b)--After-a-preliminary-review,-the-state-board-may-reject-a-claim-for failure-to-submit-the-data-described-in-subsection-(a)-above,-in-which-case the-person-submitting-the-claim-shall-be-promptly-notified-in-writing-and provided-an-opportunity-to-submit-complete-data.--Twenty-one-days-from-the date-of-the-notice,-the-data-in-question-shall-be-subject-to-public-disclosure unless-a-claim-which-meets-the-requirements-of-subsection-(a)-above-is received.--Data-covered-by-claim(s)-which-meet-the-requirements of-subsection-(a)-above-will-be-kept-confidential-subject-to review-initiated-pursuant-to-Section-91022-of-this-subchapter.~~

~~(c)--Appropriate-portions-of-an-application-for-approval,-accreditation,-or certification-of-a-motor-vehicle-emission-control-device-or-system-shall-be kept-confidential-until-such-time-as-the-approval,-accreditation,-or certification-is-granted,-at-which-time-the-application-(except-for-trade secret-data)-shall-become-a-public-record,-except-that-estimates-of-sales volume-of-new-model-vehicles-contained-in-an-application-shall-be-kept confidential-for-the-model-year,-and-then-shall-become-public-records.--If-an~~

~~application-is-denied,-it-shall-continue-to-be-confidential-but-shall-be subject-to-the-provisions-of-Section-91022.~~

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code. Reference: Sections 39660, 39701, 41500, 41511, 41512, and 42705, Health and Safety Code; Sections 6253, 6254, and 6254.7, Government Code; Natural Resources Defense Council v. EPA, 489 F.2d 390 (5th Cir. 1974) (6 ERC 1248); Northern California Police Practices Project v. Craig (1979) 90 Cal.App.3d 116; Uribe v. Howie (1971) 19 Cal.App.3d 194.

Amend Section 91022, Title 17, California Administrative Code, to read as follows:

91022. Disclosure of Confidential Data

(a) ~~Except-as-otherwise-provided-in-Section-91010(c),-only-those-portions of-records-in-the-custody-of-the-state-board-which-are-not-emission-data-and~~ This section shall apply to all data in the custody of the state board

(1) ~~were~~ designated "trade secret" prior to the adoption of this subchapter,

(2) ~~have-been~~ considered by the state board or identified by the person who submitted the data as confidential pursuant to this subchapter, or

(3) ~~are~~ received from a federal, state or local agency, including an air pollution control district, with a confidential designation, ~~shall-be-subject to-the-procedure-set-forth-in-this-section~~ subject to the following exceptions:

(1) Except for the time limits specifically provided in subsection (b), only subsections (c) and (d) of this section shall apply to information submitted pursuant to Health and Safety Code Section 39660(e).

(2) Appropriate portions of an application for approval, accreditation, or certification of a motor vehicle emission control device or system shall be kept confidential until such time as the approval, accreditation, or certification is granted, at which time the application (except for trade secret data) shall become a public record, except that estimates of sales

volume of new model vehicles contained in an application shall be kept confidential for the model year, and then shall become public records. If an application is denied, it shall continue to be confidential but shall be subject to the provisions of this section.

(3) If disclosure of data obtained ~~from a federal, state or local agency~~ after (insert effective date of amendments) from a state or local agency subject to the provisions of the Public Records Act is sought, the state board shall request that the agency which provided the data determine whether it is confidential. The state board shall request that it be notified of the agency's determination within ten days. The state board shall not release the data if the agency determines that it is confidential and so notifies the state board; provided, however, that the data may be released with the consent of the person who submitted it to the agency from which it was obtained by the state board.

~~(b) Upon receipt of a request to inspect data which is not emission data and which has been either designated "trade secret" previously or claimed to be confidential pursuant to Section 91011, the state board shall promptly review the request, the data, and the justification for the claim to confidentiality. Upon receipt of a request to inspect data which has been claimed to be confidential, the state board shall notify the person claiming the data to be confidential of the request to inspect and shall review any additional information, which is received prior to the issuance of a response to the request for the information, submitted in support of the claim to confidentiality. Following this review, the state board shall either (1) refuse to disclose the data and provide a justification for the determination pursuant to Government Code Section 6255 or (2) propose to disclose the data and provide written notice of the determination to the person claiming the~~

~~data-is-confidential-and-to-the-person-requesting-the-data,-with-an-additional notice-that-the-data-in-question-shall-be-released-for-inspection-to-the person-requesting-it-twenty-one-(21)-days--after-receipt-of-the-notice,-unless the-state-board-is-restrained-from-so-doing-by-a-court-of-competent jurisdiction.~~

(b) Upon receipt of a request from a member of the public that the state board disclose data claimed to be confidential or if the state board itself seeks to disclose such data, the state board shall inform the individual designated pursuant to Section 91011 by telephone and by mail that disclosure of the data is sought. The person claiming confidentiality shall file with the state board documentation in support of the claim of confidentiality. The documentation must be received within five (5) days from the date of the telephone contact or of receipt of the mailed notice, whichever first occurs. In the case of information submitted pursuant to Health and Safety Code Section 39660(e), the documentation must be received within 30 days of the date notice was mailed pursuant to that section. The deadlines for filing the documentation may be extended by the state board upon a showing of good cause made within the deadline specified for receipt of the documentation.

(c) The documentation submitted in support of the claim of confidentiality shall include the following information:

(1) the statutory provision(s) under which the claim of confidentiality is asserted;

(2) a specific description of the data claimed to be entitled to confidential treatment;

(3) the period of time for which confidential treatment is requested;

(4) the extent to which the data has been disclosed to others and whether its confidentiality has been maintained or its release restricted;

(5) confidentiality determinations, if any, made by other public agencies as to all or part of the data and a copy of any such determinations, if available; and

(6) whether it is asserted that the data is used to fabricate, produce, or compound an article of trade or to provide a service and that the disclosure of the data would result in harmful effects on the person's competitive position, and, if so, the nature and extent of such anticipated harmful effects.

(d) Documentation, as specified in subsection (c), in support of a claim of confidentiality may be submitted to the state board prior to the time disclosure is sought.

(e) The state board shall, within ten (10) days of the date it sought to disclose the data or received the request for disclosure, or within 20 days of that date if the state board determines that there are unusual circumstances as defined in Government Code Section 6256.1, review the request, if any, and supporting documentation, if received within the time limits specified in subsection (b) above, including any extension granted, and determine whether the data is entitled to confidential treatment pursuant to Government Code Section 6254, 6255 or 6254.7 or other applicable provisions of law and shall either:

(1) decline to disclose the data and, if a request was received, provide to the person making the request and to the person claiming the data is confidential a justification for the determination pursuant to Government Code Section 6255; or

(2) provide written notice to the person claiming the data is confidential and, if a request was received, to the person requesting the data that it has determined that the data is subject to disclosure, that it proposes to disclose the data, and that the data shall be released 21 days after receipt of the notice by the person claiming confidentiality, unless the state board is restrained from so doing by a court of competent jurisdiction. The state board shall release the data in accordance with the terms of the notice unless so restrained.

(f) ~~(e)~~ Should judicial review be sought of a determination issued in accordance with subsection ~~(b)~~ (e), either the person requesting data or the person claiming confidentiality, as appropriate, may be made a party to the litigation to justify the determination.

NOTE: Authority cited: Section 39601, Health and Safety Code. Reference: Sections 6253, 6254, 6254.7, 6255, 6256, 6256.1, 6258 and 6259, Government Code.

Public Hearing to Consider Proposd Amendments to Title 17, California Administrative Code, Sections 91011 and 91022, Regarding Disclosure of Public Records

Public Hearing Date: March 23, 1984
Public Availability Date: April 2, 1984

On March 23, 1984, the Air Resources Board (the "Board") considered the adoption of proposed amendments to Sections 91011 and 91022, Title 17, California Administrative Code, regarding disclosure of public records. Attached is a copy of the Board's Resolution 84-10, approving the amendments. Appended to Resolution 84-10 is the approved language showing additions to the originally proposed language by double underline and deletions by slashes.

In approving these amendments, the Board directed the Executive Officer to adopt the regulations after making them available to the public for a period of at least 15 days.

Attachment

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Amendments to Title 17, California Administrative Code, Sections 91011 and 91022, Regarding Disclosure of Public Records

Agenda Item No.: 84-6-2

Public Hearing Date: March 23, 1984

Response Date: April 17, 1984

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: 5/29/84

State of California

# Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : June 8, 1984

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 decision and response to environmental comments raised during the comment period.

ATTACHMENTS
~~84-10~~
84-11
84-20
84-31
84-32

FILED AND [illegible] BY
OFFICE OF [illegible]

JUN 8 1984

Resources Agency of California

State of California
AIR RESOURCES BOARD

Resolution 84-11

April 26, 1984

Agenda Item Nos.: 84-6-4
84-7-1

WHEREAS, Section 39601 of the Health and Safety Code authorizes the Air Resources Board (the "Board") to adopt standards, rules, and regulations necessary for the proper execution of the powers and duties granted to and imposed upon the Board by law;

WHEREAS, Section 43107 of the Health and Safety Code authorizes the Board to adopt emission standards and test procedures in order to control air pollution from new 1977 and later model year motorcycles registered or sold in California;

WHEREAS, in 1975 the Board adopted a hydrocarbon (HC) exhaust emission standard of 1.0 gram per kilometer (g/km) for 1982 and subsequent model year California-certified Class III motorcycles (280 cubic centimeters and larger); and in 1980 the Board delayed the application of the 1.0 g/km HC exhaust emission standard until the 1984 model year for Class III motorcycles and adopted a 2.5 g/km interim standard;

WHEREAS, recent legislation (Stats. 1983, ch. 103; Health and Safety Code Section 43107.5) retained the 2.5 g/km HC exhaust emission standard for Class III motorcycles until July 1, 1984, and making the 1.0 g/km standard effective for Class III motorcycles manufactured on or after July 1, 1984;

WHEREAS, pursuant to the Board's direction in response to petitions from several motorcycle manufacturers requesting reconsideration of the 1.0 g/km HC exhaust emission standard, the staff has developed several regulatory alternatives to the 1.0 g/km standard which would achieve emission reductions and reduce or eliminate the need for manufacturers to install catalytic converters to achieve compliance;

WHEREAS, the California Environmental Quality Act and Board regulations require that an action not be adopted as proposed where it will have significant adverse environmental impacts and alternatives or feasible mitigation measures to the proposed action are available which would substantially reduce 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, and the language of the proposed regulatory amendments has been made available to the public in accordance with the provisions of Government Code Section 11346.8;

WHEREAS, the Board finds that:

Manufacturers could comply with the existing 1.0 g/km HC exhaust emission standard for Class III motorcycles only with extensive use of catalyst technology;

The use of available and technologically feasible non-catalyst control equipment will be much less costly to motorcycle manufacturers, and likely also to purchasers of motorcycles, than the extensive use of catalyst technology in its present stage of development to achieve further HC exhaust emissions reductions at this time from Class III motorcycles;

Manufacturers are presently able to comply with the current 2.5 g/km HC exhaust emission standard for Class III motorcycles and will be able to comply with a 1.4 g/km corporate average HC exhaust emission standard for Class III motorcycles after February 1985 and for the 1986 and 1987 model years using available and technologically feasible control systems;

The split HC exhaust emission standard consisting of 1.0 g/km applied as a corporate average for motorcycles 280 cc through 699 cc, and 1.4 g/km applied as a corporate average for motorcycles 700 cc and greater, for 1988 and subsequent model years is necessary and technologically feasible to address California's continuing severe air quality problems;

The adoption of the proposed regulatory amendments, as set forth in Attachment A hereto, in lieu of the existing 1.0 g/km standard will likely result in adverse environmental impacts in that it will result in a potential increase in HC exhaust emissions from Class III motorcycles, which is estimated to be 1.1 tons per day (t/d) in 1990 and 1.3 t/d in 1995 statewide;

It is also possible, but it is unlikely, that the proposed amendments may result in a potential minor increase in HC exhaust emissions from Class III motorcycles 280 cc through 699 cc to the extent that the use of an averaging procedure for the 1.0 g/km standard may permit some manufacturers to increase slightly the overall HC exhaust emissions from their Class III product lines;

The costs associated with the extensive use of catalysts on Class III motorcycles are unreasonable at this time due to their disproportionate adverse impact on dealers and other small businesses, and there are no feasible alternatives or mitigation measures available at this time to reduce the adverse impacts from the adoption of these amendments.

The benefits of the proposed amendments outweigh the adverse effects of the estimated potential increase in HC exhaust emissions in that adverse economic effects will be avoided, including substantial and sudden price increases and potentially limited Class III model availability, which could result if the 1.0 g/km HC exhaust emission standard were to be implemented for all Class III motorcycles manufactured after June 30, 1984;

Exhaust emission levels as low as 0.25 g/km HC for Class III motorcycles, equivalent to current passenger car HC emission standards, are potentially feasible in the future with the application of catalyst and other control technologies; and the Board's long-term mobile source control program is designed to achieve additional emission reductions in the future, from motorcycles and other vehicles, as advanced technology becomes available; and

Motorcycle manufacturers should strive ultimately to reduce HC exhaust emissions from Class III motorcycles to 0.25 g/km or lower.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby amends Sections 1958 and 1965 of Title 13, California Administrative Code, as set forth in Attachment A hereto.

BE IT FURTHER RESOLVED that the Board directs the staff to monitor the progress of the motorcycle industry in reducing HC exhaust emissions from Class III motorcycles and also directs the staff to propose for the Board's consideration appropriate more stringent HC exhaust emission standards for motorcycles to be implemented at such time as they are technologically feasible and cost effective.

BE IT FURTHER RESOLVED that the Board hereby determines that the regulations adopted herein are in the aggregate at least at protective of public health and welfare as applicable federal standards and are consistent with Section 202(a) of the federal Clean Air Act.

I certify that the above is a true and correct copy of Resolution 84-11, as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

ATTACHMENT A

Amend Title 13, California Administrative Code, Section 1958(b) to read as follows:

(b) Exhaust emissions from new street use motorcycles, subject to registration and sold and registered in this state shall not exceed:

Exhaust Emission Standards
(grams per kilometer)

| Model Year | Engine (in cubic centimeters) | Hydrocarbon | Carbon Monoxide |
|---|---|---|---|
| | * * * | | |
| 1982 ~~and 1983~~ through 1985 (manufactured prior to March 1, 1985) | 280 cc or greater | 2.5 g/Km | 12 |
| 1985 (manufactured after February 28, 1985) through 1987 | 280 cc or greater | 1.4 g/Km, applied as a corporate average,** provided that each engine family shall have only one applicable standard | 12 |
| 1988 and subsequent | 280 cc to 699 cc | 1.0 g/Km, applied as a corporate average,** provided that each engine family shall have only one applicable standard | 12 |
| | 700 cc or greater | 1.4, applied as a corporate average,** provided that each engine family shall have only one applicable standard | |

** Compliance with a standard to be applied as a "corporate average" shall be determined as follows:

$$\frac{\sum_{j=1}^{n} (PROD_{jx})\ (STD_{jx})}{\sum_{j=1}^{n} (PROD_{jx})} = STD_{ca}$$

n = Class III motorcycle engine families.

$PROD_{jx}$ = Number of units of Class III engine family j produced for sale in California in model year x

$STD_{jx}$ = The ~~manufacturer/designated~~ HC exhaust emission standard for certification for engine family j in model year x, which is designated by the manufacturer subject to the following conditions: (1) no individual engine family exhaust emission standard shall exceed 2.5 g/km, and (2) no engine family designation or engine family exhaust emission standard shall be amended in a model year after the engine family is certified for the model year, and (3) prior to sale or offering for sale in California, each engine family shall be certified in accordance with Section 1958(c) and shall be required to meet the manufacturer's designated HC exhaust emission standard as a condition of the certification Executive Order. Prior to certification the manufacturer shall also submit estimated production volumes for each engine family to be offered for sale in California.

$STD_{ca}$ = A manufacturer's corporate average HC exhaust emissions from all California motorcycles 280 cc or greater which must comply with ~~state~~ the California HC exhaust emission standard, pursuant to an Executive Order certifying the manufacturer's total California production of units 280 cc or greater for each model year. This order must be obtained prior to the issuance of certification Executive Orders for individual engine families for the model year and shall include but not be limited to the following requirements:

(1) During the manufacturer's production year, for each engine family, the manufacturer shall provide the following information to the Executive Officer within 30 days after the last day in each calendar quarter:

(a) vehicle identification numbers and an explanation of the identification code;

(b) the total number of vehicles produced for sale in California and their applicable designated emissions standards.

(2) The manufacturer's average HC exhaust emissions shall meet the corporate average standard at the end of the manufacturer's production for the model year;

(3) Production and sale of vehicles which result in non-compliance with the California standard for the model year shall cause a manufacturer to be subject to civil penalties, per vehicle, pursuant to Health and Safety Code Section 43154. All excess emissions resulting from final non-compliance with the California standard shall be made up in the following model year.

(4) For a period of up to one year following the end of the model year, for each model the manufacturer shall submit California sales and registration data as it becomes available.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code. Reference: Sections 39002, 39003, 43000, 43013, 43100, 43104 and 43107, Health and Safety Code; and Cal.Stats. 83, ch 103.

Amend Title 13, California Administrative Code, Section 1965 to read as follows:

In addition to all other requirements, tune-up labels required by California certification procedures shall conform to the "California Motor Vehicle Tune-Up Label Specifications," adopted March 1, 1978, ~~and~~ as last amended ~~June 16, 1982~~ April 26, 1984.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code. Reference: Sections 39002, 39003, 43000, 43013, 43100, 43101, 43102, 43104, 43107 and 43200, Health and Safety Code.

State of California
AIR RESOURCES BOARD

California Motor Vehicle Tune-Up
Label Specifications

1. Purpose. The Air Resources Board recognizes that certain emissions-critical or emissions-related parts must be properly adjusted in order for vehicles and engines to meet the applicable emission standards. The purpose of these specifications is to require motor vehicle or motor vehicle engine manufacturers to affix a label on each production vehicle in order to provide the vehicle owner with information necessary for the proper adjustment of these parts.

2. Applicability. These specifications shall apply to each new 1979 and subsequent model-year passenger car, light-duty truck, medium-duty vehicle, heavy-duty gasoline-fueled engine, and heavy-duty diesel-fueled engine, and to each new 1982 and subsequent model year motorcycle sold or offered for sale in California. Any vehicles or classes of vehicles exempt from exhaust emission standards pursuant to Article 2, Chapter 3, Title 13 of the California Administrative Code shall also be exempt from the requirements of these specifications. The responsibility for compliance with these specifications shall rest with the motorcycle, light-duty vehicle, medium-duty vehicle, or heavy-duty engine manufacturer who certified such vehicles or engines.

3. Label Content and Location

   (a) A plastic or metal label shall be welded, riveted or otherwise permanently attached to an area within the engine compartment (if

any) or to the engine in such a way that it will be readily visible to the average person after installation of the engine in a vehicle. In selecting an acceptable location, the manufacturer shall consider the possibility of accidental damage (e.g., possibility of tools or sharp instruments coming in contact with the label). The label shall be affixed in such a manner that it cannot be removed without destroying or defacing the label, and shall not be affixed to any part which is likely to be replaced during the vehicle's useful life. For motorcycles, passenger cars, light-duty trucks, and medium-duty vehicles, the label shall not be affixed to any equipment which is easily detached from the vehicle.

(b) The label shall contain the following information lettered in the English language in block letters and numerals which shall be of a color that contrasts with the background of the label:

i. The label heading: "Emission Control Information."

ii. Full corporate name and trademark of the manufacturer.

iii Engine family identification, model designation (for heavy-duty diesels), and engine displacement (in cubic inches, cubic centimeters or liters).

iv. Exhaust Emission Control System: Initials may be used such as EM - engine modification, AI - air injection, FI - fuel injection.

v. Engine tune-up specifications and adjustments as recommended by the manufacturer, including but not limited to valve lash, ignition dwell, ignition timing, idle air fuel mixture setting procedure and valve (e.g., idle CO, idle speed drop), high idle

speed, and, for diesels, initial injection timing, advertised horsepower, and fuel rate (in $mm^3$/stroke) at advertised horsepower (all as applicable). These specifications shall indicate the proper transmission position during tune-up and what accessories, if any (e.g. air conditioner), should be in operation, and what systems, if any (e.g. vacuum advance, air pump), should be disconnected during the tune-up. For gasoline-fueled vehicles, the instructions for tune-up adjustments shall be sufficiently clear on the label so as to preclude the need for a mechanic or vehicle owner to refer to another document in order to correctly perform the adjustments.

vi. A vacuum hose routing diagram showing all emissions-related and emissions-critical parts that are actuated by vacuum and the correct routing of vacuum hoses. This diagram shall contain no more than two different vacuum hose routing patterns; however, if there are two routings on a single diagram each routing must be easily understandable. The hose diagram may be separated from the "Emission Control Information" label provided that the vacuum hose diagram is placed in a visible and accessible position.

vii. For motorcycles only, any specific fuel or engine lubricant requirements (e.g., lead content, research octane number, engine lubricant type).

viii For heavy-duty engines, the date of engine manufacture (month and year).

ix. An unconditional statement of compliance with the appropriate model year California regulations; for example, "This vehicle (or engine, as applicable) conforms to California regulations applicable to _____ model year new _____ (specify motorcycles, passenger cars, light-duty trucks, medium-duty vehicles, heavy-duty gasoline engines, or heavy-duty diesel engines, as applicable)." For federally certified vehicles certified for sale in California the statement must include the phrase "conforms to federal regulations and is certified for sale in California". For Class III motorcycles for sale in California, the statement must include the phrase "is certified to _____ HC engine family exhaust emission standard in California." For incomplete light-duty truck and incomplete medium-duty vehicles the label shall contain the following statement in lieu of the above:

"This vehicle conforms to California regulations applicable to _____ model-year new vehicles when completed at a maximum curb weight of ____ pounds and a maximum frontal area of _____ square feet."

Such a statement shall not be used on labels placed on vehicles or engines which, in facts, do not comply with all applicable California regulations, including assembly-line test requirements, if any.

4. The provisions of these specifications shall not prevent a manufacturer from also reciting on the label that such vehicle or engine conforms to

any applicable federal emission standards for new motor vehicles or new motor vehicle engines or any other information that such manufacturer deems necessary for, or useful to, the proper operation and satisfactory maintenance of the vehicle or engine.

5. As used in these specifications, readily visible to the average person shall mean that the label shall be readable from a distance of eighteen inches (46 centimeters) without any obstructions from vehicle or engine parts (including all manufacturer available optional equipment) except for flexible parts (e.g., vacuum hoses, ignition wires). Alternatively, information required by these specifications to be printed on the label shall be no smaller than 8 point type size provided that no vehicle or engine parts, (including all manufacturer available optional equipment), except for flexible parts, obstruct the label.

6. The label and any adhesives used shall be designed to withstand for the vehicle's total expected life, typical vehicle environmental conditions in the area where the label is attached. Typical vehicle environmental conditions shall include, but are not limited to, exposure to engine lubricants and coolants (e.g. gasoline, motor oil, brake fluids, water, ethylene glycol), underhood temperatures, steam cleaning, and paints or paint solvents. The manufacturer shall submit, with its certification application, a statement attesting that its label comply with this requirement.

7. The manufacturer shall obtain approval from the Executive Officer for all label formats and locations prior to use. Approval of the specific tune-up settings is not required; however, the format for all such settings and tolerances, if any, is subject to review. If the Executive

Officer finds that the information on the label is vague or subject to misinterpretation, or that the location does not comply with these specifications, he or she may require that the label or its location be modified accordingly.

8. Samples of all actual production labels used within an engine family shall be submitted to the Executive Officer within thirty days after the start of production.

9. (a) The Executive Officer may, upon request, waive or modify any part of the requirements of these specifications for the 1979 model year if a vehicle or engine manufacturer does not have adequate lead time to comply with the aforementioned requirements.

   (b) The Executive Officer may approve alternate label locations or may, upon request, waive or modify the label content requirements provided that the intent of these specifications are met.

10. If the Executive Officer finds any motor vehicle or motor vehicle engine manufacturer using labels which are different from those approved or which do not substantially comply with the readability or durability requirements set forth in these specifications, the Executive Officer may invoke Secton 2109, Article 2, Subchapter 2, Chapter 3, Title 13, California Administrative Code.

State of California

# Memorandum

: Gordon Van Vleck
Secretary
Resources Agency

Date : June 8, 1984

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 decision and response to environmental comments raised during the comment period.

ATTACHMENTS
84-10
~~84-19~~
84-20
84-31
84-32

FILED AND POSTED BY
OFFICE OF THE SECRETARY
JUN 8 1984
Resources Agency of California

State of California
AIR RESOURCES BOARD

Resolution 84-12

May 24, 1984

Agenda Item Nos. 84-8-3
84-9-1

WHEREAS, Health and Safety Code Section 39701 provides that the Air Resources Board (the "Board") shall coordinate and collect research data on air pollution, and Health and Safety Code Section 39703 authorizes the Board to establish applied research objectives, to receive and review research proposals, to recommend specific research projects, and to establish necessary administrative and review procedures;

WHEREAS, Health and Safety Code Section 39705 directs the Board to appoint a screening committee to review, and to give its advice and recommendations with respect to, all air pollution research projects funded by the state, and authorizes the Board to determine the rotation of the committee's members;

WHEREAS, on March 22, 1984, the Board met with the Research Screening Committee appointed pursuant to Health and Safety Code Section 39705 in a duly noticed public meeting;

WHEREAS, the involvement of the most knowledgeable and distinguished people in air pollution research remains the goal of the Board in selecting Research Screening Committee members;

WHEREAS, the criteria used by the Research Screening Committee to review proposals and recommend proposals for funding by the Board should be approved periodically by the Board, and these criteria should be public knowledge, available to the public generally, and be well known to people submitting research proposals for consideration; and

WHEREAS, the Board has considered issues relating to the role and functioning of the Research Screening Committee and has received public comment on these issues at public hearings held April 27, 1984, and May 24, 1984.

NOW, THEREFORE, BE IT RESOLVED that the Board intends to pursue a policy of close liaison between the Board and the Research Screening Committee as a means of ensuring that the Board is aware of the latest developments in the research program and that the Committee is apprised of the Board's regulatory priorities.

BE IT FURTHER RESOLVED that the Board finds that the research priorities reflected in the allocation of funds among research categories in the proposed 1984-85 research budget are consistent with the Board's current regulatory priorities.

BE IT FURTHER RESOLVED that the Board directs the staff and the Research Screening Committee, without precluding consideration of other research areas, to place particular emphasis on research on the adverse health effects of particulate matter emitted by diesel engines, on the adverse health effects of toxic and potentially toxic air contaminants, and on the adverse economic impacts of damage to agricultural crops caused by air pollution.

BE IT FURTHER RESOLVED that the Board establishes a policy of regular rotation of the membership of the Research Screening Committee, such that members will be appointed to terms of three years, with one-third of the members to be replaced annually.

BE IT FURTHER RESOLVED that the Board shall periodically review and approve the criteria used by the Research Screening Committee to review and select projects.

BE IT FURTHER RESOLVED that, in the interests of avoiding potential conflicts of interest and the appearance of such conflicts, the Board's policy with respect to the review and selection of research projects for Board funding shall be as follows:

- A Research Screening Committee member shall not participate in the consideration of any project for which the member has submitted, or may wish to submit, a proposal; and

- In the case of any proposal which the Research Screening Committee recommends for funding and which is to be carried out by a Research Screening Committee member or a member's institutional colleague, the participation of the member or the member's colleague in the project shall be clearly identified and described for the Board's consideration in its review of the proposal.

BE IT FURTHER RESOLVED that, with respect to the implementation of the above policy, the Board hereby directs the staff to take appropriate action to assure that the criteria used to review and select research proposals are publicly available and are applied universally to proposals submitted for consideration.

I certify that the above is a true and correct copy of Resolution 84-12, as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 84-13
April 27, 1984

WHEREAS, the Air Resources Board has been directed to design and implement a comprehensive program of research and monitoring of acid deposition in California pursuant to Health and Safety Code Sections 39900 through 39915; and

WHEREAS, an unsolicited research proposal, Number 025-4(R), entitled "Dry Deposition of Acidic Gases and Particles", has been submitted by the State Department of Health Services; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Scientific Advisory Committee on Acid Deposition has reviewed and recommends for funding:

> Proposal Number 025-4(R) entitled "Dry Deposition of Acidic Gases and Particles", submitted by the State Department of Health Services for a total amount not to exceed $134,927.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39906, hereby accepts the recommendation of the Scientific Advisory Committee on Acid Deposition and approves the following:

> Proposal Number 025-4(R) entitled "Dry Deposition of Acidic Gases and Particles", submitted by the State Department of Health Services for a total amount not to exceed $134,927.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $134,927.

I certify that the above is a true and correct copy of Resolution 84-13 as passed by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM: 84-8-4b(1)
DATE: April 27, 1984

ITEM: Research Proposal No. 025-4(R) entitled "Dry Deposition of Acidic Gases and Particles.

RECOMMENDATION: Adopt Resolution 84-13 approving Proposal No. 025-4(R) for funding in an amount not to exceed $134,927.

SUMMARY: The relative importance of dry deposition in the overall phenomenon of acid deposition has only recently been identified. In the northeastern U.S. and Canada, wet deposition of acidity reportedly equals or exceeds dry deposition in both winter and summer. Accordingly, Federal researchers have placed relatively little emphasis on measuring and assessing dry deposition. In contrast, dry deposition in the South Coast Air Basin has been estimated to be more than ten times the level of wet deposition in terms of total flux of acidity. Any realistic assessment of acid deposition rates and possible effects in California will require the measurement of dry as well as wet deposition.

The proposed research is a continuation of multi-year effort to develop monitoring techniques for dry acid deposition. In the initial phase of the study, atmospheric concentrations of particulate strong acids, vapor-phase nitric acid sulfates, ammonium ion, ammonia, sulfur dioxide, and nitrogen oxides were measured at various locations in the state and multiplied by the deposition velocity specific to the pollutant and site to obtain estimates of deposition flux (i.e., pounds of deposited sulfate per acre per year). Potential techniques for measuring the size distribution of acid particles and the feasibility of using materials and vegetative surfaces as direct measures of deposition were also investigated.

The specific objectives of the present work are to: 1) measure the size distributions of acidic particles at various locations within the state in order to determine the appropriate deposition velocities; 2) develop a "spot test" for ambient acidic particles which will provide a measure of corrosivity for material damage assessment; 3) measure acidic particle deposition on vegetation; 4) develop a "surrogate leaf" as a passive monitor for sulfur dioxide and as a mean for determining deposition rates within a plant canopy; and 5) improve the sampling of acid particles by designing an ammonia denuder which can tolerate ambient moisture.

Accurate and reliable measurement and assessment methods for dry acid deposition are essential to the Board and staff if we are to carry out the requirements of the Kapiloff Acid Deposition Act in evaluating comprehensively the present and potential effects of acid deposition in California.

State of California
AIR RESOURCES BOARD

Resolution 84-14
April 27, 1984

WHEREAS, the Air Resources Board has been directed to design and implement a comprehensive program of research and monitoring of acid deposition in California pursuant to Health and Safety Code Sections 39900 through 39915; and

WHEREAS, a solicited research proposal, Number 018-3(R), entitled "Snow Deposition, Melt, Runoff and Chemistry in a Small Alpine Watershed Emerald Lake Basin, Sequoia National Park", has been submitted by the University of California, Santa Barbara; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Scientific Advisory Committee on Acid Deposition has reviewed and recommends for funding:

> Proposal Number 018-3(R) entitled "Snow Deposition, Melt, Runoff and Chemistry in a Small Alpine Watershed, Emerald Lake Basin, Sequoia National Park", submitted by the University of California, Santa Barbara for a total amount not to exceed $357,686.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39906, hereby accepts the recommendation of the Scientific Advisory Committee on Acid Deposition and approves the following:

> Proposal Number 018-3(R) entitled "Snow Deposition, Melt, Runoff and Chemistry in a Small Alpine Watershed, Emerald Lake Basin, Sequoia National Park", submitted by the University of California, Santa Barbara for a total amount not to exceed $357,686.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $357,686.

I certify that the above is a true and correct copy of Resolution 84-14 as passed by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM: 84-8-4b(2)
DATE: April 27, 1984

ITEM: Research Proposal No. 018-3(R) entitled, "Snow, Deposition, Melt, Runoff and Chemistry in a Small Alpine Watershed, Emerald Lake Basin, Sequoia National Park."

RECOMMENDATION: Adopt Resolution 84-14 approving Research Proposal No. 018-3(R) for funding not to exceed $357,686.

SUMMARY: In high elevation watersheds in California, snow is the dominant form of wet deposition. Large snowpacks accumulate throughout the winter and then melt within a short time span in the spring and summer. Little is known about the patterns of snow deposition melt and runoff in these high elevation basins of California. In other parts of the world, where surface water acidification is a problem, pollutants can become concentrated in snowmelt and can rapidly acidify lakes and streams during a short acid "pulse" that occurs with the onset of snowmelt. It is not known if such mechanisms operate in the mountainous regions of California.

The Kapiloff Acid Deposition Act requires that the Air Resources Board initiate a program to identify sensitive areas within California that may be damaged by excessively acidic inputs. The Act further requires that the Air Resources Board quantify and describe those inputs. A Request for Proposals was issued to solicit proposals to study intensively a typical watershed in the Sierra Nevada. One component of the watershed study includes a study of the physics and chemistry of snow, melt water and runoff in the selected watershed. The Research Division received three proposals to study snow chemistry and snowmelt processes.

The proponent selected by the Board's Scientific Advisory Committee on Acid Deposition is a research team at the University of California, Santa Barbara. This group has been active in snow studies in high-elevation systems of the Sierra Nevada, both on the eastern and the western slopes, and in studies of both snow dynamics and snow chemistry. They have also developed a series of computer models to simulate the complex snow processes in the Sierra Nevada.

A long term, comprehensive study of snow deposition and melt processes in a high elevation watershed is needed for two reasons: (1) to provide baseline data on the quantity and composition of snow falling in the basin; and (2) to

identify snowmelt and runoff processes that might serve to concentrate acidity in the early meltwater fractions. The general approach taken by the proponent to meet these objectives will be: to study physical and chemical characteristics of snowfall, snowpack and runoff in the Emerald Lake Basin of Sequoia National Park during two snow seasons; and to model the changes that occur in the snowpack using field measurements, satellite imagery and meteorological measurements as inputs.

The proponent has described a thirty-month program that may be divided into seven tasks: (1) analysis of basin topography and selection of sampling grid; (2) measurement of inputs as snow; (3) chemical sampling of snow, snowmelt and runoff; (4) measurement of losses from the snowpack; (5) development of a meltwater dynamics model that will be verified using actual field measurements; (6) development of models to predict runoff timing and routes based on field observations; and (7) calculation of a water balance for the basin. The proponent will make use of laboratory facilities at the National Park Service headquarters at Ash Mountain and at the University of California, Santa Barbara. Computer models will be developed and applied at the Computer Systems Lab at the University of California, Santa Barbara.

These tasks will be accomplished by a combination of the following: (1) use of satelite imagery and aerial photography to define basin characteristics; (2) regular measurements of snowfall events and snow cores; (3) development and installation of devices to measure meltwater <u>in situ</u> and to collect runoff; (4) chemical analysis of snow, meltwater and runoff for major ions and nutrients; (5) measurement of meteorological variables to aid in estimating snowpack dynamics; and (6) development and refinement of models designed to estimate changes in the snowpack through time.

The results from this work are needed and will be used by the Board researchers to assess the present and potential effects of acid deposition upon sensitive lakes and streams in the Sierra Nevada.

B U D G E T  S U M M A R Y:  University of California, Santa Barbara

"STUDY OF SNOW CHEMISTRY AND SNOWMELT PROCESSES IN A SELECTED WATERSHED"

($357,686--30 Months)

| BUDGET ITEMS: | YEAR 1<br>July 1, 1984<br>June 30, 1985 | YEAR 2<br>July 1, 1985<br>June 30, 1986 | YEAR 3<br>July 1, 1986<br>December 31, 1986 |
|---|---|---|---|
| Salaries | 53,465 | 60,041 | 40,723 |
| Employee Benefits | 8,092 | 9,727 | 8,075 |
| Equipment | 18,000 | 6,500 | 0 |
| Supplies & Materials | 5,000 | 7,000 | 3,500 |
| Travel | 12,240 | 15,375 | 7,175 |
| Other Expenses | 9,700 | 13,200 | 7,600 |
| Total Direct Costs | 106,497 | 111,843 | 67,073 |
| Indirect Costs | 24,514 | 29,180 | 18,579 |
| Total Project Cost | 131,011 | 141,023 | 85,652 |

State of California
AIR RESOURCES BOARD

Resolution 84-15
March 22, 1984

WHEREAS, the Air Resources Board has been directed to design and implement a comprehensive program of research and monitoring of acid deposition in California pursuant to Health and Safety Code Sections 39900 through 39915; and

WHEREAS, a solicited research proposal, Number 026-3(R), entitled "Statewide Survey of Aquatic Ecosystem Chemistry: Comprehensive Study", has been submitted by the Department of Fish and Game of the State of California;

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Scientific Advisory Committee on Acid Deposition has reviewed and recommends for funding:

> Proposal Number 026-3(R) entitled "Statewide Survey of Aquatic Ecosystem Chemistry: Comprehensive Study", submitted by the Department of Fish and Game of the State of California for a total amount not to exceed $400,000.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39906, hereby accepts the recommendation of the Scientific Advisory Committee on Acid Deposition and approves the following:

> Proposal Number 026-3(R) entitled "Statewide Survey of Aquatic Ecosystem Chemistry: Comprehensive Study", submitted by the Department of Fish and Game of the State of California for a total amount not to exceed $400,000.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $400,000.

I certify that the above is a true and correct copy of Resolution 84-15 as passed by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM: 84-8-4b(3)
DATE: April 27, 1984

ITEM: Research Proposal No. 026-3(R) entitled, "Statewide Survey of Aquatic Ecosystem Chemistry: Comprehensive Study".

RECOMMENDATION: Adopt Resolution 84-15 approving Research Proposal No. 026-3(R) for funding in an amount not to exceed $400,000.

SUMMARY: The Kapiloff Acid Deposition Act provides for the Air Resources Board to design and implement a comprehensive research and monitoring program to investigate the nature, extent and potential effects of acid deposition in California. Such effects may include damage to certain sensitive aquatic systems, particularly lakes and streams located at high elevations in granitic basins. Little is known about the extent of these sensitive aquatic systems in the State or seasonal changes in such chemical variables as pH, alkalinity, major ions and nutrients.

The objective of this study is to collect baseline data on pH, alkalinity and other important variables necessary to characterize the sensitivity of these systems to acid deposition. A network of stations will be established and monitored to detect changes in surface water chemistry in California over time.

A Request for Proposals was issued to solicit proposals to conduct a survey of surface water quality throughout the State. Eight proposals were received in response to the RFP.

The proponent selected by the Board's Scientific Advisory Committee is the State Department of Fish and Game. DFG has conducted water quality monitoring in sensitive areas of California for many years and, as determined by the SAC, DFG offered the most technically sound and efficient proposal for accomplishing the objectives of the RFP. Complementary to the Board's interests, DFG researchers are also particularly interested in possible effects of acid deposition on surface waters and fish or amphibian populations that inhabit them.

The approach taken by the proponents to meet the ARB's objectives in this research will be: (1) to select about 50 lakes and streams that are located in geologically sensitive regions of California; (2) to collect surface water samples twice a year at each station and to perform specified physical and chemical measurements on-site; (3)

to perform extensive chemical analyses on water samples at the Department of Fish and Game's Water Pollution Control Laboratory in Rancho Cordova; and (4) to establish a data base management system that will allow for the entering of future years' data and manipulation of the data base to detect changes in water quality parameters through time.

This measurement program will be carried out over thirty months, with samples being collected during five sampling periods. Water collection will occur in the late summer and during the spring snowmelt period. Major ions and nutrients will be measured, along with an array of trace elements known to be mobilized by acid deposition. These data will form the basis for a long-term monitoring program of surface water quality as it relates to acid deposition effects.

This study is needed to provide detailed chemical data for lakes and streams in California that may be sensitive to acid deposition effects. These baseline data will provide evidence for evaluating seasonal effects and possible trends in surface water chemistry, particularly alkalinity, which may be influenced by acid deposition.

B U D G E T  S U M M A R Y:  Department of Fish and Game

"STATEWIDE SURVEY OF AQUATIC ECOSYSTEM CHEMISTRY"

($400,000--30 Months)

| BUDGET ITEMS: | YEAR 1<br>July 1, 1984<br>June 30, 1985 | YEAR 2<br>July 1, 1985<br>June 30, 1986 | YEAR 3<br>July 1, 1986<br>December 31, 1986 |
|---|---|---|---|
| Salaries | 55,077 | 64,084 | 38,037.5 |
| Employee Benefits | 12,836.70 | 14,662.20 | 8,063.25 |
| Equipment | 25,100.46 | 4,175.70 | 4,070.89 |
| Supplies & Materials | 4364.66 | 3,978.3 | 3,509.6 |
| Travel | 23,600 | 25,800 | 20,460 |
| Other Expenses | 5,440 | 6,300 | 5,050 |
| Total Direct Costs | 126,418.82 | 119,000.20 | 79,191.24 |
| Indirect Costs | 22,999.27 | 29,854.37 | 22,536.1 |
| Total Project Cost | 149,418.09 | 148,854.57 | 101,727.34 |

State of California
AIR RESOURCES BOARD

Resolution 84-16
April 27, 1984

WHEREAS, the Air Resources Board has been directed to design and implement a comprehensive program of research and monitoring of acid deposition in California pursuant to Health and Safety Code Sections 39900 through 39915; and

WHEREAS, a solicited research proposal, Number 015-3(R), entitled "Effects of Acid Deposition on Important Soil Processes in a Selected Watershed", has been submitted by the University of California, Riverside; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Scientific Advisory Committee on Acid Deposition has reviewed and recommends for funding:

> Proposal Number 015-3(R) entitled "Effects of Acid Deposition on Important Soil Processes in a Selected Watershed", submitted by the University of California, Riverside for a total amount not to exceed $170,976.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39906, hereby accepts the recommendation of the Scientific Advisory Committee on Acid Deposition and approves the following:

> Proposal Number 015-3(R) entitled "Effects of Acid Deposition on Important Soil Processes in a Selected Watershed", submitted by the University of California, Riverside for a total amount not to exceed $170,976.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $170,976.

I certify that the above is a true and correct copy of Resolution 84-16 as passed by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM: 84-8-4b(4)
DATE: April 27, 1984

ITEM: Research Proposal No. 015-3 entitled "Effects of Acid Deposition on Important Soil Processes in a Selected Watershed", University of California, Riverside, California, Steve Nodvin.

RECOMMENDATION: Adopt Resolution 84-16 approving Research Proposal No. 015-3 for funding for an amount not to exceed $170,976.

SUMMARY: The Kapiloff Acid Deposition Act requires the Air Resources Board to determine which areas of California may be sensitive to acid deposition and to assess present and potential damage to ecosystems from acid deposition. The proposed research is one component of an intensive study of Emerald Lake in Sequoia National Park. Emerald Lake basin is a small, high elevation watershed formed on granitic bedrock; it has been identified by the Board's Scientific Advisory Committee as being representative of sensitive watersheds in the Sierra Nevada. The other components of the Integrated Watershed Study include studies of aquatic systems, vegetation and snow chemistry and dynamics within the watershed.

The proposed study of the soil processes would determine the role of the soil in the watershed in influencing vegetation growth and aquatic chemistry. Nitrogen and sulfur cycling within the soil will be studied. Litter decomposition rates will be determined. The sensitivity of each soil type to acid deposition will also be determined. Sulfate absorption characteristics of the major soil types in the watershed will be measured and used to develop a model of solute transport for sulfate. Aluminum mobility and speciation will be determined.

This information will provide baseline data which is needed to identify possible trends in soil processes that may be affected by acid deposition. The information is also needed to help determine whether effects significant from acid deposition are occurring. This proposal was chosen from among four proposals received for this component of the Board's Request For Proposals for an Integrated Watershed Study. The total funding request for all proposals received was approximately $870,000.

B U D G E T  S U M M A R Y:  University of California, Riverside

"EFFECTS OF ACID DEPOSITION ON IMPORTANT SOIL PROCESSES IN A SELECTED WATERSHED"

($170,976--18 Months)

| BUDGET ITEMS: | YEAR 1<br>July 1, 1984<br>June 30, 1985 | YEAR 2<br>July 1, 1985<br>December 31, 1985 |
|---|---|---|
| Salaries | 59,046 | 32,543 |
| Employee Benefits | 13,597 | 7,828 |
| Equipment | 0 | 0 |
| Supplies & Materials | 8,600 | 2,250 |
| Travel | 12,500 | 6,952 |
| Other Expenses | 0 | 0 |
| Total Direct Costs | 93,743 | 49,573 |
| Indirect Costs | 18,092 | 9,568 |
| Total Project Cost | 111,835 | 59,141 |

State of California
AIR RESOURCES BOARD

Resolution 84-17
April 27, 1984

WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution, pursuant to Health and Safety Code Sections 39700 through 39705;

WHEREAS, an unsolicited research proposal, Number 1241-106, entitled "Project Basin", has been submitted by the University of California, Los Angeles, to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Research Screening Committee has reviewed and recommends for funding:

Proposal Number 1241-106 entitled "Project Basin", submitted by the University of California, Los Angeles, for a total amount not to exceed $62,952.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

Proposal Number 1241-106 entitled "Project Basin", submitted by the University of California, Los Angeles, for a total amount not to exceed $62,952.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $62,952.

I certify that the above is a true and correct copy of Resolution 84-17 as passed by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM NO.: 84-8-4b(5)
DATE: April 27, 1984

ITEM: Research Proposal No. 1241-106 entitled "Project Basin".

RECOMMENDATION: Adopt Resolution 84-17 approving Research Proposal No. 1241-106 for funding in an amount not to exceed $62,952. From that amount $24,900 will be retained by the State for the purchase of expendable items budgeted for this study.

SUMMARY: Ozone levels in the Los Angeles Basin currently exceed the health-based federal ambient air quality standard by a wide margin. It is uncertain when and how healthful levels of air quality can be achieved and maintained in the most cost-effective manner. However, under all reasonable air quality management scenarios that have been considered, significant additional emission control measures will be required. Air quality simulation models will have to be used, together with detailed air quality and meteorological data, to evaluate the effectiveness of alternative strategies.

High ozone concentrations within the stable inversion layer have been documented in recent field studies conducted in the Los Angeles Basin. However, air quality simulation models and ozone forecasting procedures currently in use are deficient in their treatment of the transport and dilution of these elevated layers. This is due to the sparsness of the upper level meteorological measurements needed to develop realistic three-dimensional wind models.

In this proposed study, the existing network of surface-based meteorological stations will be supplemented with six sites to collect upper level measurements of wind, temperature and humidity over a twenty-eight day cycle including the dates of the Summer Olympic Games. Interest generated by the Olympics has resulted in offers by several private contractors and government agencies to lend the University of California, Los Angeles all equipment needed for this study. In addition, some of the instruments will be installed and operated by the donors. The contribution of equipment and labor on a volunteer basis provides a major benefit to the proposed study, at no cost to the ARB. In particular, the staff estimates the value of the voluntary effort to be approximately $20,000. The

measurements collected in this study will be analyzed to construct three-dimensional fields of wind, temperature and humidity. This analysis will be used to develop and apply more realistic models to simulate the transport and transformation of pollutants.

The improved models and meteorological data base that will result from this research are needed to evaluate alternative control measures and to help air pollution control officials in identifying the most cost effective measures for achieving and maintaining health-based ambient air quality standards in the South Coast Air Basin.

State of California
AIR RESOURCES BOARD

Resolution 84-18
April 27, 1984

WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution, pursuant to Health and Safety Code Sections 39700 through 39705;

WHEREAS, an unsolicited research proposal, Number 1238-105(R), entitled, "Inhalation Toxicology of Combined Acid and Soot Particles", has been submitted by the University of California, Irvine, to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Research Screening Committee has reviewed and recommends for funding:

> Proposal Number 1238-105(R) entitled "Inhalation Toxicology of Combined Acid and Soot Particles", submitted by the University of California, Irvine, for a total amount not to exceed $247,528.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

> Proposal Number 1238-105(R) entitled "Inhalation Toxicology of Combined Acid and Soot Particles", submitted by the University of California, Irvine, for a total amount not to exceed $247,528.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $247,528.

I certify that the above is a true and correct copy of Resolution 84-18 as passed by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM: 84-8-4b(6)
DATE: April 27, 1984

ITEM: Research Proposal No. 1238-105(R) entitled, "Inhalation Toxicology of Combined Acid and Soot Particles".

RECOMMENDATION: Adopt Resolution 84-18 approving Proposal No. 1238-105(R) for funding in an amount not to exceed $247,528.

SUMMARY: Recent measurements of both acidic aerosols in the respirable size range and highly acidic fog droplets have prompted renewed concern about how California's unique forms of atmospheric acidity may affect human health. These concerns have been expressed by members of this Board, the Scientific Advisory Committee on Acid Deposition and the Research Screening Committee.

Because the kinds of atmospheres that need to be studied--containing strongly acidic vapors and droplets along with suspended solid particles, all of such small diameter that they can reach the deepest recesses of the human lung--have never been evaluated before, initial experiments will need to be carried out with animals. Whenthe kinds of effects that these atmospheres have upon the respiratory system have been established and the approximate concentrations at which they occur have been determined, studies with human subjects may be designed and carried out.

The Research Screening Committee has received a proposal from the Air Pollution Health Effects Laboratory at the University of California, Irvine, to carry out an extensive series of exposure tests that will provide the required information. The experimental animals--rats--will be exposed to mixtures containing, in various combinations, sulfuric acid droplets, nitric acid vapor and carbon particles. The exposures will be intermittent, five hours per day, five days per week for five weeks. The rats will be exercised during exposure. Levels of both acids and particulate carbon will approximate the maximum levels that might occur in California.

Following exposure, the lungs of the rats will be examined microscopically to determine whether lesions or other kinds of damage have been induced by the test atmospheres.

The staff, in response to suggestions made by the Research Screening Committee and members of the Board, has negotiated with the proponents to develop both an improved experimental protocol and a budget that more fully reflects a strong management approach for the project. A detailed budget summary is attached hereto.

BUDGET SUMMARY: University of California, Irvine
"Inhalation Toxicology of Combined Acid and Soot Particles"
($247,528/24 months)

| BUDGET ITEMS | Year 1<br>March 1, 1984 -<br>February 28, 1985 | Year 2<br>March 1, 1985 -<br>February 28, 1986 |
|---|---|---|
| SALARIES | $ 27617 | $ 31901 |
| EMPLOYEE BENEFITS | 8263 | 9866 |
| EQUIPMENT | 31600* | 2500 |
| SUPPLIES AND MATERIALS | 14500 | 21600 |
| TRAVEL | 2000 | 2200 |
| OTHER EXPENSES | 13296 | 21752 |
| TOTAL DIRECT COSTS | 97276 | 89819 |
| INDIRECT COSTS | 25942 | 34491 |
| TOTAL PROJECT COST | 123218 | 124310 |

*Equipment, Year 1 itemized:

1 NBS/EPA Aerosol generator, $11000.
1 Titrimeter, $8118, plus printer/plotter, $2850.
1 Cahn electro-balance, $5032.
Upgrade scintillation counters for clearance measurements, $4600 (sodium iodide crystals, with bases, preamplifiers, cables).

State of California
AIR RESOURCES BOARD

Resolution 84-19
April 27, 1984

WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution, pursuant to Health and Safety Code Sections 39700 through 39705;

WHEREAS, a solicited research proposal, Number 1234-105, entitled, "Recommendation of Particle Sizing Methodologies", has been submitted by the Southern Research Institute to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Research Screening Committee has reviewed and recommends for funding:

Proposal Number 1234-105 entitled "Recommendation of Particle Sizing Methodologies", submitted by the Southern Research Institute for a total amount not to exceed $142,362.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

Proposal Number 1234-105 entitled "Recommendation of Particle Sizing Methodologies", submitted by the Southern Research Institute for a total amount not to exceed $142,362.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $142,362.

I certify that the above is a true and correct copy of Resolution 84-19 as passed by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM NO.: 84-8-4b(7)
DATE: April 27, 1984

ITEM: Research Proposal No. 1234-105 entitled "Recommendation of Particle Sizing Methodologies".

RECOMMENDATION: Adopt Resolution 84-19 approving Research Proposal No. 1234-105 for funding in an amount not to exceed $142,362.

SUMMARY: The primary objective of this project is to develop three practical and widely applicable methods which can be used by source testing teams to make accurate emissions and particle size measurements of ducted (as contrasted with fugitive) fine particle emissions from stationary sources. These methodologies are needed to measure and to be able to assess, in a more precise and reliable manner, the effects on air quality attribute to stationary emission sources of fine particulate matter. Such assessments are critical to the design of attainment strategies for the new Federal and State $PM_{10}$ air quality standards.

Fine particulate matter is emitted into the atmosphere from a variety of sources, both stationary and mobile, and it can be an important component of the atmospheric burden of hazardous and toxic air pollutants. However, a precise and reliable assessment of the sources and distribution of atmospheric fine particles requires the capability to measure source emissions of fine particles on a size- and chemically-speciated basis. Such a capability has not yet been demonstrated and documented as a well-defined and accepted source testing methodology. This study is intended to provide such a methodology.

Three methods will be identified which will include the capability of sample collection for subsequent chemical analysis and the capabilities to assess a wide range of particle loadings. Because some of the fine particulate matter in the atmosphere is formed by condensation after cooling of directly emitted vapors, the techniques will include both sampling at stack temperatures and sampling after cooling by dilution air. A review of particle sizing methods and equipment will identify the best available candidate techniques for futher evaluation. Calibration calculations will be verified and each method will be evaluated by means of a repesentative field test. The proposed work statement provides for literature research, engineering evaluation, laboratory calibrations and field testing of the three methods at an industrial site to be selected.

State of California
AIR RESOURCES BOARD

Resolution 84-20

April 26, 1984

Agenda Item No.: 84-7-2

WHEREAS, Section 39601 of the Health and Safety Code authorizes the Air Resources Board (the "Board") to adopt standards, rules and regulations necessary for the proper execution of the powers and duties granted to and imposed upon the Board by law;

WHEREAS, Sections 43013, 43101, and 43104 of the Health and Safety Code authorize the Board to adopt emissions standards and test procedures to control air pollution caused by motor vehicles, and pursuant to these provisions the Board has adopted emissions standards and test procedures for new motor vehicles;

WHEREAS, Section 43200 of the Health and Safety Code authorizes the Board to adopt a regulation prohibiting the sale of new motor vehicles which do not display a decal containing specified emissions information, if the Board determines that the regulation is necessary to enforce or assure compliance with applicable statutes, standards or procedures, or is necessary for the protection and information of consumers;

WHEREAS, Section 43210(a) of the Health and Safety Code authorizes the Board to provide, by regulation, for the testing of motor vehicles on factory assembly lines or in a manner which the Board determines best suited to carry out the purposes of Part 5 of Division 26 of the Health and Safety Code;

WHEREAS, Section 2061, Title 13, California Administrative Code, presently establishes assembly-line test procedures for 1983 and subsequent model-year passenger cars, light-duty trucks, and medium-duty vehicles (the "Assembly-Line Test Procedures");

WHEREAS, the Assembly-Line Test Procedures require that all new passenger cars, light-duty trucks, and medium-duty vehicles produced for sale in California must pass an Inspection Test and that each engine family must pass a Quality-Audit Test conducted on a representative sample of such new vehicles;

WHEREAS, the Inspection Test consists of a functional test and a steady-state emissions test;

WHEREAS, the Assembly-Line Test Procedures require that a decal setting forth the applicable exhaust emission standards and a statement of compliance with the assembly-line test requirements must be affixed to the window of each new passenger car, light-duty truck, and medium-duty vehicle to be sold and registered in California;

WHEREAS, in September 1983 the Board, on considering a General Motors Corporation petition to amend the Inspection Test portion of the Assembly-Line Test Procedures to allow manufacturers to design all aspects of the Inspection Test, directed staff to continue its review of the Procedures and formally to propose amendments to the Board;

WHEREAS, the Board has considered a staff proposal to amend the Assembly-Line Test Procedures and Section 2061, Title 13, California Administrative Code, by revising the Inspection Test, deleting the decal requirement, and making other technical and editorial changes;

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 the provisions of Chapter 3.5 (commencing with Section 11340), Part 1, Division 3, Title 2 of the Government Code; and

WHEREAS, the Board finds that:

> In the last several years vehicle manufacturers have made significant advances in emission control technology, including increased use of three-way catalysts, improved fuel flow control through use of feedback control systems and extensive application of computer technology to engine and emission control system operation;
>
> The steady-state emissions test is often not as effective in detecting emission control system malfunctions during the assembly-line test of the newer systems as it was for the less advanced systems in use when the test procedure was developed;
>
> Manufacturers have developed the capability for sophisticated quality control test procedures which check the operation of emission control systems during the vehicle assembly process;
>
> Because of the diversity of emission control systems installed on new vehicles, a single specific functional test procedure cannot practically be applied to all systems;
>
> The amendments to the Inspection Test component of the Assembly-Line Test Procedures approved herein will help assure that adequate and appropriate functional tests of emissions control components are conducted and will result in quality assurance equal to or greater than the existing provisions;

The decal requirement in the Assembly-Line Test Procedures is no longer necessary to enforce or assure compliance with applicable statutes, standards or procedures relating to vehicle emissions or to protect and inform consumers;

The various other amendments to the Assembly-Line Test Procedures approved herein are necessary to update and clarify the provisions;

The amendments to the Assembly-Line Test Procedures approved herein will result in economies and greater flexibility to manufacturers, without any sacrifice of quality assurance;

The amendment to Section 2061, Title 13, California Administrative Code, approved herein is necessary to incorporate the amendments to the Assembly-Line Test Procedures; and

The amendments approved herein will have no significant adverse environmental impacts.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves the amendments to Title 13, California Administrative Code, Section 2061, set forth in Attachment A hereto.

BE IT FURTHER RESOLVED that the Board hereby approves the amendments to the "California Assembly-Line Test Procedures for 1983 and Subsequent Model Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," set forth in Attachment B hereto.

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

BE IT FURTHER RESOLVED that the Board hereby determines that the amendments approved herein will not cause the California emission standards, in the aggregate, to be less protective of public health and welfare than applicable federal standards, will not cause the California requirements to be inconsistent with Section 202(a) of the Clean Air Act, and raise no new issues affecting previous waiver determinations of the Administrator of the Environmental Protection Agency pursuant to Section 209(b) of the Clean Air Act.

BE IT FURTHER RESOLVED that the Executive Officer shall forward the amended regulation to the Environmental Protection Agency with a request for confirmation that the amendments are within the scope of an existing waiver, pursuant to Section 209(b)(1) of the Clean Air Act.

BE IT FURTHER RESOLVED that notwithstanding the amendments approved herein, the provisions of the Assembly-Line Test Procedures as they existed prior to the effective date of the amendments shall continue to be in operation with respect to motor vehicles produced prior to the effective date of the amendments.

I certify that the above is a true and correct copy of Resolution 84-20, as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Public Hearing to Consider Amendments to Title 13, California Administrative Code, Section 2061, and Incorporated Assembly-Line Test Procedures, Regarding Inspection Test Procedures, Decal Requirements, and Other Technical Provisions

Hearing Date: April 26, 1984
Public Availability Date: May 17, 1984

On April 26, 1984, the Air Resources Board (the "Board") approved amendments to Section 2061, Title 13, California Administrative Code, and the incorporated California Assembly-Line Test Procedures for 1983 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles (the "Assembly-Line Test Procedures"), regarding inspection test procedures, decal requirements, and other requirements concerning inspection test and quality audit test reporting. Attached is a copy of the Board's Resolution 84-20, approving these amendments.

The approved amendments were identical to those previously proposed by staff, with the exception of certain modifications to the Assembly-Line Test Procedures. Appended to Resolution 84-20 are the approved Test Procedures, showing deletions from the original proposed language in slashes, and additions in double underline. Also attached are the approved amendments to Section 2061, Title 13, California Administrative Code.

In approving the amendments to the Assembly-Line Test Procedures and Section 2061, the Board directed the Executive Officer to adopt the amendments after making them available to the public for a period of 15 days, provided, however, that the Executive Officer shall consider such written comments as may be submitted during this period, and shall present the regulations to the Board for further consideration if he determines that this is warranted in light of the written comments received. Any written comments must be received by June 1, 1984, to be considered.

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Amendments to Title 13, California Administrative Code, Section 2061, and Incorporated Assembly-Line Test Procedures, Regarding Inspection Test Procedures, Decal Requirements, and Other Technical Provisions

Agenda Item No.: 84-7-2

Public Hearing Date: April 26, 1984

Response Date: June 4, 1984

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: James Holmes
Board Secretary

Date: 8/17/84

REQUEST FOR EARLY EFFECTIVE DATE

The Air Resources Board requests that the amendments to Title 13, California Administrative Code, Section 2061, and the incorporated California Assembly-Line Test PRocedures for 1983 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles (the "Assembly-Line Test Procedures"), have an early effective date. The requested effective date is the date of filing with the Secretary of State.

Good cause for this request exists. The amendments to the Assembly-Line Test Procedures establish new inspection test procedures starting with the 1985 model year, delete the decal requirements, and make other technical changes. It is necessary for the amendments to become effective as early as possible in order for manufacturers to be able to delete decals on 1985 model-year vehicles and to utilize the new inspection test procedures as soon as they wish to.

The early effective date will not have any adverse impact on the ability of affected persons to comply with the regulations. The only directly affected persons or entities are motor vehicle manufacturers. The amendments permit a phase-in period for implementation of the new inspection test period and an early effective date for deletion of the decal requirement will have no adverse impact. Manufacturers have been provided copies of the changes, and the Air Resources Board will notify them of the effective date as early as it is known.

Date: 8/17/84

David Nawi
General Counsel
Air Resources Board

Attachment A

PROPOSED

Amend Section 2061, Title 13, California Administrative Code, to read as follows:

2061. Assembly-Line Test Procedures - 1983 and Subsequent Model Years.

New 1983 and subsequent model year passenger cars, light-duty trucks, and medium-duty vehicles subject to certification and manufactured for sale in California shall be tested in accordance with the "California Assembly-Line Test Procedures for 1983 and Subsequent Model Year Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles," adopted November 24, 1981, as last amended ~~May 25, 1983,~~ _____, including federally certified light-duty motor vehicles, except as provided in "Guidelines for Certification of 1983 through 1987 Model Year Federally Certified Light-Duty Motor Vehicles for Sale in California," adopted July 20, 1982, as last amended September 16, 1983.

NOTE: Authority Cited: Sections 39515, 39600, 39601 and 43210, Health and Safety Code. Reference: Sections 39002, 39003, 39500, 43101, 43102, 43105, 43210, 43211 and 43212, Health and Safety Code.

NOTE: On December 15, 1983, the Air Resources Board adopted an amendment to Section 2061 to reference "Guidelines for Certification of 1983 through 1987 Model Year Federally Certified Light-Duty Motor Vehicles for Sale in California," adopted July 20, 1982, as last amended December 15, 1983. Since this amendment has not yet been approved by the Office of Administrative Law for filing and is therefore not yet effective, the amendment is not reflected in the above text.

Attachment B

Proposed

State of California
AIR RESOURCES BOARD

# CALIFORNIA ASSEMBLY-LINE TEST PROCEDURES FOR 1983 AND SUBSEQUENT MODEL-YEAR PASSENGER CARS, LIGHT-DUTY TRUCKS AND MEDIUM-DUTY VEHICLES

Adopted: November 24, 1981
Amended: March 9, 1983
Amended: May 25, 1983
Amended: _____

Note: These procedures are printed in a style to emphasize the differences from the 1983 and Subsequent Model-Year Assembly-Line Test Procedures as amended May 25, 1983. Additions are indicated by underlining and deletions are lined out with dashes. Underlining of headings introduced by a capital or lower case letter does not indicate an addition unless expressly indicated.

The procedures contain modifications to the original staff proposal attached to the March 12, 1984 Staff Report. The proposed modifications are shown in double underline and slashes.

State of California
AIR RESOURCES BOARD

# CALIFORNIA ASSEMBLY-LINE TEST PROCEDURES FOR 1983 AND SUBSEQUENT MODEL-YEAR PASSENGER CARS, LIGHT-DUTY TRUCKS AND MEDIUM-DUTY VEHICLES

## A. GENERAL PROVISIONS

### 1. APPLICABILITY

These test procedures, adopted pursuant to Section 43210 of the California Health and Safety Code (H & SC), are applicable to vehicle manufacturers of 1983 and subsequent model-year liquefied petroleum gas, compressed or liquefied natural gas, gasoline and diesel-powered passenger cars, light-duty trucks, and medium-duty vehicles having an engine displacement of 50 cubic inches (820 cubic centimeters) or greater, except motorcycles, subject to registration and manufactured for sale in California.

### 2. COMPLIANCE

The procedures specify two types of tests: (1) an ~~short~~ inspection test to be applied to every vehicle before sale; and (2) a quality-audit test according to the "CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES FOR 1981 AND SUBSEQUENT MODEL PASSENGER CARS, LIGHT-DUTY TRUCKS AND MEDIUM-DUTY VEHICLES". A vehicle is in compliance with these assembly-line standards and test procedures when that vehicle is in compliance with the inspection test requirements and that vehicle's engine family is in compliance with the quality-audit test requirements. Since quality-audit evaluations occur less frequently than the inspection tests, a vehicle which passes the inspection test may be presumed to be in compliance with the full assembly-line procedures pending meeting the quality-audit evaluation of that vehicle's engine family.

### ~~3. DECAL~~

~~H-&-SC-Section-43200-requires-manufacturers-to-affix-a-window-decal-in-accordance-with-specific-requirements.--No-vehicle-subject-to-these-test-procedures-may-be-sold-and-registered-in-this-state-which-is-not-in-compliance-with-the-requirements-of-Section-43200-and-this-paragraph.~~

~~Each-vehicle-emission-decal-shall-have-the-applicable-exhaust-emission-standards-and-the-following-statement-displayed-thereon-with-the-appropriate-model-year:~~

~~"This-vehicle-has-been-tested-under-and-conforms-to-California-Assembly-Line-Test-Requirements-for-the-(Calendar-Model-Year)-Model-Year."~~

~~4.~~3. ACCESS

Air Resources Board (ARB) personnel and mobile laboratories shall have access to vehicle assembly plants, distribution facilities, and test facilities for the purpose of vehicle selection, testing, and observation. Scheduling of access shall be arranged with the designated manufacturer's representative and shall not unreasonably disturb normal operations.

~~5.~~4. VARIATIONS AND EXEMPTIONS

Variations from these procedures which produce substantially equivalent results may be authorized by the Executive Officer. In extraordinary circumstances where compliance with these procedures is not possible or practicable, a manufacturer may appeal to the Air Resources Board for a temporary exemption.

~~6.~~5. COMMUNICATIONS

All reports required by these procedures shall be sent to:

Chief, Mobile Source ~~Control~~ Division
California Air Resources Board
9528 Telstar Avenue
El Monte, CA 91731

Two copies of the reports shall be submitted.

B. INSPECTION TEST PROCEDURES -- 1983 AND 1984 MODEL YEAR VEHICLES*

This inspection test shall be performed on all 1983 and 1984 model year passenger cars, light-duty trucks and medium-duty vehicles subject to these test procedures.

1. INSPECTION TEST PROCEDURES

(a) Functional Test

Functional tests of the engine components and control systems which affect emissions shall be made prior to the steady-state emissions tests. If a vehicle fails one or more functional tests, it must be repaired and pass a functional retest before it can be emissions tested.

A list of the items to be functionally checked and a procedure for performing these checks shall be maintained by the manufacturer and may be

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* The dash and following words are proposed additions.

requested for review at ~~anytime~~ any time after production start-up by the Chief, Mobile Source ~~Control~~ Division. When requested, the manufacturer has up to 30 days to submit a copy of these procedures. Within 60 days of receipt, the Chief, Mobile Source ~~Control~~ Division, may require revisions.

(b) Steady-State Emissions Test

The vehicle engine shall be adjusted to the manufacturer's specifications for delivery to the customer prior to the steady-state emissions test. This test shall consist of a determination of hydrocarbon (HC) and carbon monoxide (CO) exhaust concentrations with the engine operating in a normal idle condition. All tests, including those of control limit test vehicles, shall be conducted as follows:

(1) Vehicles shall be tested in the normal "warmed-up" operating temperature range, i.e., after the choke is fully open and the engine is at curb idle speed, but before thermal override devices are actuated to prevent overheating. The test may be performed in any transmission gear; however the same gear shall be used for control limit test vehicles and production vehicles. For each engine family, the idle test may be performed without the air injection system (AIR) instead of with AIR, provided that the control limit vehicles are tested both with and without AIR. The requirements of Section B (3)(g) must be met with AIR.

The control limit test vehicles and all production vehicles should be warmed-up and tested in the same manner.

(2) The sampling probes of the analytical system shall be inserted into the exhaust outlets far enough to avoid dilution with the outside air. When this is not possible, a tailpipe extension shall be used.

(3) A vehicle which fails a steady-state emissions test shall be retested or repaired and shall pass on retest prior to sale.

2. EVALUATION

Any vehicle tested by the steady-state emissions test showing emissions less than the control limits established for its engine family or subgroup and which had previously passed the functional tests will be considered to be in compliance with the inspection test requirements.

3. CONTROL LIMITS

The control limits for each engine family or subgroup at the start

of a model year will be determined as follows:

(a) Measure the emissions from the first 100 vehicles of each engine family or subgroup tested by the steady-state assembly-line inspection test.

(b) Determine the mean emission level and standard deviation for each pollutant (HC and CO).

(c) The control limit for each pollutant is the sum of the mean plus two times the standard deviation for that pollutant.

(d) Until the first control limits are established, the manufacturer shall use temporary control limits based on the first ten tests. These ten vehicles are deemed to meet the control limits so established.

(e) (i) For control systems that do not use catalytic converters -- If the HC control limit value is determined in subparagraph (c) is less than 100 ppm, the HC control limit value may be increased by up to 50 ppm, not to exceed 100 ppm. If the CO control limit determined in subparagraph (c) is less than 1.0 percent, the CO control limit may be increased by up to 0.5 percent, not to exceed 1.0 percent.

(ii) For control systems that use catalytic converters -- If the HC control limit value determined in subparagraph (c) is less than 50 ppm, the control limit value may be increased by up to 30 ppm, not to exceed 50 ppm.

If the CO control limit determined in subparagraph (c) is less than 0.5 percent, the CO control limit may be increased by up to 0.3 percent, not to exceed 0.5 percent.

(f) Idle control limit values may be rounded to the nearest 10 ppm HC and 0.1 percent CO in conformance to ASTM E29-67, except where this would result in a zero value.

(g) The maximum allowable steady-state control limits for HC and CO are those values used as the idle mode standard shown in Title 13, California Administrative Code (C.A.C.) Section 2176 for the applicable model year or, where applicable model year standards are not yet adopted, the latest previous model year values in effect at the time the vehicle is manufactured. An exemption to this requirement will be granted providing the manufacturer submits emission data with each quarterly report listed in one of the following options:

(1) Submit with each quarterly assembly-line report HC and CO emission values measured at engine idle speed for each quality audit vehicle tested and the computed mean and standard deviation of HC and CO emission results for the total number of vehicles tested, by engine family. Measurements of HC and CO shall be conducted immediately following completion of the dynamometer run and vehicles shall be in a state described under B.1 (b)(1) above. If less than 30 vehicles were quality-audit tested during

the reporting quarter, the computation of the means and standard deviations are not required.

(2) Submit quarterly HC and CO emission values measured at engine idle speed for a minimum of 30 vehicles in the engine family or sub-group immediately after these vehicles have complied with the assembly-line inspection procedures and have either been run-in a distance of 50 miles (on the road or dynamometer) or after other appropriate engine break-in has been performed and the engine is operating at a fully warmed-up condition as described in B.1 (b)(1) above. In addition to emission results of individual vehicles, the mean and standard deviation shall be computed and submitted.

(3) The manufacturer may propose other methods to achieve results equivalent to the two operations above. These emission data shall be obtained from stabilized vehicles which have emission control systems with no defects and are properly adjusted to manufacturer's specifications.

(h) Control limits with AIR operating shall be calculated and reported for information purposes for those engine families that are tested without AIR in operation.

Control limit values shall be recalculated for each production quarter based on the measured emissions from at least 100 vehicles produced during the last half of the preceding quarter of production for each engine family or subgroup tested by the steady-state emissions test. When production levels do not permit compliance with the above, data from vehicles produced during the first half of the preceding quarter may be used. If the quarterly production of any engine family is less than 100 vehicles, the manufacturer shall use the test results from all vehicles produced during that quarter in determining the control limit values for the next quarter.

The Executive Officer shall be notified within one week if control limit values are recalculated following running changes which affect idle emissions levels. The new control limit values and the date they first went into effect shall be part of the notification.

All testing, reports, evaluations, etc., shall be by engine family except when the Executive Officer has approved a breakdown by subgroups (e.g., different carburetors, engine displacements, control systems, transmissions, and inertia weights), by assembly plant, or both.

Note:

Data from any vehicle indicating gross engine malfunction, and/or failure or disconnection of any emission control component, shall be excluded from that used for generating control limits. Retest data on vehicles exceeding the control limits shall not be used in determining control limits for subsequent quarters.

control components and systems to be tested and specifies the testing procedures to be used. Appendix B sets forth typical types of components and systems for inclusion in the functional test plan. If an on-board emission control diagnostic system of any type, either completely self-contained or requiring external peripheral equipment, is installed on a vehicle, it must be included in the components to be functionally tested and the on-board diagnostic system must be used in functionally testing the vehicle emission control system. In appropriate instances, functional tests may be conducted during the vehicle assembly process before the end of the assembly line. For components which cannot practically be functionaly checked on every vehicle, a statistically valid sampling test may be used as the functional test. The Executive Officer shall approve the plan unless if he or she determines that tests are not designated for the appropriate control components and systems and or that the tests will be inadequate reasonably to assure that the components and systems are correctly installed and are functioning properly. The Executive Officer may require functional tests on emission control components or systems which are not listed on Appendix B if he or she determines that the component or system had not been used on a 1984 or previous model year California production vehicle and that the incorrect installation or functioning of the component or system could significantly increase emissions. The manufacturer may at any time submit proposed changes to the plan for functional testing. Once a plan is approved, for subsequent model-years a manufacturer must submit a plan only if changes are made to the emission control components or systems on the vehicle, or to the proposed functional tests. In the case of such changes, only the portion of the plan covering the changed components or systems, or changes in the tests, must be submitted for approval. In order for a vehicle to satisfy the inspection test requirements, each of the emission control components and systems identified in the approved plan for testing must be found, pursuant to the specified approved test, to be correctly installed and functioning properly.

2. EVALUATION

Any vehicle which passes the approved functional test will be considered to be in compliance with the inspection test requirements.

Each manufacturer shall maintain records of functional test results of each vehicle. These records shall be retained for a period of five years after the end of a production year. The records shall be available for inspection by ARB personnel at the manufacturers' facility, and shall be transmitted to the ARB upon the request of the Chief, Mobile Source Division.

Each manufacturer shall review the test results for each engine family and across the entire production line monthly. If any component or system exhibits a failure rate for any engine family or within the entire production line in excess of those specified in Appendix B, the Chief, Mobile Source Division, shall be notified within ten working days. Any component or system which exceeds functional test tolerances and must be adjusted, repaired or replaced, shall be considered to be a failure.

If a designated component or system exceeds the specified failure rate, the manufacturer shall investigate the cause of the failure. The manufacturer shall submit to the Executive Officer for approval a remedial action plan for improving the emission control system design, manufacture or quality control procedures sufficiently to reasonably assure that the component or system will no longer exceed the specified failure rate for future vehicles. The manufacturer shall submit the plan within 30 calendar days after the specified failure rate is exceeded. The Executive Officer may order execution of the plan, with such changes and additions as s/he determines are necessary to render the plan acceptable. The plan shall include a schedule for implementing actions to be taken, including identified increments of progress towards implementation, and deadlines for completing each such increment. Failure by a manufacturer to carry out all corrective actions ordered by the Executive Officer shall constitute a violation of that order and of Health and Safety Code Section 43105. The Executive Officer may extend any deadline in the plan if s/he finds that a manufacturer has shown good cause for such extension.

3. REPORTING

Each manufacturer shall submit quarterly a report to the ARB within 45 calendar days after the end of each calendar quarter and 45 days after the end of the production year. The report shall summarize any significant information regarding the inspection test program. The report shall contain a statement that the approved functional tests included in the approved test plan have been conducted on all vehicles produced for sale in California. The statement shall be signed by an official of the manufacturer who has verified the accuracy of the statement and shall accompany the assembly-line quality audit test report for each production quarter.

~~C.~~D. QUALITY-AUDIT TEST PROCEDURES

1. VEHICLE SAMPLE SELECTION

The vehicle manufacturer shall randomly select vehicles from each engine family for quality-audit testing. Each selected vehicle for quality-audit testing must pass the inspection test, be equipped with emission control systems certified by the ARB, and be representative of the manufacturer's California sales. The procedure for randomly selecting vehicles must be submitted to the Chief, Mobile Source ~~Control~~ Division, El Monte, CA prior to production.

A continuous sample rate shall be chosen by the manufacturer to provide a sample which is representative of the total production. The manufacturer shall select a sample rate which he or she determines will be satisfactory for use by the ARB in determining the number of vehicles in the entire population of a particular engine family which do not meet Board-established emission standards by extrapolation from the percentage of the sample not meeting the standards. The results from the sample may be extrapolated to the entire population subject to the provisions relating to vehicle exclusion contained

in paragraph 3 which follows. The sample rate so chosen shall not be less than 2.0 percent. The manufacturer shall notify the Executive Officer of any change to the sample rate. The date of such change shall be reported in accordance with paragraph 6 which follows.

A vehicle manufacturer may use, as an alternate to the above vehicle selection procedure, the optional procedure outlined in Appendix A.

Four-wheel drive vehicles which can be manually shifted to a two-wheel drive mode will be tested in the normal on-highway two-wheel drive mode of operation. If full-time four-wheel drive vehicles are selected, substitutions may be made with comparable two-wheel drive vehicles of the same engine family. If comparable two-wheel drive vehicles are not available, selected full-time four-wheel drive vehicles will be tested after having the front drive wheels temporarily disengaged or the front end of the vehicle elevated.

The Executive Officer may, upon notice to the manufacturer, require the sample rate to be increased to a maximum of ten percent of production (not to exceed 30 additional vehicles) of the calendar quarterly production of any engine family by invoking Section 2110, Chapter 3, Title 13 of the C.A.C.

2. VEHICLE PREPARATION AND PRECONDITIONING

(a) After the inspection tests, no emissions tests may be performed on a quality-audit vehicle prior to the first quality-audit test, except where such tests are run on all vehicles manufactured for sale in California.

(b) The vehicle shall begin the test sequence as received from the inspection test, except for mileage accumulation or engine run-in. The schedule for mileage accumulation or engine run-in and any changes to the schedule must be submitted to the Executive Officer with each quarterly report. This schedule must be adhered to for all quality-audit testing within an engine family and subgroup or engine family and assembly plant as appropriate.

(c) A new carbon canister may be installed on the vehicle at the start of the test sequence. The test sequence shall consist of one Urban Dynamometer Driving Schedule (UDDS) test procedure, followed by a cold-soak and constant volume sample (CVS) test. The federal test procedure requirement, consisting of heating the fuel before the CVS test, is to be omitted. The manufacturer may request permission to use an alternate preconditioning procedure provided the manufacturer demonstrates that it will not affect the loading of the carbon canister when compared with the UDDS.

(d) Except as provided in paragraph C.2.(f) below, no vehicle selected for quality-audit testing shall be repaired or adjusted after passing the inspection test, except for a vehicle that: (1) is not testable, e.g., cannot be started, transmission or brakes lock-up; (2) is not reasonably operative, e.g., some transmission gears not functioning; (3) is unsafe to test; or (4) would be damaged by testing.

Each adjustment or repair performed on a vehicle prior to each test shall be included in the regular quarterly reports. The vehicle condition and symptoms and reason(s) for each repair or adjustment shall also be listed.

(e) If a vehicle is shipped to a remote facility for quality-audit testing, correction of damage or maladjustment, which is found to have resulted from shipment of the vehicle, is permitted only after the initial test of the vehicle, except as provided in paragraph (d) above.

All adjustments or repairs performed on vehicles prior to each test shall be reported to the Executive Officer by inclusion in the quarterly report. The vehicle condition and symptoms and reason(s) for each repair or adjustment shall also be listed. In the event a retest is performed, application may be made to the Executive Officer for permission to substitute the after-repair test results for the original test results. The Executive Officer will either affirm or deny the application. When requested by the manufacturer, no more than ten days after the production quarter, response from the Executive Officer will be within ten working days.

(f) If a vehicle is shipped to a remote facility for quality-audit testing, no pre-delivery type inspection, adjustment, or repair of vehicles selected for quality-audit is allowed, except as follows: if subsequent to shipping from the assembly-line, the manufacturer performs the particular inspection and correction of damage or maladjustment at designated preparation facility locations for all vehicles produced and the manufacturer's written inspection instructions are approved by the Executive Officer, then these specific inspections and corrections will be allowed prior to testing quality-audit vehicles.

(g) If the emission test results of a vehicle are determined to be invalid by the manufacturer, the vehicle must be retested. Emission results from all tests shall be reported. A detailed report on the reasons for each invalidated test shall be included in the quarterly report.

3. STANDARDS AND TEST PROCEDURES

The emission standards and the exhaust sampling and analytical procedures shall be those described in the "CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES FOR 1981 AND SUBSEQUENT MODEL PASSENGER CARS, LIGHT-DUTY TRUCKS AND MEDIUM-DUTY VEHICLES" applicable to vehicles tested for exhaust emissions only, with exceptions or additions as shown in paragraph C.2.

4. EVALUATION

The evaluation shall be performed on sample sizes containing 30 or more vehicles. If a sample size for a particular production quarter is less than 30 vehicles, the data from that quarter shall be combined with all the data from each successive quarter until data from at least 30 vehicles ~~have been quality-audit tested~~ is included in the quarterly evaluation. If the sample size for the ~~last~~ final quarter's production for a model-year does not contain at least 30 vehicles, the data from the ~~last~~ final quarter shall

be combined with all the data from each preceding quarter until the sample size contains at least 30 vehicles. For an engine family which contains both light-duty trucks and medium-duty vehicles, all references in this test procedure to engine family shall mean light-duty truck subgroup or medium-duty vehicle subgroup.

Based upon additional information submitted by a manufacturer, the Executive Officer may allow rejection of any data from vehicles if they are considered to be not representative of production.

For each production quarter, if 30 or more vehicles are tested, the ARB shall consider that probable cause exists for finding a violation by any engine family if the average emissions of any pollutant, after multiplying the emission data of each vehicle by the appropriate certification deterioration factor (DF), exceed the applicable year exhaust emission standards, when rounded to the same number of significant digits as the standard.

The Executive Officer may invoke Section 2109, Chapter 3, Title 13 of the C.A.C., if probable cause is found for a full or combined production quarter. The Executive Officer may invoke Section 2110, Chapter 3, Title 13 of the C.A.C., if probable cause is found for a short start-up production period (less than a full calendar quarter), for the first 30 vehicles quality-audit tested during any production quarter or from the start of production, or for vehicles evaluated in accordance with the monthly evaluation required by paragraph -4- 6 below. In addition, the ARB may seek statutory penalties pursuant to H & SC Sections 43211 and 43212 at the end of each full or combined calendar quarter of production. If the Executive Officer invokes C.A.C. Section 2109 or 2110, an evaluation will be made on vehicles produced subsequent to the invocation of a plan adopted pursuant to Section 2109 or 2110 as long as the sample size contains at least 30 vehicles.

If more than 1.0 percent (at least two vehicles) of the sample within an engine family has projected emissions which exceed the applicable standards by more than 2.33 standard deviations at the time of any evaluation of that family's average emissions, within 30 working days, the manufacturer shall submit: (a) an analysis of the projected average emissions for each engine code/transmission type/inertia weight combination within that family; (b) an engineering evaluation of the cause of failure for each vehicle which exceeded the standard by more than 2.33 standard deviations; (c) the manufacturer's opinion as to the nature of the problem; and (d) any corrective action proposed by the manufacturer.

The Executive Officer shall review the report, and may require that the proposed corrective action be taken. If, after review of the report, the Executive Officer finds the proposed corrective action inadequate, the Executive Officer may invoke Section 2109 or 2110, as appropriate.

5. NON-METHANE (NMHC) OR TOTAL HYDROCARBON (THC) MEASUREMENTS

(a) For an engine family certified to the NMHC standard, the manufacturer shall measure the NMHC content which shall be multiplied by the NMHC DF.

(b) For an engine family certified to the THC standard, the measured THC value shall be multiplied by the THC DF.

6. REPORTS

Each vehicle manufacturer shall submit a report to the ARB within 45 calendar days after the end of each calendar quarter and 45 calendar days after the end of the production year. More frequent reports may be required if the Executive Officer invokes C.A.C. Section 2109 or 2110, Chapter 3, Title 13. Each vehicle manufacturer shall review the test results of the first 30 test vehicles of each engine family for each calendar quarter of production or from the start of production, and the quarter's cumulative test results of each engine family at the end of each month. If the sample size is 30 or more vehicles, the Chief, Mobile Source ~~Control~~ Division, shall be notified in writing within ten working days whenever an engine family exceeds an emission standard.

The quarterly report shall include the following:

(a) The total production and sample size for each engine family.

(b) A description of each test vehicle ((i.e., date of test, engine family, engine size, vehicle identification number, fuel system (e.g., number of venturi, fuel injection, etc.), transmission type, test weight used, dynamometer power absorber setting in horsepower, engine code or calibration number, and test location)).

(c) The CVS exhaust emission data and carbon dioxide data for each test vehicle.

The data reported shall be rounded to one significant figure beyond the number of significant figures in the applicable standard. DF's shall be stated, then applied to the data. The data reported after the DF's are applied shall be rounded using the "rounding off method" specified in ASTM: E29-67 to the number of places to the right of the decimal point as follows for all vehicles:

| HC | CO | NOx | $CO_2$ |
|---|---|---|---|
| .XXX | .XX | .XX | .X |

(d) The retest emissions data, as described in paragraph (c) above, for any vehicle failing the initial test, and description of the corrective measures taken, including specific components replaced or adjusted.

(e) A statistical analysis of the quality-audit test results for each engine family stating:

(1) Number of vehicles tested.

(2) Average emissions and standard deviations of the sample for HC, CO and NOx both before and after applying DFs. In the latter case, the individual test points shall be multiplied by the DFs prior to computing the average and standard deviation. The average emissions and standard deviation of the sample for carbon dioxide shall also be listed.

(3) The applicable exhaust emission standards to be met by listing specific options selected, designating when 100,000 mile standards apply, and designating where NMHC or THC standards apply.

(f) Every aborted test and reason for abort shall be reported.

(g) If both four-wheel and two-wheel drive vehicles are included in a light-duty truck engine family under 4,000 pounds inertia weight, then quality-audit test data from four-wheel drive vehicles shall be distinguished from and summarized separately from two-wheel drive vehicles.

~~(h) Control limits with AIR operating shall be calculated and reported for information purposes for those engine families that are tested without AIR in operation.~~

~~(i)~~(h) The final report shall include the date of the end of the manufacturer's model production year for each engine family.

(i) If vehicles from different model years are produced in any production quarter, separate reports shall be submitted for each model year.

(j) For federally certified light-duty vehicles produced under the provisions of H & SC 43102(b), the emissions data and other information required in the quarterly reports shall be included in a separate section of the report. Where such federally certified light-duty vehicles are in the same engine family as medium-duty vehicles, all data from these medium-duty vehicles shall be deleted from the separate section. The separate section shall include the statistical summary required by Section (e)(2). The separate section of the report shall also include identical data for California engine families used for offsetting emissions of federally certified light-duty vehicles.

7. SPECIAL REQUIREMENTS FOR SMALL VOLUME VEHICLE MANUFACTURERS

The following requirements apply only to those vehicle manufacturers who were granted relief by the Executive Officer under Title 13, C.A.C., Section 1960.4, Special Standards for 1982 and Subsequent Model Passenger Cars and 1983 and Subsequent Model Light-Duty Trucks and Medium-Duty Vehicles, 0-3999 Pound Equivalent Inertia Weight.

The requirements listed below are to be followed as supplemental to and when contrary to other requirements specified in part "C. Quality-Audit Test Procedures", Section ~~"3."~~"4. Evaluation", and ~~"4."~~"6. Reports". These requirements are listed to implement, define, and clarify the Board requirements of C.A.C. Section 1960.4.

a. Additional Reporting Requirements for NOx Emissions

(1) The cumulative average of NOx emissions from the entire quality-audit light-duty trucks (LDT) plus medium-duty vehicles (MDV) 0-3999 lbs. equivalent inertia weight, shall be reported both before and after applying DF's for the 1983 model-year to:

(i) All 1983 models tested during each calendar quarter.

(ii) All 1983 models tested to date by the end of each calendar quarter.

(iii) All 1983 models tested to date by December 31, 1982, by June 30, 1983, and by December 31, 1983.

(2) The combined averages from the entire passenger car (PC) line and, separately, LDT and MDV lines, 0-3999 lbs. equivalent inertia weight, shall be reported both before and after applying DF's for:

(i) All 1983 model PC's tested during each calendar quarter.

(ii) All 1984 model PC's and, separately, LDT's plus MDV's tested during each calendar quarter.

(iii) All 1985 model LDT's plus MDV's tested during each calendar quarter.

(3) Subgroups

The NOx emission results shall be averaged and reported by engine family subgroup in each regular quarterly assembly-line report.

b. Semi-Annual Evaluations

Joint ARB - manufacturer evaluations will be made each six months to determine compliance with the 0.7 gm/mi NOx production level based on test results by engine families separately for 1983 and 1984 model PC's and 1984 and 1985 model LDT's plus MDV's tested and on a cumulative basis for 1983 model LDT's plus MDV's. The first evaluation will be made based on averaged NOx test data accumulated through December 31, 1982. Subsequent evaluations will be made semiannually for data accumulated through each June 30 and December 31 periods until December 31, 1984, for PC's and December 31, 1985, for LDT's plus MDV's model-year productions.

If the NOx value exceeds the 0.7 gm/mi level, but the manufacturer shows that unanticipated technical problems caused the 0.7 gm/mi NOx production average to be exceeded, then appropriate relief will be made available. The relief will be made provided the manufacturer shows reasonable effort was made and will continue to be made towards meeting the 0.7 gm/mi NOx levels for future production periods. This includes incorporating into production improved technology as soon as it becomes available.

## DEFINITIONS

The definitions in Section 1900 (b), Chapter 3, Title 13 of the California Administrative Code, shall apply with the following additions:

1. Calendar Quarter is defined as those three month periods of time which start on the first days of January, April, July and October.

2. First or ~~Last~~ Final Calendar Quarter Production is defined as the calendar quarter in which the production of an engine family begins or ends.

3. End of Assembly-Line is defined as that place where the final inspection test or quality-audit test is performed.

4. Assembly-Line Tests are those tests or inspections which are performed on or at the end of the assembly-line.

5. Assembly-Line Quality Audit-Test is defined as the test performed on a minimum sample of 2.0 percent (or other approved sample) of the production vehicles for sale in California.

6. Assembly-Line Inspection Tests are those ~~steady-state and functional~~ tests performed ~~on production vehicles for sale in California~~ pursuant to Section B or C of these procedures.

7. Functional Test is defined as a type of test or inspection which is performed on engines or vehicles to detect if the emission control system is operating properly.

8. Gross Engine Malfunction is defined as one yielding an emission value greater than the sum of the mean plus three (3) times the standard deviation. This definition shall apply only for determination of control limits.

## APPENDIX A

### Alternate Quality-Audit Vehicle Selection Criteria

This appendix sets forth the alternative procedure for selection of Quality-Audit vehicles. It includes the flow diagram in Figure A-1.

1. Vehicles shall be randomly selected at a rate of 2.0 percent of engine family production at the beginning of production. When test results of 30 vehicles have been accumulated, an evaluation as indicated below shall be made.

2. Calculate the family mean and standard deviation of each pollutant (HC, CO, NOx). Identify vehicles which have emission levels greater than three standard deviations above the mean. Eliminate these emission data points and recalculate the mean and standard deviation. Continue the calculation until there are no values greater than three standard deviations above the mean. Count the number of these data points greater than the standard (outliers). If the number of outliers is equal to or less than the allowable number in Table A-1 for each pollutant, the engine family is eligible to continue to a second evaluation shown in paragraph 3 below. Otherwise, sampling must continue at a rate of 2.0 percent of production for the rest of the month.

3. If the allowable outlier criteria is met, the family mean, standard deviation, and sample size determined for each contaminant before excluding any outliers, is substituted in the following expression:

$$\frac{(\text{emission standard - mean})\ (\sqrt{N})}{(\text{standard deviation})}$$

If the expression is greater than C in Table A-2 below, and the manufacturer reasonably estimates that the quarterly engine family production will exceed 5,000 vehicles, the sampling rate for the remaining portion of the calendar month following the date of selection of the last of the 30 vehicles shall be 30 per month, applied on a prorated basis. If the expression is greater than C in Table A-2 below, and the manufacturer reasonably estimates that the quarterly engine family production will be 5,000 vehicles or less, the sampling rate for the remaining portion of the calendar month following the date of selection of the last of the 30 vehicles shall be 17 per month, applied on a prorated basis. If the expression is equal to or less than C in Table A-2, the sampling rate shall continue to be 2.0 percent of production for the remaining portion of the month in which selection of the 30

vehicles is completed. The value of C is a function of the coefficient of variation (standard deviation/mean). The coefficient of variation and "C" shall be rounded to the number of decimal places shown in Table A-2.

Table A-1

| Sample Size | Allowable Outliers | Sample Size | Allowable Outliers |
|---|---|---|---|
| 1- 32 | 1 | 430-478 | 11 |
| 33- 68 | 2 | 479-528 | 12 |
| 69-107 | 3 | 529-578 | 13 |
| 108-149 | 4 | 579-629 | 14 |
| 150-193 | 5 | 630-680 | 15 |
| 194-238 | 6 | 681-731 | 16 |
| 239-285 | 7 | 732-783 | 17 |
| 286-332 | 8 | 784-835 | 18 |
| 333-380 | 9 | 836-887 | 19 |
| 381-429 | 10 | 888-939 | 20 |

Table A-2

| Coefficient of Variation | C |
|---|---|
| 0.1 | 0.5 |
| 0.2 | 1.2 |
| 0.3 | 1.8 |
| 0.4 | 2.5 |
| 0.5 | 3.1 |
| 0.6 | 3.8 |
| 0.7 | 4.4 |
| 0.8 | 5.1 |
| 0.9 | 5.7 |

4. For each remaining calendar month in the quarter, both mathematical procedures set forth in paragraphs 2 and 3 shall be repeated at the end of the preceding month, using all of the test data accumulated in the quarter. The sampling rate for each remaining calendar month in the quarter shall be 30 vehicles per month, 17 vehicles per month, or 2.0 percent of the production as determined under the standards in paragraph 3.

5. At the end of the quarter, all of the data accumulated during the quarter is evaluated, and the compliance of the family with emission standards is determined.

6. For each subsequent quarter, the preceding sample selection method shall be followed. The sample rate determination for the first month of each subsequent quarter shall be based on the accumulated data from the previous quarter. The sample rate for the succeeding months of the quarter shall be determined as previously set forth.

7. If the start of production does not coincide with the first of a quarter, the sequence for sample rate determination shall be followed, but references to remaining calendar months may not be appropriate.

8. Where a manufacturer has sampled vehicles at a rate of 17 per month following a reasonable estimate that the quarterly engine family production will be 5,000 vehicles or less, and subsequently determines, or reasonably should determine based on information available to the manufacturer, that the quarterly engine family production will exceed 5,000 vehicles, the manufacturer shall increase the sampling rate for the quarter such that the requirements of paragraph 3 applicable to families reasonably estimated to exceed a quarterly production of 5,000 vehicles are satisfied.

FIGURE A-1

# FIRST QUARTER OF PROD.

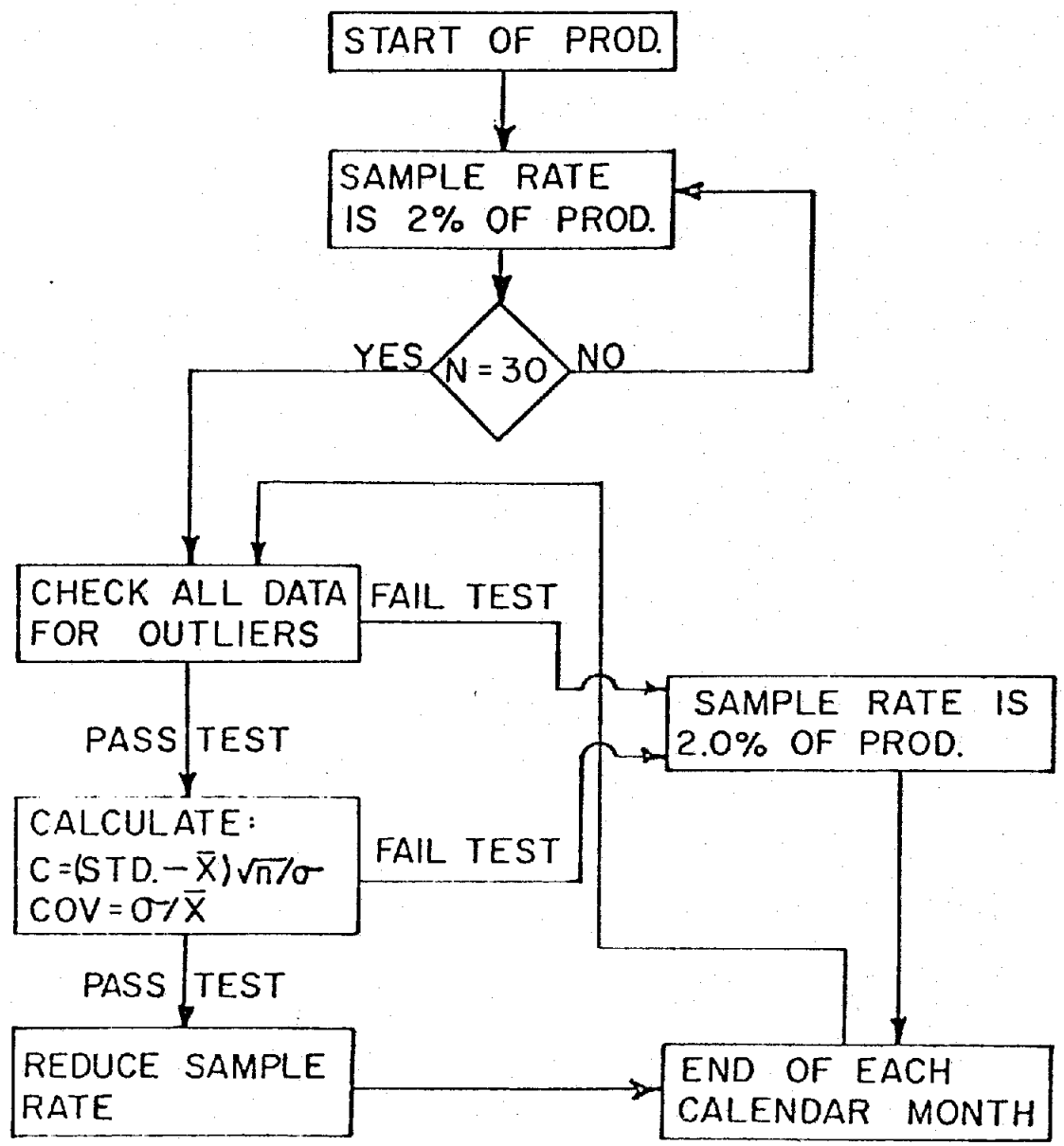

FIGURE A-1

# SUBSEQUENT QUARTERS

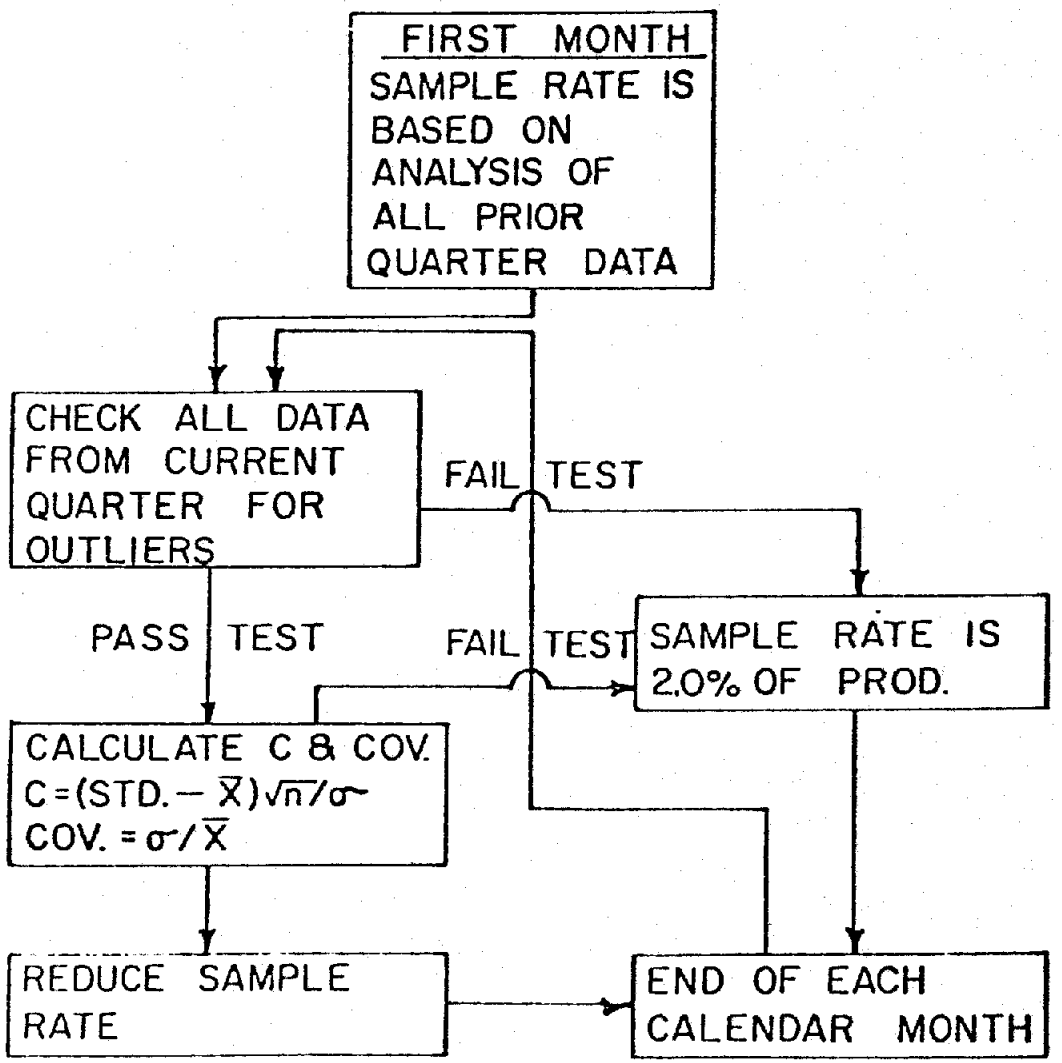

FIGURE A-1

# OUTLIER CALCULATION PROCEDURE

1. CALCULATE THE MEAN AND STANDARD DEVIATION FOR EACH POLLUTANT WITH DF APPLIED.
2. CALCULATE THE MEAN PLUS THREE STANDARD DEVIATIONS.
3. IDENTIFY ALL EMISSION DATA GREATER THAN $\bar{X} + 3\sigma$.
4. REMOVE THE OUTLIERS FROM THE DATA AND RECALCULATE THE MEAN AND STANDARD DEVIATION.
5. REPEAT STEPS 2,3,&4
6. REPEAT STEPS 2&3
7. IDENTIFY ALL OUTLIERS THAT EXCEED APPLICABLE CERTIFICATION STANDARD AND COUNT THE NUMBER.
8. COMPARE THE NUMBER OF OUTLIERS WITH THE MAXIMUM ALLOWED BY THE OUTLIER TABLE. IF THE NUMBER OF OUTLIERS EXCEEDS THE MAXIMUM, SAMPLE RATE IS 2.0% OF PRODUCTION. IF THE NUMBER IS LESS THAN THE MAXIMUM ALLOWED, CALCULATE "C".

# APPENDIX B

This appendix sets forth a list of emission control components and systems which are to be checked for correct installation and proper functioning during the assembly-line Inspection Test Procedure, Section C.

The failure rate of the following shall not exceed 1.0%.

- Air/Fuel Control System
- Carburetor or Fuel Injection System
- Air Injection Pump
- Air Injection Control Valves
- Positive Crankcase Ventilation System
- EGR Control System Components
- Controlled Air Intake System
- Distributor
- Ignition Coil & Wires
- Ignition Control Module
- Electronic (Computer) Control System
- On-board Diagnostic System
- Emissions Related Hoses, Tubing, Clamps, Belts Fittings, Wiring, Connectors, Sensors and Switches.

The failure rate of the following shall not exceed 0.25%.

- Oxygen Sensor
- Coolant Temperature Sensor
- Catalyst
- Diesel Particulate Control System
- Exhaust Gas Recirculation Valve (EGR)
- Choke
- Air Diverter Valve
- Vacuum Hose Connections

State of California

# Memorandum

: Gordon Van Vleck
Secretary
Resources Agency

Date : June 8, 1984

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 decision and response to environmental comments raised during the comment period.

ATTACHMENTS
84-10
84-11
~~84-20~~
84-31
84-32

FILED AND POSTED BY
OFFICE OF THE SECRETARY
JUN 8 1984
Resources Agency of California

State of California
AIR RESOURCES BOARD

Resolution 84-21
May 24, 1984

WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution pursuant to Health and Safety Code Sections 39700 through 39705;

WHEREAS, a solicited research proposal, Number 1261-107, entitled "Development of Analytical Methods for Ambient Monitoring and Source Testing for Toxic Organic Compounds," has been submitted by the Southern Research Institute to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Research Screening Committee has reviewed and recommends for funding:

> Proposal Number 1261-107 entitled "Development of Analytical Methods for Ambient Monitoring and Source Testing for Toxic Organic Compounds," submitted by the Southern Research Institute for a total amount not to exceed $263,675.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

> Proposal Number 1261-107 entitled "Development of Analytical Methods for Ambient Monitoring and Source Testing for Toxic Organic Compounds," submitted by the Southern Research Institute for a total amount not to exceed $263,675.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $263,675.

I hereby certify that the above is a true and correct copy of Resolution 84-21 as adopted by the Air Resource Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM NO.: 84-9-6b(1)
DATE: May 24, 1984

ITEM: Research Proposal No. 1261-107, entitled "Development of Analytical Methods for Ambient Monitoring and Source Testing for Toxic Organic Compounds."

RECOMMENDATION: Adopt Resolution 84-21 approving Research Proposal No. 1261-107, for funding in an amount not to exceed $263,675.

SUMMARY: This proposed project is a part of the Board's program to identify and control toxic pollutants as required under the Health and Safety Code. The Stationary Source and Research Divisions have compiled a list of potential toxic air contaminants classified according to: degree of risk, amount of emissions, persistence in the atmosphere and ambient concentrations. For most of these compounds available air quality measurements are very limited. For a number of these compounds, improved sampling and analytical procedures are needed to measure ambient concentrations in the range of parts per billion or parts per trillion.

The objectives of this research project are to review published literature on the state of the art of sampling and analytical techniques for certain toxic air pollutants; to identify areas of deficiency; to recommend preferred methods and techniques, including those which may require further development; and to develop and document these methods.

This project is proposed in accordance with the Board's stated priority for air pollution research into potentially hazardous and toxic air pollutants.

The sampling and analytical effort encompassing this project is divided into two phases. Phase 1 involves: a literature search for published methodology specific to the quantification of the listed toxics in the concentration ranges considered; a listing of toxics for which sampling and analytical procedures are either incomplete or non-existent; a recommended priority list of methods to be developed; a selection of surrogate compounds for identifying groups or families of compounds with a common chemical base; and, finally, a discussion by the contractor of validation and quality control/quality assurance procedures.

Phase 2 of the project involves the actual validation of the developed methods using laboratory standards and/or field sampling.

The final report will provide complete descriptions of all methods developed for sampling and assaying the specified toxic compounds in both ambient air and source samples. Confidence limits and other statistical parameters will be estimated for all of the sampling and analytical procedures.

The results of this project will be used by the Air Resources Board staff and others to establish standard procedures for use in regulating and monitoring toxic air contaminants.

# B U D G E T  S U M M A R Y: Southern Research Institute

"Development of Analytical Methods for Ambient Monitoring and Source Testing for Toxic Organic Compounds"
($263,675 - 15 months)

BUDGET ITEMS:

| | |
|---|---|
| Salaries* | $101,379 |
| Employee Benefits | $ -0- |
| Supplies & Materials | $ 13,646 |
| Travel | $ 15,749 |
| Other Expenses | $ 1,340 |
| Overhead | $ 88,605 |
| General & Administrative | $ 28,031 |
| Fee | $ 14,925 |
| TOTAL PROJECT COST | $263,675 |

* Dollar Amount Includes Employee Benefits

State of California
AIR RESOURCES BOARD

Resolution 84-22
May 24, 1984

WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution pursuant to Health and Safety Code Sections 39700 through 39705;

WHEREAS, an unsolicited research proposal, Number 1254-107, entitled "Formation and Fate of Toxic Chemicals in California's Atmosphere," has been submitted by the University of California, Riverside to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Research Screening Committee has reviewed and recommends for funding:

> Proposal Number 1254-107 entitled "Formation and Fate of Toxic Chemicals in California's Atmosphere," submitted by the University of California, Riverside for a total amount not to exceed $195,305.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

> Proposal Number 1254-107 entitled "Formation and Fate of Toxic Chemicals in California's Atmosphere," submitted by the University of California, Riverside for a total amount not to exceed $195,305.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $195,305.

I hereby certify that the above is a true and correct copy of Resolution 84-22 as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM NO.: 84-9-6b(2)
DATE: May 24, 1984

ITEM: Research Proposal No. 1254-107, entitled "Formation and Fate of Toxic Chemicals in California's Atmosphere."

RECOMMENDATION: Adopt Resolution 84-22 approving Research Proposal No. 1254-107, for funding in an amount not to exceed $195,305.

SUMMARY: Under newly-enacted provisions of the Health and Safety Code, the Board is implementing a program to identify toxic air contaminants and to limit community exposure to these chemicals. The proposed project is an investigation of the chemical transformations that such compounds may undergo in the atmosphere. The atmospheric chemical transformations of these compounds can result in the formation of new compounds which may be more or less toxic than the original compound. However, in view of the many compounds of potential interest, it is not practical to determine the chemical pathways of each compound. Instead, a data base is needed to provide accurate estimates of atmospheric lifetimes, decay mechanism, and reaction products for any species of interest.

In this project the environmental chambers at U.C. Riverside would be used to measure the reaction rates of prototype toxic chemicals under realistic atmospheric conditions. The corresponding atmospheric lifetime and the nature of the decomposition products of the prototype compounds would be determined. From this information it will be possible to predict the atmospheric fate of toxic chemicals similar to those of the prototype compound. It will also be possible to predict whether relatively benign compounds may react to form toxic compounds in the atmosphere and the rate at which toxic materials may be detoxified.

Knowledge of the atmospheric persistence and fate of toxic air contaminants is needed to help assess and, to the extent required, to manage potential risks of exposure. Because the number of individual compounds precludes a detailed study of each compound, this project would substantially increase the Board's capability to assess and manage risks by providing information on classes of chemical prototype compounds. The proposed project addresses, in part, the Board's expressed research priority to investigate toxic air contaminants. The results of this work will permit the Board to establish necessary requirements at a level more fully consistent with its objectives of protection of the public health.

State of California
AIR RESOURCES BOARD

Resolution 84-23
May 24, 1984

WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution pursuant to Health and Safety Code Sections 39700 through 39705;

WHEREAS, an unsolicited research proposal, Number 1251-107, entitled "Inhalation Uptake of Selected Chemical Vapors at Trace Levels," has been submitted by the University of California, Davis to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Research Screening Committee has reviewed and recommends for funding:

Proposal Number 1251-107 entitled "Inhalation Uptake of Selected Chemical Vapors at Trace Levels," submitted by the University of California, Davis for a total amount not to exceed $192,464.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

Proposal Number 1251-107 entitled "Inhalation Uptake of Selected Chemical Vapors at Trace Levels," submitted by the University of California, Davis for a total amount not to exceed $192,464.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $192,464.

I hereby certify that the above is a true and correct copy of Resolution 84-23 as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM NO.: 84-9-6b(3)
DATE: May 24, 1984

ITEM: Research Proposal No. 1251-107, entitled "Inhalation Uptake of Selected Chemical Vapors at Trace Levels."

RECOMMENDATION: Adopt Resolution 84-23 approving Research Proposal No. 1251-107, for funding in an amount not to exceed $192,464.

SUMMARY: The Air Resources Board has a broad legislative mandate for identifying and controlling toxic substances. A list of substances for consideration as potentially toxic air contaminants has been compiled by ARB and reviewed by the Department of Health Services. Priorities for Board review have been set based upon criteria established in the legislative mandate.

In order to make well-informed regulatory decisions about these substances, the Board needs information about the health risks associated with exposure. An important element needed for evaluation of health risks are measurements of retention of these compounds when they are inhaled. Previous research has provided data on uptake and fate of these compounds at unrealistically high concentrations delivered into the stomachs of rodents. No research has been done to investigate the fate of toxic compounds inhaled at the very low ambient concentrations found in polluted atmospheres.

In this proposal, the compounds from the Board's toxic substances list have been grouped into seven categories. The proponents intend to investigate one toxic compound from each category. The compounds to be investigated are benzene, dimethylnitrosamine, chloroform, methyl bromide, trichlorethylene, ethylene oxide and formaldehyde.

The research will consist of three distinct phases: 1) construction of the exposure system; 2) testing, modification and verification of equipment and the protocol; and 3) research on the uptake and retention of the inhaled compounds. Dogs will be used to study all compounds and will not be harmed in any way. The dogs will be exposed for up to two hours to 100-500 ppb of the carbon-14 labelled toxic and then breathe clean air. Urine, feces, blood and exhaled organic compounds will be collected during and up to 24 hours after exposure. These samples will be analyzed to determine the uptake and retention of each toxic compound.

State of California
AIR RESOURCES BOARD

Resolution 84-24
May 24, 1984

WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution, pursuant to Health and Safety Code Sections 39700 through 39705;

WHEREAS, an unsolicited proposed addendum to on-going Research Contract Number A2-047-32, entitled "The Development of Standardized Diagnostic Procedures for Diesel Engine Emission Controls", has been submitted by Energy and Environmental Analyses, Inc. to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Research Screening Committee has reviewed and recommends for funding:

> Addendum to Contract Number A2-047-32, entitled "The Development of Standardized Diagnostic Procedures for Diesel Engine Emission Controls," submitted by Energy and Environmental Analyses, Inc., for an amount not to exceed $37,070.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

> Addendum to Contract Number A2-047-32, entitled "The Development of Standardized Diagnostic Procedures for Diesel Engine Emissions Controls," submitted by Energy and Environmental Analyses, Inc., for an amount not to exceed $37,070.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the addendum proposed herein in an amount not to exceed $37,070.

I hereby certify that the above is a true and correct copy of Resolution 84-24 as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM NO.: 84-9-6b(4)
DATE: May 24, 1984

ITEM: Research Proposal Addendum to Contract A2-047-32, "The Development of Standardized Diagnostic Procedures for Diesel Engine Emission Controls".

RECOMMENDATION: Adopt Resolution 83-24 approving proposed addendum to Contract A2-047-32, for funding in an amount not to exceed $37,070.

SUMMARY: The subject proposal is an addendum to the current ARB Contract No. A2-047-32 entitled "Diagnostics of Emission Control Component Malfunctions on Catalyst-Equipped Motor Vehicles". The current contract entails the development and validation of diagnostic procedures for emission control systems in automobiles that are equipped with 3-way catalysts. At the completion of the current program, the contractor will have studied the control systems of fifty-two vehicles wherein specific malfunctions have been deliberately introduced into the control systems in order to validate procedures developed by the contractor to detect and repair such malfunctions. The budget for the original 15-month contract was $120,725. The contractor now proposes, for $37,070 to be expended over four months, to add diesel powered vehicles to the list of test cars for the development of diagnostic procedures.

Under the proposed addendum, the contractor would analyze surveillance data compiled by EPA for about 100 light duty diesel cars in order to evaluate the nature and range of in-use, emission-related malperformances. The contractor would supplement these data by interviewing manufacturers' representatives and shop mechanics. The emission impacts of malperformance would be identified by engineering analyses. The contractor would then: develop a list that ranks types of malperformance by their respective contributions to air pollution; survey current and future diagnostic methods for diesel engine emission control systems; develop standardized diagnostic procedures; and validate these procedures using five diesel-powered cars of different makes and models. The successful development and implementation of diesel diagnostic procedures will be especially useful for the statewide vehicle inspection and maintenance program.

The proposed augmentation addresses part of the Board's express concern and research priority relative to particles emitted by diesel engines. The information that would be provided under this proposed augmentation would show how the emissions from diesel-vehicles are affected by specific kinds of malperformance and the ability to detect and mitigate such effects through diagnostic procedures.

B U D G E T  S U M M A R Y: Energy and Environmental Analysis, Inc.

"The Development of Standardized Diagnostic Procedures
for Diesel Engine Emission Controls"
(Original $120,725 - 15 months)
(Addendum $37,070 - 4 months)

BUDGET ITEMS:

| | PROPOSED ADDENDUM | |
|---|---|---|
| Salaries | $9418.00 | |
| Employee Benefits | $ -0- | |
| Supplies & Materials | $ -0- | |
| Travel | $ 5,101 | |
| Other Expenses | $ 1,000 | |
| Labor Overhead | $ 9,211 | |
| Consultants | $ 4,000 | |
| General and Administrative | $ 4,970 | |
| Fee | $ 3,370 | |
| TOTAL FOR PROPOSED ADDENDUM | | $ 37,070 |
| ORIGINAL CONTRACT | | $120,725 |
| TOTAL FOR CONTRACT WITH PROPOSED ADDENDUM | | $157,795 |

State of California
AIR RESOURCES BOARD

Resolution 84-25
May 24, 1984

WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution pursuant to Health and Safety Code Sections 39700 through 39705;

WHEREAS, an unsolicited research proposal, Number 1255-107, entitled "Effects of Methanol Substitution on Multi-day Air Pollution Episodes," has been submitted by the University of California, Riverside to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Research Screening Committee has reviewed and recommends for funding:

Proposal Number 1255-107 entitled "Effects of Methanol Substitution on Multi-day Air Pollution Episodes," submitted by the University of California, Riverside for a total amount not to exceed $165,888.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

Proposal Number 1255-107 entitled "Effects of Methanol Substitution on Multi-day Air Pollution Episodes," submitted by the University of California, Riverside for a total amount not to exceed $165,888.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $165,888.

I hereby certify that the above is a true and correct copy of Resolution 84-25 as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM NO.: 84-9-6b(5)
DATE: May 24, 1984

ITEM: Research Proposal Number 1255-107 entitled "Effects of Methanol Substitution on Multi-Day Air Pollution Episodes."

RECOMMENDATION: Adopt Resolution 84-25 approving Research Proposal No. 1255-107 for an amount not to exceed $165,888.

SUMMARY: Methanol has become increasingly attractive as an alternative to petroleum-based fuels because it is available domestically, can be manufactured from renewable resources, may be competitively priced with gasoline, and can be used with existing motor vehicles with relatively minor modification of the engine and fuel system. Because vehicular emissions account for approximately 50 percent of the total emissions of reactive organic in the South Coast Air Basin, large scale substitution of methanol for gasoline could have a significant impact on the composition of the urban atmosphere. In general, it appears that both methanol and combustion products of methanol are less reactive than petroleum-based motor fuels and their combustion products. This has been ascertained in single-day tests which indicate that ozone concentrations would be reduced by substitution of methanol for gasoline.

However, the worst air pollution episodes in California are multi-day in nature. Both tracer releases and modeling studies have shown that pollution carried over from the previous day(s) plays an important role in the second and subsequent days of an episode. Because of the resulting build-up, it is uncertain how the later days of a multi-day episode would be affected by methanol substitution.

Under this project, the investigators would carry out a series of multi-day irradiations in both indoor and outdoor smog chambers to compare the effects of replacing one-third of a hydrocarbon surrogate mixture, which represents current emissions, with a surrogate that is designed to represent both evaporative and tailpipe emissions from methanol-fueled vehicles. Experiments would also be carried out at a variety of initial hydrocarbon surrogate and NOx concentrations to obtain the data required to assess how the effects of methanol substitution depend on these two important parameters. These irradiations would be carried out for a period of two to four days each. In several of the exposures, subsequent injections of NOx would be made in order to assess maximum ozone formation potentials under conditions where NOx availability is not the limiting factor.

State of California
AIR RESOURCES BOARD

Resolution 84-26
May 24, 1984

WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution pursuant to Health and Safety Code Sections 39700 through 39705;

WHEREAS, an proposal to augment contract, Number A2-054-32, entitled "Economic Assessment of the Effects of Air Pollution on Agricultural Crops in the San Joaquin Valley," has been submitted by Energy and Resources Consultants, Inc. to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Research Screening Committee has reviewed and recommends for funding:

Addendum to Contract Number A2-054-32, entitled "Economic Assessment of the Effects of Air Pollution on Agricultural Crops in the San Joaquin Valley," submitted by Energy and Resources Consultants, Inc., for an amount not to exceed $9,940.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

Addendum to Contract Number A2-054-32, entitled "Economic Assessment of the Effects of Air Pollution on Agricultural Crops in the San Joaquin Valley," submitted by Energy and Resources Consultants, Inc., for an amount not to exceed $9,940.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the addendum proposed herein in an amount not to exceed $9,940.

I hereby certify that the above is a true and correct copy of Resolution 84-26 as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM NO.: 84-9-6b(6)
DATE: May 24, 1984

ITEM: Proposal to augment Contract Number A2-054-32 entitled "Economic Assessment of Pollution on Agricultural Crops in the San Joaquin Valley."

RECOMMENDATION: Adopt Resolution Number 84-26 approving Proposed Augmentation of Contract No. A2-054-32 for an amount not to exceed $9,940.

SUMMARY: This proposal is a request for an augmentation of a nearly completed ARB funded study to assess the economic costs of air pollution damage to crops grown in the San Joaquin Valley. The preliminary report for the current study indicates that losses attributable to ozone damage to crops in the San Joaquin Valley amount to approximately 100 million dollars per year. The proposed augmentation would provide needed additional detail as to who among the various producers and consumers, bears these added costs.

The current study and this proposed augmentation address one of the Board's stated research priorities, assessment of the effects of air pollution on agriculture. The results would be used by state and local officials responsible for establishing and implementing cost-effective air quality strategies for ozone.

State of California
AIR RESOURCES BOARD

Resolution 84-27
May 24, 1984

WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution pursuant to Health and Safety Code Sections 39700 through 39705;

WHEREAS, an unsolicited proposal addendum to on-going Research contract, Number A2-117-33, entitled "Effects of Ozone and $SO_2$ on Crop Physiology and Productivity," has been submitted by the University of California, Davis to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Research Screening Committee has reviewed and recommends for funding:

Addendum to Contract Number A2-117-33, entitled "Effects of Ozone and $SO_2$ on Crop Physiology and Productivity," submitted by the University of California, Davis for an amount not to exceed $10,000.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

Addendum to Contract Number A2-117-33, entitled "Effects of Ozone and $SO_2$ on Crop Physiology and Productivity," submitted by the University of California, Davis for an amount not to exceed $10,000.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the addendum proposed herein in an amount not to exceed $10,000.

I hereby certify that the above is a true and correct copy of Resolution 84-27 as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM NO.: 84-9-6b(7)
DATE: May 24, 1984

ITEM: Research proposal addendum to Contract Number A2-117-33, entitled "Effects of Ozone and $SO_2$ on Crop Physiology and Productivity."

RECOMMENDATION: Adopt Resolution Number 84-27 approving proposed addendum to Contract No. A2-117-33 for funding in an amount not to exceed $10,000.

SUMMARY: This proposal requests an augmentation to a study already in progress, to develop a new approach to assessing the effects of air pollution on crops. The budget for the original 18-month contract is $129,698. Completion of this additional phase study for $10,000 will provide information on how physiological responses of plants studied in the laboratory are related to yield losses observed in the field. This will enable us to assess pollution induced crop loss more efficiently in the future.

The proponents are attempting to identify, in the laboratory, physiological responses which can be measured in the field as indicators of air pollution induced changes in yield. Several such responses have been identified and will be employed by the proponents. The proponents will compare bean plants grown in controlled environmental chambers with those grown in open-top field chambers and with those grown in the field. Plants will be fumigated with ozone, and physiological variables will be measured and related to plant growth, yield and nutrient status. The proposed augmentation will be used to provide the technical assistance needed to carry out the field portion of this study.

State of California
AIR RESOURCES BOARD

Resolution 84-28
May 24, 1984

WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjunction with the efforts to combat air pollution, pursuant to Health and Safety Code Sections 39700 through 39705;

WHEREAS, a unsolicited research proposal, Number 1257-107, entitled "The Air and Industrial Hygiene Laboratory/Air Resources Board Center for Automated Particle Analysis - Phase II," has been submitted by the State Department of Health Services to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Research Screening Committee has reviewed and recommends for funding:

> Proposal Number 1257-107 entitled "The Air and Industrial Hygiene Laboratory/Air Resources Board Center for Automated Particle Analysis - Phase II," submitted by the State Department of Health Services to the Air Resources Board, for a total amount not to exceed $ 87,822.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

> Proposal Number 1257-107 entitled "The Air and Industrial Hygiene Laboratory/Air Resources Board Center for Automated Particle Analysis - Phase II," submitted by the State Department of Health Services to the Air Resources Board, for a total amount not to exceed $ 87,822.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $87,822.

I hereby certify that the above is a true and correct copy of Resolution 84-28 as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM NO.: 84-9-6b(8)
DATE: May 24, 1984

ITEM: Research Proposal No. 1257-107 entitled, "The AIHL/ARB Center for Automated Particle Analysis - Phase II."

RECOMMENDATION: Adopt Resolution Number 84-28 approving Proposal No. 1257-107, for funding in an amount not to exceed $87,822.

SUMMARY: In order to develop cost-effective strategies to achieve and maintain state and federal ambient air quality standards for inhalable particles, a thorough understanding of their multiple origins is necessary. This can be done by measurement and chemical analysis of particulate matter and precursors at sources and correspondingly detailed analysis of samples from receptor locations.

Most attempts at receptor modeling of airborne particles have considered only the bulk chemical properties of particulate samples, and, as a result, have provided relatively poor discrimination of particulate sources having similar bulk chemical composition despite very significant differences in the sizes, structure and likely effects of the respective particles and sources. Recent advances in technology and computer-controlled image analyzers, accurate and rapid scanning electron microscopy (SEM) techniques make single particle analyses feasible and, potentially, a practical technique to aid in the development of more detailed source receptor models.

This one-year proposal is the second in a series which is intended for identifying pollution sources of airborne particulate matter using morphological and elemental analysis of a single particle by an automated particle system. The analysis of samples would be performed using existing equipment operated by the Air and Industrial Hygiene Laboratory of the California Department of Health Services.

The specific objectives of this study are to: 1) develop computer capabilities for mathematical analysis of analytical results; 2) compile particle source signatures from source and ambient samples by SEM automated particle analysis; 3) perform source apportionment of collected

State of California
AIR RESOURCES BOARD

Resolution 84-29
May 24, 1984

WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjuction with its efforts to combat air pollution pursuant to Health and Safety Code Sections 39700 through 39705;

WHEREAS, a solicited research proposal, Number 1265-107, entitled "Development of Synthetic Acid Fogs and Aerosols for Chamber Exposures," has been submitted by Environmental Research and Technology, Inc. to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommends this proposal for approval; and

WHEREAS, the Research Screening Committee has reviewed and recommends for funding:

Proposal Number 1265-107, entitled "Development of Synthetic Acid Fogs and Aerosols for Chamber Exposures," submitted by Environmental Research and Technology, Inc. for a total amount not to exceed $67,698.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

Proposal Number 1265-107, entitled "Development of Synthetic Acid Fogs and Aerosols for Chamber Exposures," submitted by Environmental Research and Technology, Inc. for a total amount not to exceed $67,698.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $67,698.

I certify that the above is
a true and correct copy of
Resolution 84-29 as passed by
the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 84-30
May 24, 1984

WHEREAS, the Air Resources Board has been directed to design and implement a comprehensive program of research and monitoring of acid deposition in California pursuant to Health and Safety Code Sections 39700 through 39705;

WHEREAS, a solicited research proposal, Number 038-5, entitled "Characterization of Reactants, Mechanisms, and Species in South Coast Air Basin Cloudwater," has been submitted by Sonoma Technology Incorporated to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Scientific Advisory Committee on Acid Deposition has reviewed and recommends for funding:

Proposal Number 038-5, entitled "Characterization of Reactants, Mechanisms, and Species in South Coast Air Basin Cloudwater," submitted by Sonoma Technology, Incorporated, for a total amount not to exceed $100,000.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Scientific Advisory Committee on Acid Deposition and approves the following:

Proposal Number 038-5, entitled "Characterization of Reactants, Mechanisms, and Species in South Coast Air Basin Cloudwater," submitted by Sonoma Technology, Incorporated, for a total amount not to exceed $100,000.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $100,000.

I hereby certify that the above is a true and correct copy of Resolution 84-30 as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM NO.: 84-9-6b(10)
DATE: May 24, 1984

ITEM: Proposal No. 038-5 entitled "Characterization of Reactants, Mechanisms, and Species in South Coast Air Basin Cloudwater."

RECOMMENDATION: Adopt Resolution Number 84-30 approving Research Proposal No. 038-5 for an amount not to exceed $100,000.

SUMMARY: High concentrations of sulfates and nitrates occur frequently in the Los Angeles Basin and cause visibility degradation, material damage, and potential adverse ecological and health effects. Prior work strongly suggests that a significant fraction of this sulfate and nitrate is formed in clouds and fog, resulting in highly acidic fog and cloudwater. In spite of the potential importance and great current interest in the formation of acid species in clouds and fogs, there is almost no unambiguous field data for the rate of these formation species.

The first objective of this study is to measure the rate of conversion of sulfur dioxide to sulfate and nitrogen oxides to nitrate in stratus clouds in the Los Angeles Basin. A second objective is to characterize the chemical composition of the air masses in which these rates are measured to obtain information on the dominant chemical reaction pathways and to provide inputs for computer models which simulate cloud chemistry.

Six cloud sampling flights will be made by an instrumented aircraft in the Los Angeles Basin in May and June of 1985. This is the most favorable time of the year for encountering stratus clouds containing air pollution. Four of the flights will follow air parcels in the Chino-Ontario area to measure chemical reaction rates. Two of the flights will measure the spatial distribution of the acidic species in clouds in and upwind of the Los Angeles Basin.

This study is necessary in order to better understand the relationships between sources of acid precursor emissions and observed concentrations of acidic species in downwind receptor locations.

State of California

# Memorandum

: Gordon Van Vleck
Secretary
Resources Agency

Date : June 8, 1984

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

Harold Holmes
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 decision and response to environmental comments raised during the comment period.

ATTACHMENTS
84-10
84-11
84-20
~~84-31~~
84-32

FILED AND POSTED BY
OFFICE OF THE SECRETARY

JUN 8 1984

Resources Agency of California

~~lead or phosphorus content of gasoline may be used after the executive officer reasonably determines that such test method provides equivalent results to the test method designated in this paragraph.~~

NOTE: Authority cited: Sections 39600, 39601, 43013 and 43101, Health and Safety Code; Western Oil and Gas Ass'n v. Orange County Air Pollution Control District, 14 Cal. 3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 39000-39003, 39500, 39515, 39516, 41511, 43000, 43013, 43016 and 43101, Health and Safety Code; Western Oil and Gas Ass'n v. Orange County Air Pollution Control District, 14 Cal. 3d 411, 121 Cal.Rptr. 249 (1975).

State of California
AIR RESOURCES BOARD

Resolution 84-31

May 24, 1984

Agenda Item No.: 84-9-4

WHEREAS, the Air Resources Board (the "Board") is authorized pursuant to the authority set forth in Health and Safety Code Sections 39600, 39601, 43013, and 43101 to adopt regulations governing the composition of motor vehicle fuels as they affect motor vehicle emissions, and such regulations are necessary in order to implement, interpret, or make specific Health and Safety Code Sections 39000, 39001, 39002, 39006, 43000, 43013, and 43101 and Western Oil and Gas Ass'n v. Orange County APCD, 14 Cal.3d 411 (1975);

WHEREAS, in 1982 the Board adopted Section 2253.2 of Title 13, California Administrative Code, which limits the maximum lead content of leaded gasoline sold in California;

WHEREAS, on June 21, 1983 the Western Oil and Gas Association ("WOGA") petitioned the Board to reconsider and repeal Subsections (c) and (e) and amend Subsection (m) of Section 2253.2;

WHEREAS, following consideration of the WOGA petition by a committee of the Board, on January 26, 1984, the Board denied WOGA's petition to repeal Subsections (c) and (e), granted the petition to amend Subsection (m), and directed the staff to develop proposed amendments to Subsections (c) and (m) of Section 2253.2 implementing the committee's recommendations;

WHEREAS, Section 2253.2(c) establishes limits for the per gallon lead content of all leaded gasoline sold in California, with provisions authorizing exceedances of those limits if a producer or importer satisfies specified reporting requirements and offsets the excess lead within 90 days after the limits are exceeded;

WHEREAS, Section 2253.2(m) provides that the test method for determining the lead content of gasoline and gasoline blending stocks is the method adopted by the U.S. Environmental Protection Agency in Title 40, Code of Federal Regulations, Part 80, Appendix B ("Tests for Lead in Gasoline by Atomic Absorption Spectrometry") as it existed July 1, 1982;

WHEREAS, pursuant to the Board's direction staff has prepared amendments to Section 2253.2(c) which would allow banking of lead credits, provide a limited exception to the reporting deadlines, shorten the low-lead gasoline advance notice period, amend the specification of events which trigger the offset period, and authorize protocols specifying how Subsection (c) is to be applied to a producer's or importer's operations, and has proposed amendments to Section 2253.2(m) which specify American Society of Testing and Materials test methods for determining lead content of gasoline and gasoline blending stocks;

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 the provisions of Chapter 3.5 (commencing with Section 11340), Part 1, Division 3, Title 2 of the Government Code; and

WHEREAS, the Board finds that:

> The amendments to Section 2253.2(c), Title 13, California Administrative Code, set forth in Attachment A will provide additional flexibility for leaded gasoline producers and importers without significantly reducing the stringency or effectiveness of Subsection (c) as an enforcement tool;
>
> The amendments to Section 2253.2(m), Title 13, California Administrative Code, set forth in Attachment A establish lead content test methods which have established precision factors, are supported by industry, and do not affect the stringency of the regulation;
>
> The amendments approved herein will not affect the quarterly average lead content limits contained in Section 2253.2(d), Title 13, California Administrative Code; and
>
> The amendments approved herein will have no significant adverse environmental impacts.

NOW, THEREFORE, BE IT RESOLVED that the Board amends Section 2253.2(c) and (m), Title 13, California Administrative Code, as set forth in Attachment A hereto.

BE IT FURTHER RESOLVED that notwithstanding the amendments adopted herein, the provisions of Section 2253.2(c) and (m), Title 13, California Administrative Code, as they existed prior to the effective date of the amendments, shall continue to be in operation with respect to any activities occuring prior to the effective date of the amendments which at the time were subject to the previous regulatory provisions.

I certify that the above is a true and correct copy of Resolution 84-31, as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Proposed Amendments of Subsections (c) and (m) of Title 13, California Adminstrative Code Section 2253.2, Regarding Lead in Gasoline.

Agenda Item No.: 84-9-2

Public Hearing Date: May 24, 1984

Response Date: May 24, 1984

Issuing Authority: Air Resources Board

Comment: No public comments were received identifying any significant environmental issues pertaining to this item. The staff report concluded that the proposed amendments would not result in significant adverse environmental impacts.

Response: N/A

CERTIFIED: _____
Board Secretary

Date: 08/07/84

Attachment A

Amend Section 2253.2(c), Title 13, California Administrative Code, to read as follows:

(c) No person shall sell, offer for sale, or deliver for sale any California leaded gasoline which exceeds the lead content per gallon specified below:

| Effective Date of Limitation* | Maximum Lead Content (grams per gallon) | |
|---|---|---|
| | Leaded Gasoline Other than Leaded High Octane Gasoline | Leaded High Octane Gasoline |
| July 1, 1983 through September 30, 1984 | 1.1 | 1.4 |
| After September 30, 1984 | 0.8 | 1.0 |

However, a person may sell, offer for sale, or deliver for sale California leaded gasoline which exceeds the lead content specified above if the following conditions are satisfied, and the lead content of the gasoline does not exceed the lead content reported pursuant to the following conditions:

(1) A producer or importer shall notify the executive officer or his or her designee of the estimated or actual volume (in gallons) of the gasoline, the estimated or actual lead content (in grams per gallon) of the gasoline, and whether the gasoline to be sold is leaded high octane gasoline or leaded gasoline other than leaded high octane gasoline. This notification shall be received at least 24 hours prior to the start of physical transfer of the gasoline from the California gasoline production facility. If actual values are later determined to be different from the estimated values reported, follow-up notification of the actual values shall occur within 24 hours after the start of physical transfer of the gasoline from the California gasoline production facility.

(2) Within 90 days before or after ~~of~~ the start of physical transfer of gasoline for which notification is made pursuant to paragraph (c)(1) above, the producer or importer shall ~~sell~~ complete the physical transfer of California leaded gasoline from its California gasoline production facility in sufficient quantity and at a lead content below the applicable maximum lead content limit set forth in the table in paragraph (c) to offset the total grams of lead reported in excess of the maximum limit. The producer or importer shall notify the executive officer or his or her designee of the estimated or actual

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* These headings are in the existing regulation and would not be changed.

volume (in gallons) of the gasoline, the estimated or actual lead content (in grams per gallon) of the gasoline, and whether the gasoline to be sold is leaded high octane gasoline or leaded gasoline other than leaded high octane gasoline. This notification shall be received at least 48 24 hours prior to the start of physical transfer of the gasoline from the California gasoline production facility. If actual values are later determined to be different from the estimated values reported, follow-up notification of the actual values shall occur within 24 hours after the start of physical transfer of the gasoline from the California gasoline production facility.

(3) If through no intentional or negligent conduct, a producer or importer cannot report within the time periods specified in paragraphs (c)(1) or (2), then the producer or importer shall notify the executive officer or his or her designee of the required data as soon as reasonably possible and shall provide a written explanation of the cause of the delay in reporting. If, based on the written explanation and the surrounding circumstances, the executive officer determines that the conditions of paragraph (c)(3) are met, timely notification shall be deemed to have occurred.

(4) The executive officer or his or her designee may enter into a protocol with any individual producer or importer for the purpose of specifying how the conditions contained in paragraphs (c)(1) and (2) shall be applied to the producer's or importer's particular operations, as long as he or she reasonably determines that application of the regulatory requirements under the protocol is not significantly less stringent or enforceable than application of the express terms of paragraphs (c)(1) and (2). The terms of such a protocol shall be limited to one or more of the following: specification of alternative events from which the notification and offset periods are measured, including physical transfer from a facility in California which is operated by a producer and at which the producer stores California leaded gasoline; provision for flexibility in the 24-hour reporting requirements to allow for reporting during normal business hours only; and reporting of actual lead content values within 24 hours after a producer determines the values.

Amend Section 2253.2(m), Title 13, California Administrative Code, to read as follows:

(m) The lead content of gasoline and gasoline blending stocks shall be determined in accordance with the test methods set forth below:

| Range of Applicability** (grams per gallon) | ASTM Test Method |
|---|---|
| less than 0.10 | D3237-79 |
| 0.10 and greater | D2599-81, Method B |

~~in-Appendix-B-("Tests-for-Lead-in-Gasoline-by-Atomic-Absorption-Spectrometry")-of-Title-40,-Code-of-Federal-Regulations,-Part-80,-as-it-existed-on-July-1,-1982.~~ The phosphorus content of gasoline shall be determined in accordance with ASTM Test Method D3231-73. ~~An-equivalent-test-method-for-determining~~

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** These headings are proposed to be added; they would be underlined in the final text.

State of California
AIR RESOURCES BOARD

Resolution 84-32

May 24, 1984

Agenda Item No.: 84-9-2

WHEREAS, Health and Safety Code Section 39601 authorizes the Air Resources Board (the "Board") to adopt standards, rules and regulations necessary for the proper execution of the powers and duties granted to and imposed upon the Board by law;

WHEREAS, Health and Safety Code Section 39801 requires the Board to administer, pursuant to Chapter 5 (commencing with Section 39800), Part 2, Division 26 of the Health and Safety Code, the air pollution control subvention program with such funds as may be appropriated for the purposes of said Chapter, and Health and Safety Code Sections 39800 through 39811 establish the framework and requirements of the subvention program;

WHEREAS, the Board has adopted regulations for administering the subvention program in Sections 90050 through 90500, Title 17, California Administrative Code;

WHEREAS, Health and Safety Code Section 39806 provides that money shall be subvened to districts engaged in the reduction of air contaminants pursuant to the basinwide air pollution control plan and related implementation programs, and that any findings of the Board that a district is not so engaged in the reduction of air contaminants shall be based on criteria established by the Board jointly with districts;

WHEREAS, Section 90115, Title 17, California Administrative Code, establishes evaluation criteria for determining whether a district is engaged in the reduction of air contaminants pursuant to the basinwide air pollution control plan and related implementation programs;

WHEREAS, Section 90120, Title 17, California Administrative Code, provides that the Board shall classify districts by four specified categories for the purpose of establishing evaluation criteria, and incorporates the "District Subvention Categories" adopted July 26, 1982 (the "District List"), which classifies each district into one of the four categories;

WHEREAS, the Shasta County Air Pollution Control District is classified in the "Rural Agricultural" category on the District List;

WHEREAS, the Shasta County Air Pollution Control District has petitioned for a change in classification to the "Rural Resource" category;

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 the provisions of Chapter 3.5 (commencing with Section 11340), Part 1, Division 3, Title 2 of the Government Code; and

WHEREAS, the Board finds that:

> The Shasta County Air Pollution Control District has submitted sufficient supporting information to show that the district would be more appropriately classified as rural resource rather than rural agricultural in Section 90120, Title 17, California Administrative Code;
>
> Such a change in designation will not affect the subvention funds any district is eligible to receive nor will it change the evaluation criteria to be applied in determining whether the Shasta County Air Pollution Control district is engaged in the reduction of air contaminants; and
>
> The amendments set forth in Attachments A and B will have no significant adverse environmental impact.

NOW, THEREFORE, BE IT RESOLVED that the Board amends Section 90120, Title 17, California Administrative Code, as set forth in the Attachment A hereto, and amends the list "District Subvention Categories" as set forth in Attachment B.

I certify that the above is a true and correct copy of Resolution 84-32, as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Proposed Amendments to Title 17, California Administrative Code, Section 90120, and the Incorporated Document, Regarding Reclassification of Shasta County Air Pollution Control District from Rural Agricultural to Rural Resource Category Under the Subvention Program

Agenda Item No.: 84-9-2

Public Hearing Date: May 24, 1984

Response Date: May 24, 1984

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 impacts.

Response: N/A

CERTIFIED: Liz Schwall for
Board Secretary

Date: July 30, 1984

Attachment A

Amend Section 90120, Title 17, California Administrative Code, to read as follows:

90120. District Categories.

The state board shall classify districts by the following categories for the purpose of establishing evaluation criteria based on the factors set forth in Section 39806(b) of the Health and Safety Code.

(a) "Large urban districts";

(b) "Small urban districts";

(c) "Rural resource districts";

(d) "Rural agricultural districts".

The district classifications by category are set forth in the Air Resources Board's "District Subvention Categories" adopted July 26, 1982, <u>as last amended on May 24, 1984</u>, and shall be reviewed by the Board only upon petition of a district, ARB staff, or interested person.

NOTE: Authority cited: Sections 39600, 39601 and 39801, Health and Safety Code. Reference: Sections 39801 and 39806, Health and Safety Code.

Attachment B

# DISTRICT SUBVENTION CATEGORIES

Adopted: July 26, 1982
Amended: May 24, 1984

## CATEGORY I

### Large Urban

South Coast
Bay Area
San Diego

## CATEGORY II

### Small Urban

Ventura
Fresno
Monterey
Kern
San Joaquin
Santa Barbara
Stanislaus
Sacramento

## CATEGORY III

### Rural Resource

Great Basin
Lake
Amador
Calaveras
El Dorado
Mariposa
Nevada
Placer
Plumas
Sierra
Tuolumne
Mendocino
Northern Sonoma
North Coast
Shasta

## CATEGORY IV

### Rural Agricultural

Siskiyou
San Luis Obispo
Imperial
Butte
Colusa
Glenn
Sutter
Tehama
Yolo-Solano
Yuba
San Bernardino
(SEDAB portion only)
Kings
Madera
Merced
Tulare
~~Shasta~~
Lassen
Modoc

State of California

# Memorandum

: Gordon Van Vleck
Secretary
Resources Agency

Date : June 8, 1984

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 decision and response to environmental comments raised during the comment period.

ATTACHMENTS
84-10
84-11
84-20
84-31
84-32

FILED AND POSTED BY
OFFICE OF THE SECRETARY

JUN 8 1984

Resources Agency of California

State of California
AIR RESOURCES BOARD

Resolution 84-33
May 24, 1984

WHEREAS, the Air Resources Board has been directed to design and implement a comprehensive program of research and monitoring of acid deposition in California pursuant to Health and Safety Code Sections 39900 through 39915;

WHEREAS, a solicited research proposal, Number 030-4, entitled "Study of the Influence of Sediments in Buffering Aquatic Systems and Development of a Model of the Acidification Process", has been submitted by the University of California, Berkeley; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Scientific Advisory Committee on Acid Deposition has reviewed and recommends for funding:

> Proposal Number 030-4, entitled "Study of the Influence of Sediments in Buffering Aquatic Systems and Development of a Model of the Acidification Process", submitted by the University of California, Berkeley, for a total amount not to exceed $210,670.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39906, hereby accepts the recommendation of the Scientific Advisory Committee on Acid Deposition and approves the following:

> Proposal Number 030-4, entitled "Study of the Influence of Sediments in Buffering Aquatic Systems and Development of a Model of the Acidification Process", submitted by the University of California, Berkeley, for a total amount not to exceed $210,670.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $210,670.

I hereby certify that the above is a true and correct copy of Resolution 84-33 as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM NO.: 84-9-6b(11)
DATE: May 24, 1984

ITEM: Research Proposal No. 030-4, entitled "Study of the Influence of Sediments in Buffering Aquatic Systems and Development of a Model of the Acidification Process".

RECOMMENDATION: Adopt Resolution Number 84-33 approving Research Proposal No. 030-4, for funding in an amount not to exceed $210,670.

SUMMARY: The Kapiloff Acid Deposition Act requires the Air Resources Board to design and implement a research and monitoring program to determine the nature, extent and potential effects of acid deposition in the State. Research is particularly crucial in areas known or suspected to be sensitive to acid inputs. Among the most sensitive systems in California are small headwater lakes of the Sierra Nevada. These lake basins are characterized by granitic bedrock geology, thin soils and low-alkalinity surface waters.

In the absence of significant soil development in these watersheds, buffering of acid precipitation may occur principally in the lakes' water column and may reflect the neutralization capacity of lake sediments. By experimentally measuring the ability of different lake sediments in sensitive areas to buffer acid inputs, it may be possible to predict future changes in lake pH under specified conditions of acid deposition in these basins.

The objective of this study is to investigate the capacity of typical Sierra lake sediments to neutralize acid deposition. Field data would be combined with microcosm acidification studies performed in the laboratory in an attempt to model the effects of acidity upon sensitive lakes.

Different lakes with varying types of sediments would be selected for an investigation of buffering processes. One of these lakes will be Emerald Lake, selected for the Integrated Watershed Study. For two of these lakes, detailed field measurements would be made of surface water chemistry through time. Replicate microcosm experiments would be run in situ at these two lakes. Microcosm

experiments also would be conducted in the laboratory, where system pH would be lowered to 5 and changes in biological and chemical variables would be determined. Sediment buffering capacity at all six lakes would be evaluated by collecting replicate sediment cores and performing analyses to determine cation exchange capacity, base saturation, particle size distribution, organic matter, total nitrogen, mineralogy and other chemical characteristics.

Additional microcosm studies would be carried out in the second and third years of the project period to determine alkalinity regeneration rates in lakes with different sediment types; the lakes for this work would be chosen based on the findings from the intitial year.

The results of the field and laboratory experiments would be used to assess the time scale of acidification of headwater lakes of the Sierra Nevada. The model, consisting of coupled, first order, difference equations, would allow prediction of the time-evaluation of annually-averaged lake water pH and alkalinity over a period of up to serveral decades.

B U D G E T  S U M M A R Y: University of California, Berkeley

"Study of the Influence of Sediments in Buffering Aquatic Systems and Development of a Model of the Acidification Process"
($210,670 - 30 months)

| BUDGET ITEMS: | Year 1<br>July 1, 1984<br>June 30, 1984 | Year 2<br>July 1, 1985<br>June 30, 1985 | Year 3<br>July 1, 1986<br>Dec. 31, 1986 |
|---|---|---|---|
| Salaries | $50,967 | $48,192 | $26,472 |
| Employee Benefits | $ 6,569 | $ 6,563 | $ 3,755 |
| Equipment | -0- | -0- | -0- |
| Supplies & Materials | $ 2,250 | $ 2,125 | $ 1,125 |
| Travel | $ 3,583 | $ 3,935 | $ 2,169 |
| Other Expenses | $ 1,200 | $ 2,000 | $ 1,900 |
| Total Direct Costs | $64,569 | $62,815 | $35,421 |
| Indirect Costs | $18,983 | $18,468 | $10,414 |
| TOTAL PROJECT COST | $83,552 | $81,283 | $45,835 |

State of California
AIR RESOURCES BOARD

Resolution 84-34

May 24, 1984

Agenda Item No.: 84-9-3

WHEREAS, the Air Resources Board (the "Board") is the state agency charged with coordinating efforts to attain and maintain ambient air quality standards, and Health and Safety Code Section 39600 authorizes the Board 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, in accordance with Health and Safety Code Section 39500, the Board encourages and reviews the efforts of state and local government as they affect air quality;

WHEREAS, pursuant to Health and Safety Code Section 39605, the Board is authorized to provide assistance to local and regional air pollution control districts;

WHEREAS, Health and Safety Code Section 41516 declares the Legislature's finding that the development of resource recovery facilities should be encouraged as a matter of state policy in view of their potential to help alleviate environmental and economic problems associated with municipal waste disposal while at the same time producing additional supplies of energy and raw materials;

WHEREAS, the Board staff has prepared a draft report entitled "Air Pollution Control at Resource Recovery Facilities" that will provide technical information to assist local and regional air pollution control districts and project applicants in addressing air quality issues related to the development of resource recovery facilities; and

WHEREAS, the Board held a duly noticed public meeting at which it received public comments and considered the draft report prepared and presented to it by staff.

NOW, THEREFORE, BE IT RESOLVED that the Board approves the report "Air Pollution Control at Resource Recovery Facilities" and directs the Executive Officer to forward the report to air pollution control districts in California and other interested parties.

BE IT FURTHER RESOLVED that the Executive Officer is authorized to provide such further assistance as air pollution control districts may request to address resource recovery issues, consistent with the Board's available staff resources and existing responsibilities.

I certify that the above is a true and correct copy of Resolution 84-34, as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 84-35
June 21, 1984

WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution, pursuant to Health and Safety Code Sections 39700 through 39705;

WHEREAS, a proposal to augment Contract No. A3-109-33, entitled "Toxicology of Inhaled Acid, Carbon Soot, and Diesel Particles" has been submitted by the University of California at Irvine to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Research Screening Committee has reviewed and recommends for funding:

Addendum To Contract No. A3-109-33 entitled "Toxicology of Inhaled Acid, Carbon Soot, and Diesel Particles", submitted by the University of California at Irvine for a total amount not to exceed $90,000;

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

Addendum To Contract No. A3-109-33 entitled "Toxicology of Inhaled Acid, Carbon Soot, and Diesel Particles", submitted by the University of California at Irvine for a total amount not to exceed $90,000.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $90,000.

I certify that the above is a true and correct copy of Resolution 84-35 as passed by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 84-36
June 21, 1984

WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution, pursuant to Health and Safety Code Sections 39700 through 39705;

WHEREAS, an unsolicited proposed Addendum to Contract Number A2-065-32, entitled "Evaluation of Maintenance Practices Which Could Reduce In-Service Transit Bus Smoke and Particulate Emissions," has been submitted by Energy and Environmental Analysis/ Sierra Research to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Research Screening Committee has reviewed and recommends for funding:

> Addendum to Contract Number A2-065-32, entitled "Evaluation of Maintenance Practices Which Could Reduce In-Service Transit Bus Smoke and Particulate Emissions," submitted by Energy and Environmental Analysis/Sierra Research for a total amount not to exceed $9,856.05:

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

> Addendum to Contract Number A2-065-32, entitled "Evaluation of Maintenance Practices Which Could Reduce In-Service Transit Bus Smoke and Particulate Emissions," submitted by Energy and Environmental Analysis/Sierra Research for a total amount not to exceed $9,856.05.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $9,856.05.

I certify that the above is a true and correct copy of Resolution 84-36 as passed by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 84-37
June 21, 1984

WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution, pursuant to Health and Safety Code Sections 39700 through 39705;

WHEREAS, a solicited research proposal, Number 1208-99, entitled, "Evaluation of Low-Emission Wood Stoves," has been submitted by Shelton Energy Research to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Research Screening Committee has reviewed and recommends for funding:

> Proposal Number 1208-99 entitled "Evaluation of Low-Emission Wood Stoves," submitted by Shelton Energy Research for a total amount not to exceed $149,980.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

> Proposal Number 1208-99 entitled "Evaluation of Low-Emission Wood Stoves," submitted by Shelton Energy Research for a total amount not to exceed $149,980.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $149,980.

I certify that the above is a true and correct copy of Resolution 84-37 as passed by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 84-38

June 21, 1984

Agenda Item No.: 84-10-1

WHEREAS, Sections 39600 and 39601 of the Health and Safety Code authorize the Air Resources Board (the "Board") to adopt standards, rules and regulations necessary for the proper execution of the powers and duties granted to and imposed upon the Board by law;

WHEREAS, in the Kapiloff Acid Deposition Act (Stats 1982, ch 1473; Health and Safety Code Sections 39900-39915), the Legislature declared that acid deposition from anthropogenic sources in California may have significant adverse effects on the environment, on the economy and the public health and directed the Board to design and implement a comprehensive research and monitoring program with regard to acid deposition;

WHEREAS, Section 39910 of the Health and Safety Code authorizes the Board to require districts to impose additional permit and variance fees on non-vehicular sources within their jurisdictions to supplement funds which may be appropriated by the Legislature for acid deposition monitoring and research;

WHEREAS, acid deposition research and monitoring program objectives and priorities have been established and reported to the Governor and the Legislature in December 1983 in accordance with the Kapiloff Acid Deposition Act;

WHEREAS, in approving the report to the Governor and the Legislature, the Acid Deposition Scientific Advisory Committee appointed pursuant to Section 39905 specified that full implementation of the Board's research and monitoring program will require the maximum level of funding provided for under the Kapiloff Acid Deposition Act;

WHEREAS, the Board has adopted Resolution 83-22, dated July 29, 1983, the provisions of which are incorporated by reference herein, in which it approved a fee program for fiscal year 1983-84 and stated its intention to consider in 1984 the renewal and modification of the fee program;

WHEREAS, the Air Resources Board staff, in consultation with representatives of local air pollution control districts, have developed a proposed fee program for fiscal year 1984-85;

WHEREAS, in accordance with Health and Safety Code Section 39914 and consistent with the Air Resources Board's request that four million dollars ($4,000,000) be appropriated for acid deposition research, of which up to two million dollars ($2,000,000) may be provided from the fees to be collected by the districts, the proposed fee program has been designed to provide to the

Air Pollution Control Fund net revenues in fiscal year 1984-85 in an amount which is the lesser of either two million dollars ($2,000,000), or the amount that is appropriated for acid deposition research and monitoring by the Legislature;

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 the provisions of Chapter 3.5 (commencing with Section 11340), Part 1, Division 3, Title 2 of the Government Code;

WHEREAS, the Board finds that:

> The funds which would be collected pursuant to the proposed fee program are needed to implement the research program established pursuant to the Kapiloff Acid Deposition Act;
>
> The proposed regulations and sample fee schedule are based on the most current data available for annual emissions of sulfur or nitrogen oxides from sources emitting 1000 tons or more per year of either pollutant; and
>
> The economic impact of the fee program on the affected sources of sulfur or nitrogen oxides will not be significant; and

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

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves Sections 90604-90607, Title 17, California Administrative Code, as set forth in Attachment A, with modifications to the fees specified in Section 90605 and to Section 90606(a) as presented at the Board's hearing, establishing a fee program for fiscal year 1984-85.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to adopt the amendments set forth in Attachment A, as modified, provided that the Executive Officer shall further modify the fees specified for collection by the districts pursuant to Section 90605 if he determines, based on information provided before September 1, 1984, by any district, that such modification is warranted.

BE IT FURTHER RESOLVED that prior to adoption by the Executive Officer, the regulations shall be made available for a period of 15 days, provided that the Executive Officer shall consider such written comments as may be submitted during this period, shall make such modifications as he deems necessary in light of the comments received, and shall present the regulations to the Board for further consideration if he determines that this is warranted.

BE IT FURTHER RESOLVED that the Board approves the sample fee schedule set forth in Attachment B for consideration by those local air pollution control districts and air quality management districts which are required to collect fees pursuant to Sections 90604-90607, Title 17, California Administrative Code.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to forward the attached regulations and sample fee schedule to the specified districts for appropriate action, and to the Department of Finance, the Legislative Analyst and the State Controller, for information and for appropriate action.

BE IT FURTHER RESOLVED that the Board intends to review in 1985 the status of the acid deposition research and monitoring program, and to reconsider at that time the renewal and modification, as necessary, of the fee program in order to reflect changes in program needs and capabilities, base-year emissions, and such other factors as may influence acid deposition research and funding requirements.

I certify that the above is a true and correct copy of Resolution 84-38, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

Public Hearing to Consider the Adoption of Sections 90604-90607, Title 17, California Administrative Code, Regarding the Acid Deposition Fee Program for 1984-1985

Public Hearing Date: June 21, 1984
Public Availability Date: July 31, 1984

On June 21, 1984, the Air Resources Board (the "Board") considered the adoption of proposed Sections 90604-90607, Title 17, California Administrative Code, regarding the collection of fees by air pollution control districts for acid deposition research and monitoring.

Attached is a copy of the Board's Resolution 84-38, approving the proposed regulations with certain modifications. Appended to the Resolution is the approved language showing additions to the originally proposed language by double underline and deletions by slashes. The regulations as approved by the Board are set forth in Attachment A. Attachment B contains the sample fee schedule as approved by the Board.

The Board's Resolution directed the Executive Officer to adopt the regulations as modified, provided that the Executive Officer shall further modify the fees specified for collection by the districts if he determines, based on information provided before September 1, 1984, by any district, that further modifications are warranted. The Resolution further provided that, prior to adoption by the Executive Officer, the regulations shall be made available for public comment for 15 days, and that the Executive Officer shall consider such written comments as may be received during that period, shall make such modifications as he deems necessary in light of the comments received, and shall present the regulations to the Board for further consideration if he determines that this is warranted.

With the exception of information regarding the specified fees, which must be provided by September 1, 1984, all comments must be received by August 15, 1984, in order to be considered. If further modifications, including modifications to the fee schedule, are made to the regulations, other than modifications which are nonsubstantial or solely grammatical in nature, the regulations will be made available for an additional 15 days after any such modifications are made.

Attachments

ATTACHMENT A

Adopt Sections 90604-90607, Article 2, Subchapter 3.5, Chapter 1, Part III, Title 17, California Administrative Code, to read as follows:

Article 2. Fee Program to be Implemented by Air Pollution Control Districts and Air Quality Management Districts for Fiscal Year 1984-1985 ~~and Subsequent Years~~

90604. General Requirements.

(a) To provide revenue for acid deposition research and monitoring for fiscal year 1984-85, each district identified in Section 90605 shall adopt regulations, with an effective date no later than November 15, 1984, which provide for the collection of fees from the holders of permits for sources which emitted 1,000 tons per year or more of either sulfur oxides or nitrogen oxides during the period from January 1, 1983 through December 31, 1983. The fees collected shall be in addition to permit and other fees already authorized to be collected from such sources.

(b) Such fees, including fees collected to cover the administrative costs to the district of collecting the fees, shall not exceed twenty-five one-hundredths of one cent ($0.0025) per pound of sulfur oxides or nitrogen oxides emitted. With respect to sources identified on or before June 21, 1984 as emitting 1,000 tons per year or more of sulfur oxides or nitrogen oxides during the period from January 1, 1983 through December 31, 1983, the amount of emissions as determined by the executive officer of the state board on June 21, 1984 shall be used to determine compliance with this limitation and with the fee requirements of Section 90605(a). In determining the amount of emissions, the executive officer shall utilize data provided by the districts, where available.

NOTE: Authority cited: Sections 39600, 39601, and 39910, Health and Safety Code. Reference: Sections 39002, 39500, 39600, and 39910-39914, Health and Safety Code.

90605. Fee Revenues.

(a) No later than March 1, 1985, each district specified in this section shall transmit the amount specified below, less the district's actual administrative costs, to the state board for deposit into the Air Pollution Control Fund:

(1) Bay Area Air Quality Management District: two hundred sixty thousand one hundred dollars ($260,100);

(2) South Coast Air Quality Management District: two hundred ~~six thousand two hundred twenty-two~~ sixty-three thousand ~~six~~ four hundred ~~twenty-five~~ sixty-five dollars ~~($262,625)~~ ($263,465);

(3) Kern County Air Pollution Control District: three hundred thirty-two thousand seventy-five dollars ($332,075);

(4) San Bernardino County Air Pollution Control District: ~~eighty~~ seventy-four thousand ~~four~~ seven hundred ~~six~~ forty-five dollars ~~($80,480)~~ ($74,745);

(5) Monterey Bay Unified Air Pollution Control District: forty-nine thousand seven hundred seventy-five dollars ($49,775);

(6) San Diego County Air Pollution Control District: fifty-nine thousand three hundred sixty-five dollars ($59,365);

(7) Fresno County Air Pollution Control District: ~~six~~ fifteen thousand ~~one/hundred/twenty-five~~ ten dollars ~~($06,135)~~ ($15,010);

(8) San Luis Obispo County Air Pollution Control District: fifty~~-five~~ thousand ~~six~~ two hundred ~~twenty~~ twenty dollars ~~($55,890)~~ ($50,220);

(9) Ventura County Air Pollution Control District: eight thousand fifty-five dollars ($8,055);

(10) Stanislaus County Air Pollution Control District: six thousand six hundred seventy-five dollars ($6,675);

(11) North Coast Unified Air Quality Management District: seven thousand ten dollars ($7,010);

(b) In addition to the fees specified in subsection (a) above, a district shall, no later than March 1, 1985:

(1) For any source identified after June 21, 1984 as having emitted 1,000 tons per year or more of sulfur oxides or nitrogen oxides during the period from January 1, 1983 through December 31, 1983, transmit to the state board for deposit into the Air Pollution Control Fund five dollars ($5.00) per ton of such pollutant, less the district's actual administrative costs; and

(2) For any source identified after July 29, 1983 as having emitted 1,000 tons per year or more of sulfur oxides or nitrogen oxides during the period from January 1, 1982 through December 31, 1982, transmit to the state board for deposit into the Air Pollution Control Fund three dollars and sixty-nine cents ($3.69) per ton of such pollutant.

NOTE: Authority cited: Sections 39600, 39601, and 39910, Health and Safety Code. Reference: Sections 39002, 39500, 39600, and 39910-39914, Health and Safety Code.

90606. Administrative Costs and Billing Information.

(a) To pay for the administrative costs of collecting the fees required by this article, each district may, in accordance with Section 90605, retain fees in an amount equal to the best estimate of or actual costs incurred by the district in establishing the program, and/of collecting and transmitting the fees. Each district shall, upon request, submit to the the state board within 30 days documentation to substantiate the administrative costs of collecting the fees required by this article.

(b) Each district shall submit to the state board, within 30 days of request, information relating to the assessed total tons of nitrogen oxides and sulfur oxides, the amount of fees per pollutant collected from each major nonvehicular source, including fees to cover administrative costs, and the net amount of fees transmitted to the state board pursuant to Section 90605.

NOTE: Authority cited: Sections 39600, 39601, and 39910, Health and Safety Code. Reference: Sections 39002, 39500, 39600, and 39910-39914, Health and Safety Code.

90607. Exemption.

In the event that any district is unable to collect the assessed acid deposition fee required by district rules and regulations from any source due to circumstances beyond the control of the district, including but not limited to plant closure or refusal of the source owner or operator to pay despite permit revocation and/or other enforcement action, such district shall notify the executive officer of the state board, and for demonstrated good cause may be relieved, on a prorated basis, from that portion of the fee collection requirement for the district, as set forth in Section 90605. Nothing herein shall relieve the owner or operator from any legal obligation to pay any fees assessed pursuant to district rules and regulations.

NOTE: Authority cited: Sections 39600, 39601, and 39910, Health and Safety Code. Reference: Sections 39002, 39500, 39600, and 39910-39914, Health and Safety Code.

Adopt title for Article 3, Subchapter 3.5, Chapter 1, Part III, Title 17, California Administrative Code, to read as follows:

Article 3. Fee Program to be Implemented by Air Pollution Control Districts and Air Quality Management Districts for Fiscal Year 1985-1986 and Subsequent Years

[Reserved.]

1984-85

SAMPLE FEE SCHEDULE

I. RULE NO. (____) SCHEDULE OF FEES FOR ACID DEPOSITION RESEARCH

A. DEFINITION OF MAJOR NONVEHICULAR SOURCE

For the purpose of this rule, major nonvehicular source shall mean any plant, building, structure, stationary facility or group of facilities under the same ownership, leasehold, or operator which, in the base calendar year, emitted to the atmosphere oxides of nitrogen or oxides of sulfur, expressed as nitrogen dioxide and sulfur dioxide, respectively, in an amount equal to or exceeding 1,000 tons.

B. FEE REQUIREMENTS FOR MAJOR SOURCES

1. For each major source, the permit holder is assessed a fee payable to __(district)__, due within 60 days of notice of assessment by __(district)__, and calculated according to the formula:

a. FEE AMOUNT = $5.00 x E

where:

E = mass of emissions in the base year of oxides of nitrogen and/or oxides of sulfur, expressed as tons of nitrogen dioxide and sulfur dioxide, respectively, from the subject major source, and as determined by the Air Pollution Control Officer (Executive Officer) of __(district)__. If only one pollutant is emitted in the amount of 1000 tons per year or more, "mass of emissions" shall be determined based only on that pollutant.

b. Notwithstanding Section (B)(1)(a), the fee amount, including district administrative costs, shall not exceed $0.0025 per pound (five dollars per ton) as specified by Health and Safety Code Section 39912.

2. Nonpayment of the assessed fees by the permit holder of a major source shall be cause for revocation of permit to operate or such other action as may be required by the Air Pollution Control Officer (Executive Officer) of the __(district)__, consistent with current district practices for securing fee payment.

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Adoption of Sections 90604-90607, Title 17, California Administrative Code, Regarding the Acid Deposition Fee Program, and to Consider Approval of a Sample Fee Schedule

Agenda Item No.: 84-10-1

Public Hearing Date: June 21, 1984

Response Date: October 8, 1984

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 impacts.

Response: N/A

CERTIFIED: Board Secretary

Date: 10-17-84

State of California

# Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : February 1, 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 decision and response to environmental comments raised during the comment period.

ATTACHMENTS
84-38
84-41
84-42
84-52

FILED AND POSTED BY
OFFICE OF THE SECRETARY
FEB 5 1985
Resources Agency of California

State of California
AIR RESOURCES BOARD

Resolution 84-39

June 21, 1984

Agenda Item No.: 84-10-2

WHEREAS, the Air Resources Board (the "Board") is the state agency charged with coordinating efforts to attain and maintain ambient air quality standards, and Health and Safety Code Section 39600 requires the Board to do such acts as may be necessary for the proper execution of the powers and duties granted to, and imposed upon, the Board;

WHEREAS, Health and Safety Code Section 41605.5(b) requires the local air pollution control districts and the Board, in cooperation, to develop a procedure to determine the availability and magnitude of the offsets resulting from the benefit that may occur when agricultural/forest wastes are not disposed by open field burning or forest land burning and also to assure that state and federal standards may be achieved and maintained and that reasonable further progress be made towards attainment; and

WHEREAS, the Board staff, Environmental Protection Agency staff, and representatives of the California Air Pollution Control Officers Association have developed a procedure entitled "Agricultural/Forest Waste Offset Credit to Implement the Provisions of Health and Safety Code Section 41605.5 (AB 1223, 1983) Relating to the Determination of Agricultural/ Forestry Emission Offset Credits;"

WHEREAS, at a duly noticed public meeting the Board received and considered comments on the proposed procedure developed for calculating agricultural offset credit pursuant to the provisions of AB 1223 (Stats. 83, ch 633); and

WHEREAS, the Board finds that the procedure described above and contained in the "Agricultural/Forest Waste Offset Credit Evaluation Protocol" is consistent with the requirements of Health and Safety Code Section 41605.5(b).

NOW, THEREFORE, BE IT RESOLVED that the Air Resources Board hereby approves the "Agricultural/Forest Waste Offset Credit Evaluation Protocol" and the report "A Procedure to Implement the Provisions of Health and Safety Code Section 41605.5 (AB 1223, 1983) Relating to the Determination of Agricultural/Forestry Emission Offset Credits" and directs the Executive Officer to forward the protocol and report to the local and regional air pollution control districts in California and interested members of the public.

I certify that the above is a true and correct copy of Resolution 84-39, as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 84-40

July 26, 1984

Agenda Item No.: 84-11-1

WHEREAS, Citizens for a Better Environment ("CBE") has petitioned the Air Resources Board (the "Board") to:

(1) determine and specify the availability, technological feasibility, and economic reasonableness of devices to monitor continuously the emissions of oxides of sulfur ("SOx"), reduced sulfur compounds, and oxides of nitrogen ("NOx") from oil refinery flares;

(2) identify and determine the relative contribution to acid deposition of various sources of acid deposition precursor emissions, including refinery flares, pursuant to the Kapiloff Acid Deposition Act (Health and Safety Code Sections 39900-39915); and

(3) adopt regulations requiring refiners in the Bay Area Air Quality Management District (the "BAAQMD") and the South Coast Air Quality Management District (the "SCAQMD") to install monitors to determine the concentration and amount of sulfur dioxide ("$SO_2$") and NOx emitted from refinery flares, or in the alternative to adopt an order requiring the SCAQMD and the BAAQMD to adopt such regulations;

WHEREAS, Health and Safety Code Section 42701 requires the Board to determine the availability, technological feasibility and economic reasonableness of continuous monitors, and Section 42702 requires the Board to specify the types of stationary sources, the processes, and the contaminants for which a monitoring device is available, technologically feasible, and economically reasonable;

WHEREAS, the Kapiloff Acid Deposition Act directs the Board to establish a comprehensive research and monitoring program to study, among any other things, the formation and effects of acid deposition;

WHEREAS, CBE asserts that the regulations it requests the Board to adopt are necessary for the compilation of an accurate emissions inventory;

WHEREAS, Health and Safety Code Section 39607(b) directs the Board to inventory sources of air pollution within the state and to determine the kinds and quantity of air pollutants, using to the fullest extent data of local agencies and other state agencies;

WHEREAS, pursuant to Health and Safety Code Sections 39002 and 40000, local air pollution control districts have the primary responsibility for control of air pollution from nonvenicular sources;

WHEREAS, the Board may adopt rules on behalf of a district pursuant to Health and Safety Code Sections 39002 or 41504 only if the Board determines that the district has failed to meet its legal responsibilities or that the regulations of the disrict will not likely achieve and maintain the state ambient air quality standards;

WHEREAS, Health and Safety Code Section 41511 authorizes the Board, for the purpose of carrying out its duties, to adopt rules requiring the owner or operator of any emission source to take such action as the Board finds to be reasonable for determining the amount of emissions from the source;

WHEREAS, the Board has conducted a public meeting to consider the CBE petition and has received and considered written and oral presentations from the Board staff and testimony from representatives of CBE and any other member of the public wishing to comment;

WHEREAS, the Board finds that:

Pursuant to Health and Safety Code Sections 42701 and 42702, in 1975 the Board made determinations that specified continuous emission monitors were available, technologically feasible and economically reasonable for measuring stack gases, including $SO_2$ and NOx, from certain emission sources other than refinery flares;

The Board staff has continued to evaluate the feasibility of monitoring devices for emissions from stationary sources, including flares;

Emissions of $SO_2$ from refinery flares may theoretically be monitored by the application of currently developed devices to measure the vented gas flow rate and to measure the sulfur content of the vented gas stream prior to reaching the burner;

Several technical issues would have to be resolved before the Board could determine that the two types of measurement devices are technically feasible for monitoring $SO_2$ emissions from refinery flares, and field testing would be appropriate before such a determination;

NOx emissions from refinery flares are not amenable to monitoring by measurement of vent gas flow and composition, and the direct measurement of the composition of combustion gases from refinery flares presents tremendous technical difficulties;

Pursuant to the provisions of the Kapiloff Acid Deposition Act, the Board has designed and begun to implement a comprehensive five-year program addressing the subjects identified in the Act and it is not necessary or appropriate for the Board to take any additional actions as part of the program to determine the relative contribution of emissions from refinery flares to acid deposition;

The current emission inventories for refinery flares appear to lack the degree of accuracy demonstrated for emissions from many other sources;

Application of emission factors without individual monitoring of all flares may provide a reasonably accurate inventory for refinery flare emissions;

Since CBE has not previously petitioned the BAAQMD or the SCAQMD to consider adoption of rules, requiring refiners to monitor flare emissions and has not demonstrated that either district has formally considered and rejected adoption of such rules, it is inappropriate for the Board to grant CBE's request to adopt the rules on behalf of the districts;

In accordance with Health and Safety Code Section 39607(b) and the districts' primary responsibility for controlling emissions from nonvehicular sources, the Board has historically relied almost entirely on emissions inventory data developed by the districts in preparing its stationary point source emissions inventory; it is inappropriate for the Board to grant CBE's request to adopt on its own behalf rules requiring refinery flare monitoring without CBE first petitioning the districts to adopt such rules; and

The Board lacks statutory authority to order the SCAQMD and BAAQMD directly to adopt flare monitoring rules.

NOW, THEREFORE, BE IT RESOLVED that the Board grants CBE's request for a determination of the availability, technological feasibility and economic reasonableness of devices to monitor continuously the emissions of SOx, reduced sulfur compounds and NOx from oil refinery flares, and directs staff to evaluate such monitoring devices and to report to the Board every six months on the status of the evaluation until such time as sufficient information is developed for the Board to make such a determination.

BE IT FURTHER RESOLVED that the Board denies CBE's request for a determination and identification of the relative contribution to acid deposition of various sources of acid deposition precursor emissions, except to the extent these matters are within the scope of the five-year acid deposition research and monitoring program already begun by the Board.

BE IT FURTHER RESOLVED that the Board denies CBE's request to adopt rules, either on behalf of the BAAQMD or the SCAQMD or on the Board's own behalf, requiring refiners to monitor their emissions of $SO_2$ and NOx from refinery flares, provided that CBE's request for adoption of rules may be renewed if CBE is unsuccessful in petitioning the districts.

BE IT FURTHER RESOLVED that the Board denies CBE's alternative request for adoption of an order requiring the BAAQMD and the SCAQMD to issue rules requiring refiners to monitor emissions of $SO_2$ from their flares.

I hereby certify that the above is a true and correct copy of Resolution 84-40 as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Adoption of amendments to Sections 1956.7, 1965, and 2111, and proposed new Section 1956.8, Title 13, California Administrative Code, Regarding Certification of Heavy-Duty Engines and Vehicles

Agenda Item No.: 84-12-2

Public Hearing Date: June 21, 1984

Response Date: September 13, 1984

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 impacts.

Response: N/A

CERTIFIED: Harold Walker
Board Secretary

Date: 03-14-85

State of California
AIR RESOURCES BOARD

Resolution 84-41

August 23, 1984

Agenda Item No.: 84-12-2

WHEREAS, Sections 39600 and 39601 of the Health and Safety Code authorize the Air Resources Board (the "Board") to adopt standards, rules and regulations necessary for the proper execution of the powers and duties granted to and imposed upon the Board by law;

WHEREAS, Sections 43000, 43013, 43101, and 43104 of the Health and Safety Code authorize the Board to adopt emission standards and test procedures to control air pollution caused by motor vehicles, and pursuant to these provisions the Board has adopted emission standards and test procedures for new motor vehicles covering various pollutants;

WHEREAS, Section 43100 of the Health and Safety Code authorizes the Board to certify new motor vehicles and new motor vehicle engines;

WHEREAS, Section 43105 of the Health and Safety Code states that no new motor vehicle, new motor vehicle engine, or motor vehicle with a new motor vehicle engine shall be sold to the ultimate purchaser if the manufacturer has violated emission standards or test procedures and has failed to take corrective action, which may include recall, as specified by the state board;

WHEREAS, Section 43106 of the Health and Safety Code requires that each new motor vehicle required to meet the emission standards established pursuant to Section 43101 shall be, in all material respects, substantially the same in construction as the test motor vehicle certified by the Board;

WHEREAS, the certification procedures adopted by the Board require each manufacturer to demonstrate that vehicles produced for sale in California will comply with the applicable emission standards throughout each vehicle's useful life.

WHEREAS, Title 13, California Administrative Code (CAC), Section 1956.7 presently establishes the primary and optional exhaust emission standards for 1981 and subsequent model year gasoline and diesel-powered heavy-duty engines, and incorporates by reference portions of the federal test procedures contained in Title 40, Code of Federal Regulations, Part 86, Subparts A, D, and N;

WHEREAS, Section 1965, Title 13, CAC, incorporates the "California Vehicle Emissions-Related Defects Reporting Procedures for 1978 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, Medium and Heavy-Duty Vehicles, and Motorcycles" which contains the definition of engine useful life periods;

WHEREAS, in 1981, the Board adopted the original federal transient test procedures as an option for the certification of 1984 and subsequent model year heavy-duty engines and vehicles in order to avoid imposing unnecessary and costly additional testing requirements on vehicle manufacturers;

WHEREAS, in 1983, the Environmental Protection Agency (EPA) promulgated its revised 1985 and subsequent model year exhaust emission standards and test procedures for heavy-duty engines and vehicles which improved the original test procedures and responded to many concerns raised by vehicle manufacturers;

WHEREAS, the California Environmental Quality Act and Board regulations require that an action not be adopted as proposed if it will have significant adverse environmental impacts and alternatives or feasible measures are available which would mitigate or substantially reduce the adverse effects of the proposed action;

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, the Board finds that:

The proposed amendments to the California heavy-duty diesel engine certification test procedures are consistent with the revised federal procedures, and are appropriate to avoid unnecessary and costly testing by manufacturers and to ensure the continuation of the waiver of federal preemption under Clean Air Act Section 209;

The defined useful life periods for California heavy-duty diesel engines should be the same as the standardized full-life useful life periods specified in the Environmental Protection Agency regulations, which are 8 years/110,000 miles, 8 years/185,000 miles, and 8 years/290,000 miles for light, medium, and heavy, heavy-duty diesel engines, respectively;

The proposed amendments will also permit manufacturers to obtain Executive Officer approval to use alternative individual useful life periods for their vehicles based on the average period of use until these engines are retired or rebuilt;

The proposed amendments to the test procedures will provide manufacturers flexibility and reduce certification testing and durability demonstration requirements, and hence costs, while at the same time maintaining adequate procedures to demonstrate compliance with standards;

The emissions data window decal presently required on heavy-duty vehicles is no longer necessary to provide information to consumers or for enforcement purposes; and

The adoption of the proposed regulatory amendments, as set forth in Attachment A hereto, will likely not result in adverse environmental impacts in that California's stringent heavy-duty emission standards will be retained and the amended test procedures are substantially similar to the current heavy-duty engine certification test procedures.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves the amendments to Sections 1956.7, 1965, and 2111, and new Section 1956.8 of Title 13, California Administrative Code, as set forth in Attachment A hereto.

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

BE IT FURTHER RESOLVED that the Board hereby determines that the amendments approved herein will not cause the California emission standards, in the aggregate, to be less protective of public health and welfare than applicable federal standards, will not cause the California requirements to be inconsistent with Section 202(a) of the Clean Air Act, and raise no new issues affecting previous waiver determinations of the Administrator of the Environmental Protection Agency pursuant to Section 209(b) of the Clean Air Act.

BE IT FURTHER RESOLVED that the Executive Officer shall forward the amended regulation to the Environmental Protection Agency with a request for confirmation that the amendments are within the scope of an existing waiver, pursuant to Section 209(b)(1) of the Clean Air Act.

I certify that the above is a true and correct copy of Resolution 84-41, as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

Public Hearing to Consider Amendments to Regulations Regarding Certification of Heavy-Duty Engines and Vehicles

Public Hearing Date: August 23, 1984
Public Availability Date: August 29, 1984

On August 23, 1984, the Air Resources Board (the "Board") considered the adoption of proposed amendments to Sections 1956.7, 1956.8, 1965, and 2111 of Title 13, California Administrative Code, and incorporated test procedures, regarding certification of heavy-duty engines and vehicles. Attached is a copy of the Board's Resolution 84-41 approving the amendments. Appended to the resolution is the approved language showing additions to the originally proposed language in double underline and deletions by slashes.

In approving these amendments, the Board directed the Executive Officer to adopt the regulations and incorporated test procedures after making them available to the public for a period of at least 15 days.

Amend Title 13, California Administrative Code, Section 1956.7 Subsections (a), (c), and (e) to read as follows:

1956.7 Exhaust Emission Standards and Test Procedures - 1981 and Subsequent Model Heavy-Duty Gasoline-Powered Engines and Vehicles and 1981 through 1984 Model Heavy-Duty Diesel-Powered Engines and Vehicles.

(a) The exhaust emissions from new 1981 and subsequent model heavy-duty gasoline-powered engines and new 1981 through 1984 model heavy-duty diesel-powered engines, except engines used in medium-duty vehicles, shall not exceed:

Primary Exhaust Emission Standards
(grams per brake horsepower hour)

| Model Year | Gasoline or Diesel-Powered | Hydrocarbons | Carbon Monoxide | Hydrocarbons plus Oxides of Nitrogen |
|---|---|---|---|---|
| 1981-1983 | Both | 1.0 | 25 | 6.0 |
| OR* | Both | - | 25 | 5 |
| 1984 ~~and subsequent~~ | Both | 0.5 | 25 | 4.5 |
| 1985 and subsequent | Gasoline Only | 0.5 | 25 | 4.5 |

*The two sets of standards for each model year are alternatives. A manufacturer has the option for each engine family of showing compliance with either set. Separate deterioration factors shall be established where applicable, for HC, CO, NOx and/or the combined emissions of HC and NOx.

The following optional exhaust emission standards are applicable to engines tested pursuant to the optional federal test procedures and regulations for 1984 ~~and subsequent~~ model heavy-duty engines. These standards replace the federal standards in Code of Federal Regulations Sections 86.084-10~~,~~ and 86.084-11~~,-and-86.085-11~~ for hydrocarbons, carbon monoxide and oxides of nitrogen only.**

Optional Exhaust Emission Standards
(grams per brake horsepower hour)

| Model Year | Hydrocarbons | Carbon Monoxide | Oxides of Nitrogen |
|---|---|---|---|
| 1984 ~~and subsequent~~ | 1.3 | 15.5 | 5.1 |

**The federal 13-mode optional standards for 1984 model-year diesel-powered engines do not apply. In addition, the engine crankcase emission control requirement in Subparagraph 86.084-11(b)(2)(c) shall not apply for the 1984 model year. ~~and shall apply to 1985 and later model year naturally aspiratred diesel heavy duty engines, except for turbocharged engines.~~

(c) The test procedures for determining compliance with standards applicable to 1982 and subsequent models are set forth in the "California Exhaust Emission Standards and Test Procedures for 1982 and Subsequent Model Heavy-Duty Gasoline-Powered Engines and Vehicles and 1982 through 1984 Model Heavy-Duty Diesel-Powered Engines and Vehicles", adopted October 5, 1976, as last amended ~~August 25, 1983~~ _____.

(e)(1) ~~The Executive Officer~~ For 1982 through 1984, the executive officer may authorize use of engines certified to meet federal emission standards, or which are demonstrated to meet appropriate federal emission standards, in up to a total of 100 heavy-duty vehicles in any one calendar year when the ~~Executive Officer~~ executive officer has determined that no engine certified to meet California emission standards exists which is suitable for

use in the vehicles. For 1985 and future years, the use of engines which are not heavy-duty engines certified for sale in California may be authorized pursuant to Section 1956.8.

(e)(3) In the event the ~~Executive Officer~~ executive officer determines that an applicant may meet the criteria for an exemption under this subsection, but that granting the exemption will, together with previous exemptions granted, result in over 100 vehicles being permitted under this subsection to use non-California engines in heavy-duty vehicles in any one calendar year through 1984 , the exemption may be granted only by the ~~State Board~~ state board, under the criteria set forth herein.

NOTE: Authority cited: Section 39600 and 39601 Health and Safety Code. Reference: Sections 39002, 39003, 43000, 43013, 43100, 43101 and 43104, Health and Safety Code.

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NOTE: Sections 1956.7(b), (d), and (e) (2) remain in effect and are not changed by the above proposal.

Adopt Title 13, California Administrative Code, Section 1956.8, to read as follows:

1956.8 Exhaust Emission Standards and Test Procedures--1985 and Subsequent Model Heavy-Duty Engines and Vehicles.

(a) The exhaust emissions from new 1985 and subsequent model heavy-duty diesel-powered engines, except engines used in medium-duty vehicles, shall not exceed:

Exhaust Emission Standards

(grams per brake horsepower-hour)

| Model Year | Hydrocarbons | Carbon Monoxide | Oxides of Nitrogen |
|---|---|---|---|
| 1985 and subsequent | 1.3 | 15.5 | 5.1 |

(b) The test procedures for determining compliance with standards applicable to 1985 and subsequent heavy-duty diesel models are set forth in the "California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy-Duty Diesel-Powered Engines and Vehicles", adopted _____.

(c) A manufacturer may elect to certify heavy-duty diesel vehicles of less than 10,000 pounds maximum gross vehicle weight rating as medium-duty vehicles under Section 1960.1 of this chapter, in which event the heavy-duty emission standards and test procedures in this section shall not apply.

(d)(1) In 1985 and future years, the executive officer may authorize use of engines certified to meet federal emission standards, or which are demonstrated to meet appropriate federal emission standards, in up to a total of 100 heavy-duty vehicles, including both gasoline- and diesel-powered heavy-duty vehicles, in any one calendar year when the executive officer has determined that no engine certified to meet California emission standards exists which is suitable for use in the vehicles.

(2) In order to qualify for an exemption, the vehicle manufacturer shall submit, in writing, to the executive officer the justification for such exemption. The exemption request shall show that, due to circumstances beyond the control of the vehicle manufacturer, California certified engines are unavailable for use in the vehicle. The request shall further show that redesign or discontinuation of the vehicle will result in extreme cost penalties and disruption of business. In evaluating a request for an exemption, the executive officer shall consider all relevant factors, including the number of individual vehicles covered by the request and the anti-competitive effect, if any, of granting the request. If a request is denied, the executive officer shall state in writing the reasons for the denial.

(3) In the event the executive officer determines that an applicant may meet the criteria for an exemption under this subsection, but that granting the exemption will, together with previous exemptions granted, result in over 100 vehicles being permitted under this subsection to use non-California engines in heavy-duty vehicles in any one calendar year, the exemption may be granted only by the state board, under the criteria set forth herein.

NOTE: Authority cited: Section 39600 and 39601 Health and Safety Code. Reference: Sections 39002, 39003, 43000, 43013, 43100, 43101 and 43104, Health and Safety Code.

Amend Title 13, California Administrative Code, Section 1965 to read as follows:

1965. Tune-Up Labels--1979 and Subsequent Model Year Motor Vehicles.

In addition to all other requirements, tune-up labels required by California certification procedures shall conform to the "California Motor Vehicle Tune-Up Label Specifications," adopted March 1, 1978, ~~and~~ as last amended ~~June 16, 1982~~ _____.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code. Reference: Sections 39002, 39003, 43000, 43013, 43100, 43101, 43102, 43104, 43107 and 43200, Health and Safety Code .

Amend Title 13, California Administrative Code, Section 2111 to read as follows:

2111. In-Use Vehicle Emissions-Related Defects Reporting Procedures.

All 1978 and subsequent model-year passenger cars, light-duty trucks, medium- and heavy-duty vehicles, and motorcycles, certified for sale and registered in California, shall be subject to the "California Vehicle Emissions-Related Defects Reporting Procedures for 1978 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, Medium and Heavy-Duty Vehicles, and Motorcycles," adopted March 16, 1983, as amended _____.

NOTE: Authority cited: Sections 39601, 43105 and 43213, Health and Safety Code. Reference: Sections 43000, 43105, 43106, and 43211-43213, Health and Safety Code .

State of California
AIR RESOURCES BOARD

Note: These procedures are printed in a style to indicate the adopted changes. New text is underlined and deleted portions are noted.

# CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES FOR 1982 AND SUBSEQUENT MODEL HEAVY-DUTY GASOLINE-POWERED ENGINES AND VEHICLES AND 1982 THROUGH 1984 MODEL HEAVY-DUTY DIESEL-POWERED ENGINES AND VEHICLES

Adopted: October 5, 1976
Amended: November 21, 1977
Amended: March 1, 1978
Amended: May 24, 1978
Amended: April 23, 1980
Amended: May 22, 1980
Amended: January 21, 1981
Amended: August 25, 1983
Amended: _____

# CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES FOR 1982 AND SUBSEQUENT MODEL HEAVY-DUTY GASOLINE-POWERED ENGINES AND VEHICLES AND 1982 THROUGH 1984 MODEL HEAVY-DUTY DIESEL-POWERED ENGINES AND VEHICLES

The provisions of Subparts A and D, Part 86, Title 40, Code of Federal Regulations, as they pertain to heavy-duty engines and vehicles, and as they existed on April 15, 1977, are hereby adopted as the primary California Exhaust Emission Standards and Test Procedures for 1982 and Subsequent Model Heavy-Duty Engines and Vehicles. For manufacturers that elect to certify heavy-duty engines pursuant to the federal transient cycle test procedures and regulations for 1984 and subsequent years, the provisions of Subparts A and N, Part 86, Code of Federal Regulations promulgated January 21, 1980, are hereby adopted as optional "California Exhaust Emission Test Procedures and Regulations for 1984 and Subsequent Model Heavy-Duty Engines and Vehicles." The federal procedures are applicable with the following exceptions and additions:

A. Subsection A of this procedure is applicable to new 1982 and subsequent model heavy-duty engines and vehicles tested pursuant to the primary and optional test procedures and standards.

1. A manufacturer may elect to certify heavy-duty vehicles of 10,000 pounds maximum gross vehicles weight rating or less as medium-duty vehicles, in which event heavy-duty standards and test procedures will not apply.

2. Definitions.

a. "Administrator" means the Executive Officer of the Air Resources Board.

b. "Certificate of Conformity" means "Executive Order" certifying vehicles for sale in California.

c. "Certification" means certification as defined in Section 39018 of the Health and Safety Code.

d. "Heavy-duty engine" means an engine which is used to propel a heavy-duty vehicle.

e. "Heavy-duty vehicle" means any motor vehicle having a manufacturer's gross vehicle weight rating greater than 6,000 pounds, except passenger cars.

f. "Medium-duty vehicle" means any heavy-duty vehicle having a manufacturer's gross vehicle weight rating of 8500 pounds or less.

3. Any reference to vehicle or engine sales throughout the United States shall mean vehicle or engine sales in California.

4. Regulations concerning EPA hearings, EPA inspections, and specific language on the Certificate of Conformity, shall not be applicable to these procedures.

5. Labeling required pursuant to paragraph 86.079-35 for steady-state certification, labeling required pursuant to paragraph 86.084-35 for transient certification, and pursuant to Section 1965, Chapter 3, Title 13 of the California Administrative Code shall conform with the requirements specified in the "California Motor Vehicle Tune-Up Label Specifications".

6. Vehicle manufacturers shall affix a decal on each 1982 through 1984 model year production vehicle in accordance with Section 43200 of the California Health and Safety Code.

B. Subsection B of this procedure is applicable to the primary test procedures and standards for all heavy-duty engines and vehicles:

1. For gasoline and diesel-powered engines and vehicles:

   a. Durability data submitted pursuant to subparagraph 86.079-24(f) may be from engines previously certified by EPA or ARB.

   b. The requirement in subparagraph 86.079-28(b)(4)(i)(B) (durability engines must meet emission standards) shall refer to federal emission standards.

   c. A statement must be supplied that the production engines shall be in all material respects the same as those for which certification was granted.

   d. The average brake horsepower at each mode shall be reported for all emission tests.

e. Engine manufacturers may apply durability and/or emission test data from 1979 and earlier model years towards certification for 1982 and subsequent models for similar engines, notwithstanding differences in the instrumentation. In the event that hydrocarbon emission data based on measurements from a nondispersive infrared analyzer are used pursuant to this section, such data shall be multiplied by a factor of 1.5 prior to comparison with the standards.

2. For gasoline-powered engines and vehicles only:

a. The mechanism for adjusting the idle air/fuel mixture, if any shall be designed so that either:

i. The mixture adjustment mechanism is not visible, even with the air cleaner removed, and special tools and/or procedures are required to make adjustments; or

ii. In the alternative, the Executive Officer may, upon reasonable notice to the manufacturer, require that a certification test of an engine or vehicle be conducted with the idle air/fuel mixture at any setting which the Executive Officer finds corresponds to settings likely to be encountered in actual use. The Executive Officer, in making this finding, shall consider the difficulty of making adjustments, damage to the carburetor in the event of any effort to make an improper adjustment, and the need to replace parts following the adjustment.

The manufacturer shall submit for approval by the Executive Officer the proposed method of compliance with this requirement in its preliminary application for certification.

The Executive Officer may, on a case-by-case basis, exempt from the requirements of this section engines which use carburetors substantially different in design from carburetors used on light or medium-duty vehicles and which the manufacturer demonstrates cannot be made to comply with this section within the available lead time. Such exemptions shall only apply to the 1982 model year.

b. A gasoline-powered vehicle manufacturer shall provide with the application:

i. Identification and description of the vehicle models for which certification is requested.

ii. Identification and description of the engines to be used in those vehicle models.

iii. Reference to the engine manufacturer's Executive Order certifying these engines.

c. If a gasoline-powered engine manufacturer requires the use of unleaded fuel, a statement will be required that the engine and transmission combinations for which certification is requested are designed to operate satisfactorily on a gasoline having a research octane number not greater than 91.

3. For diesel-powered heavy-duty engines only:

a. No durability fleet or smoke emission test will be required and any reference to durability testing shall be optional. No deterioration factor shall be used for calculating the emission test results. The 125 hour test shall be used to determine compliance with the emission standards.

b. Evidence must be submitted to the Executive Officer to demonstrate the durability of the emission control system. Such evidence may include durability test data and/or an engineering evaluation of the system. This evaluation shall be based on previous experience and/or similarity to previously certified systems.

C. Exhaust Emission Standards:

1. The following primary exhaust emission standards represent the maximum projected emissions from new heavy-duty gasoline engines and the maximum 125-hour test exhaust emissions from new heavy-duty diesel engines:

Primary Exhaust Emission Standards
(grams per brake horsepower hour)

| Model Year | Gasoline or Diesel-Powered | Hydrocarbons | Carbon Monoxide | Hydrocarbons Plus Oxides of Nitrogen |
|---|---|---|---|---|
| 1982 - 1983 | Both | 1.0 | 25 | 6.0 |
| OR* | Both | - | 25 | 5 |
| 1984 ~~and subsequent~~ | Both | 0.5 | 25 | 4.5 |
| 1985 and subsequent | Gasoline only | 0.5 | 25 | 4.5 |

*The two sets of standards for each model year are alternatives. A manufacturer has the option for each engine family of showing compliance with either set.

Separate deterioration factors shall be established, where applicable, for HC, CO, NOx, and/or the combined emissions of HC and NOx.

2. The following optional exhaust emission standards are applicable pursuant to the federal test procedure and regulations for 1984 ~~and subsequent~~ model heavy duty engines. These standards replace the federal standards in CFR Sections 86.084-10~~,~~ and 86.084-11~~, and 86.085-11~~ for hydrocarbons, carbon monoxide, and oxides of nitrogen, only.**

Optional Exhaust Emission Standards
(grams per brake-horsepower-hour)

| Model Year | Hydrocarbons | Carbon Monoxide | Oxides of Nitrogen |
|---|---|---|---|
| 1984 ~~and Subsequent~~ | 1.3 | 15.5 | 5.1 |

** The federal 13-mode optional standards for diesel-powered engines for 1984 only are not applicable to California. In addition, the engine crankcase emission control requirement in Subparagraph 86.084-11(b)(2)(c) shall not apply for the 1984 model year ~~and shall apply to 1985 and later model year naturally aspirated diesel heavy duty engines, except for turbocharged engines.~~

State of California
AIR RESOURCES BOARD

# CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES FOR 1985 AND SUBSEQUENT MODEL HEAVY-DUTY DIESEL-POWERED ENGINES AND VEHICLES

Adopted: _____

NOTE: These procedures are printed in a style to indicate the adopted language which varies from federal provisions and to indicate by reference to the sections of the Code of Federal Regulations those federal provisions which have been adopted as part of these procedures. Federal regulation sections which are not listed have not been adopted as part of the procedures. The language of the procedures is underlined to indicate proposed language. Amendments to the federal regulation language adopted into the procedures are indicated by strike-out for deleted terms and double-underlining for new terms. New provisions, which are being adopted in place of certain federal provisions and along with the federal regulations which are incorporated by reference, are denoted by the words "DELETE" for the federal language and "REPLACE WITH" for the new language. The symbols "*****" and "..." mean that the remainder of the federal text for a particular section, which is not shown in these procedures, has been adopted and included by reference.

# CALIFORNIA EXHAUST EMISSION STANDARDS AND TEST PROCEDURES FOR 1985 AND SUBSEQUENT MODEL HEAVY-DUTY DIESEL-POWERED ENGINES AND VEHICLES

The following provisions of Subparts A and N, Part 86, Title 40, Code of Federal Regulations, as adopted or amended by the U.S. Environmental Protection Agency on the date listed, and only to the extent they pertain to heavy-duty diesel-powered engines and vehicles, are adopted and incorporated herein by this reference as the California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy-Duty Diesel-Powered Engines and Vehicles, except as altered or replaced by the provisions set forth below.

Subpart A, General Provisions for emission regulations for 1977 and later model year new light-duty vehicles, 1977 and later model year new light-duty trucks, and for 1977 and later model year new heavy-duty engines.

§86.085-1 General Applicability. May 19, 1983.

* * * * *

(e) ... projected combined ~~U.S.~~ California sales ~~of light-duty vehicles~~ passenger cars, light-duty trucks~~, medium~~-duty vehicles and heavy-duty ~~engines in its~~ product line are ~~fewer than 10,000~~ 3000 units for the model...

* * * * *

§86.085-2 Definitions. November 16, 1983.

* * * * *

"Administrator" DELETE
REPLACE WITH:
"Administrator" means the Executive Officer of the Air Resources Board.

* * * * *

"Certificate of Conformity" DELETE
REPLACE WITH:
"Certificate of Conformity" means "Executive Order" certifying vehicles for sale in California.

"Certification" DELETE
REPLACE WITH:
"Certification" means certification as defined in Section 39018 of the Health and Safety Code.

* * * * *

"Heavy-Duty Engine" DELETE
REPLACE WITH:
"Heavy-duty engine" means an engine which is used to propel a heavy-duty vehicle.

"Heavy-Duty Vehicle" DELETE
REPLACE WITH:
"Heavy-duty vehicle" means any motor vehicle having a manufacturer's gross vehicle weight rating greater than 6,000 pounds, except passenger cars.

* * * * *

"Useful life" means:

* * * * *

(f) DELETE
REPLACE WITH:
(f) The useful-life period for purposes of the emissions defect warranty shall be a period of 5 years/100,000 miles, whichever first occurs, for all heavy-duty diesel-powered engines. However, in no case may this period be less than the manufacturer's basic mechanical warranty period for the engine family.

* * * * *

§86.078-3 Abbreviations. January 21, 1980.

§86.084-4 Section numbering; construction. September 25, 1980.

§86.084-5 General Standards; increase in emissions; unsafe conditions. November 2, 1982.

§86.078-7 Maintenance of records; submittal of information; right of entry. November 2, 1982.

§86.085-11 Exhaust emissions from new 1985 and later model year diesel heavy-duty engines. November 16, 1983.

* * * * *

(a)(1)(iii) Oxides of Nitrogen. ~~10.7~~ 5.1 grams per ...

* * * * *

(b) DELETE

* * * * *

(d) ... in Subpart ~~I and~~ N of this part to ascertain...

* * * * *

§86.080-12 Alternative certification procedures. April 17, 1980.

§86.082-14 Small-volume manufacturers certification procedures. November 2, 1982.

* * * * *

(b)(1) ... produced by manufacturers with ~~U.S.~~ California sales (for the model year in which certification is sought) of ~~fewer than 10,000~~ 3,000 units (~~LDV~~ PC, LDT, MDV, and HDE combined).

* * * * *

(c)(4)(i) DELETE
REPLACE WITH:
(c)(4)(i) The manufacturer shall include in its records all of the information that EPA requires in §86.082.21 of this subpart. This information will be considered part of the manufacturer's application for certification.

* * * * *

(c)(7)(i)(B) ... determines and prescribes based on design specifications or sufficient control over design specifications, development data, in-house testing procedures, and in-use experience. However, ...

* * * * *

(c)(11)(ii)(D)(1)...We project the total ~~U.S.~~ California sales of vehicles (engines) subject to this subpart to ~~be fewer than 10,000~~ 3,000 units.

* * * * *

(c)(11)(ii)(D)(5) DELETE
REPLACE WITH:
(c)(11)(ii)(D)(5) A statement that based on the manufacturers emission testing the vehicles sold comply with the high-altitude emission requirements.

* * * * *

(c)(13)(ii)...affect vehicle emissions. All running changes which do not adversely affect emissions or the emissions control system durability are deemed approved unless disapproved by the Executive Officer within 30 days of the implementation of the running change. This ...

* * * * *

§86.085-20 Incomplete vehicles, classification. January 12, 1983.

§86.085-21 Application for certification. November 16, 1983.

§86.085-22 Approval of application for certification; test fleet selections; determinations of parameters subject to adjustment for certification and Selective Enforcement Audit, adequacy of limits, and physically adjustable ranges. November 16, 1983.

DELETE any reference to Selective Enforcement Audit.

§86.085-23 Required data. November 16, 1983.

* * * * *

(b)(1)(ii) ... useful life of the engine. Such data shall be submitted to the executive officer for review and approval. If the durability test method is accepted by EPA, it shall also be accepted by ARB, subject to the following condition. If, after certification for the first model year in which the method is used, the executive officer determines that a manufacturer's durability test procedures do not conform with good engineering practices, the executive officer may require changes to that manufacturer's durability test procedures for subsequent model years. The manufacturer's revised durability test procedures shall be submitted to the executive officer for review and approval.

* * * * *

§86.085-24 Test vehicles and engines. January 12, 1983.

* * * * *

(e)(1)(i) DELETE
REPLACE WITH:
(e)(1)(i) a combined total of 3000 California passenger cars, light-duty trucks, medium-duty vehicles, and heavy-duty engines,
(e)(1)(ii) DELETE
(e)(1)(iii) DELETE
(e)(1)(iv) DELETE
(e)(1)(v) DELETE
(e)(1)(vi) DELETE
(e)(2)...total sales of fewer than ~~10,000~~ 3,000...

* * * * *

(f) ...submitted. Durability data submitted may be from engines previously certified by the EPA or the Air Resources Board.

* * * * *

§86.085-25 Maintenance. November 16, 1983.

§86.084-26 Mileage and service accumulation; emission measurements. February 18, 1983.

§86.085-27 Special test procedures. January 12, 1983.

§86.085-28 Compliance with emission standards. November 16, 1983.

* * * * *

(c)(4)(ii)...CO, and NOx. ~~For diesel smoke testing, separate factors shall also be established for the acceleration mode (desigated as "A"), the lugging mode (designated as "B"), and peak opacity (designated as "C").~~

* * * * *

(c)(4)(iii)(B)(3) DELETE

* * * * *

§86.085-29 Testing by the Administrator. November 16, 1983.

§86.085-30 Certification. January 12, 1983.

§86.079-31 Separate certification. September 8, 1977.

§86.079-32 Addition of a vehicle or engine after certification. September 8, 1977.

§86.079-33 Changes to a vehicle or engine covered by certification. September 8, 1977.

§86.082-34 Alternative procedure for notification of additions and changes. November 2, 1982.

§86.085-35 Labeling. Labels shall comply with the requirements set forth in the "California Tune-Up Label Specifications", as last amended .

§86.085-37 Production vehicles and engines. January 12, 1983.

§86.085-38 Maintenance instructions. November 16, 1983.

§86.084-39 Automatic expiration of reporting and record keeping requirements. January 21, 1980.

§86.084-40 Automatic expiration of reporting and record keeping requirements. September 25, 1980.

§86.087-21 Application for certification. November 16, 1983.

§86.087-23 Required data. November 16, 1983.

§86.087-28 Compliance with emission standards. November 16, 1983.

* * * * *

(c)(4)(iii)(B) (3) DELETE

* * * * *

§86.087-35 Labeling. Engine labels shall comply with the requirements set forth in the "California Tune-Up Label Specifications", as last amended on _____.

Subpart N, Emission Regulations for New Gasoline- and Diesel-Fueled Heavy-Duty Engines; Gaseous Exhaust Test Procedures.

§86.1301-84 Scope; applicability. November 16, 1983.

§86.1302-84 Definitions. November 16, 1983.

§86.1303-84 Abbreviations. November 16, 1983.

§86.1304-84 Section numbering; construction November 16, 1983.

§86.1305-84 Introduction; structure of subpart. November 16, 1983.

§86.1306-84 Equipment required and specifications overview. November 16, 1983.

§86.1308-84 Dynamometer and engine equipment specifications. November 16, 1983.

§86.1309-84 Exhaust gas sampling system; gasoline-fueled engines. November 16, 1983.

§86.1310-84 Exhaust gas sampling and analytical system; diesel-fueled engines. November 16, 1983.

§86.1311-84 Exhaust gas analytical system; CVS bag sample. November 16, 1983.

§86.1313-84 Analytical gases. November 16, 1983.

§86.1316-84 Calibration; frequency and overview. November 16, 1983.

§86.1318-84 Engine dynamometer system calibrations. November 16, 1983.

§86.1319-84 CVS calibration. November 16, 1983.

§86.1321-84 Hydrocarbon analyzer calibration. November 16, 1983.

§86.1322-84 Carbon monoxide analyzer calibration. November 16, 1983.

§86.1323-84 Oxides of nitrogen analyzer calibration. November 16, 1983.

§86.1324-84 Carbon dioxide analyzer calibration. November 16, 1983.

§86.1326-84 Calibration of other equipment. November 16, 1983.

§86.1327-84 Engine dynamometer test procedures; overview. November 16, 1983.

§86.1330-84 Test sequence; general requirements. November 16, 1983.

§86.1332-84 Engine mapping procedures. November 16, 1983.

§86.1333-84 Transient test cycle generation. November 16, 1983.

§86.1334-84 Pre-test engine and dynamometer preparation. November 16, 1983.

§86.1335-84 Optional forced engine cool-down procedure. November 16, 1983.

§86.1336-84 Engine starting and restarting. November 16, 1983.

§86.1337-84 Engine dynamometer test run. November 16, 1983.

§86.1338-84 Emission measurement accuracy. November 16, 1983.

§86.1340-84 Exhaust sample analysis. November 16, 1983.

§86.1341-84 Test cycle validation criteria. November 16, 1983.

§86.1342-84 Calculations; exhaust emissions. November 16, 1983.

§86.1344-84 Information required. November 16, 1983.

Appendix I Urban Dynamometer Schedules.

(f)(2) EPA Engine Dynamometer Schedule for Heavy-Duty Diesel Engines. November 16, 1983.

Additional Requirements

1. Any reference to vehicle or engine sales throughout the United States shall mean vehicle or engine sales in California.

2. Regulations concerning EPA hearings, EPA inspections, and specific language on the Certificate of Conformity, shall not be applicable to these procedures.

3. If a gasoline-powered engine requires the use of unleaded fuel, a statement will be required that the engine and transmission combinations for which certification is requested are designed to operate satisfactorily on a gasoline having a research octane number not greater than 91.

State of California
AIR RESOURCES BOARD

CALIFORNIA VEHICLE EMISSIONS-RELATED DEFECTS REPORTING PROCEDURES FOR 1978 AND SUBSEQUENT MODEL-YEAR PASSENGER CARS, LIGHT-DUTY TRUCKS, MEDIUM AND HEAVY-DUTY VEHICLES, AND MOTORCYCLES

A. GENERAL PROVISIONS

(1) These procedures shall apply to:

(a) California certified 1978 and subsequent model-year passenger cars, light-duty trucks, medium-duty and heavy-duty vehicles, and motorcycles.

(b) California certified motor vehicle engines used in such vehicles.

(2) The requirement to report emissions-related defects affecting a given class or category of vehicles or engines shall remain applicable for the useful life of the vehicles or engines.

(3) For the purposes of these procedures, the following definitions shall apply:

(a) "Useful Life" means:

(i) In the case of Class I motorcycles and motorcycle engines (50 to 169 cc or 3.1 to 10.4 cu. in.), a period of use of five years or 12,000 kilometers (7,456 miles), whichever first occurs.

(ii) In the case of Class II motorcycles and motorcycle engines (170 to 279 cc or 10.4 to 17.1 cu. in.), a period of use of five years or 18,000 kilometers (11,185 miles), whichever first occurs.

(iii) In the case of Class III motorcycles and motorcycle engines (280 cc and larger or 17.1 cu. in. and larger), a period of use of five years or 30,000 kilometers (18,641 miles), whichever first occurs.

(iv) In the case of 1978 through 1984 model year diesel-powered heavy-duty vehicles (except medium-duty vehicles), and 1978 through 1984 model year motor vehicle engines used in such vehicles, a period of use of five years, 100,000 miles, or 3000 hours of operation, whichever first occurs.

(v) In the case of 1985 and subsequent model year diesel-powered heavy-duty vehicles (except medium-duty vehicles), and 1985 and subsequent model year motor vehicle engines used in such vehicles, a period of use of eight years or 110,000 miles, whichever first occurs, for light, heavy-duty diesel-powered vehicles; eight years or 185,000 miles, whichever first occurs, for medium, heavy-duty diesel-powered vehicles; and eight years or 290,000 miles, whichever first occurs, for heavy, heavy-duty diesel-powered vehicles; or any alternative useful life period approved by the Executive Officer. (The classes of light, medium, and heavy, heavy-duty diesel-powered vehicles are defined in 40 CFR 86.085-2.)

(vi)~~(v)~~ In the case of light-duty and medium-duty vehicles certified under the Optional 100,000 Mile Certification Procedure, and motor vehicle engines used in such vehicles, a period of use of ten years or 100,000 miles, whichever first occurs.

(vii)~~(vi)~~ In the case of all other light-duty, medium-duty and heavy-duty vehicles, and motor vehicle engines used in such vehicles, a period of use of five years or 50,000 miles, whichever first occurs. For those passenger cars, light-duty trucks and medium-duty vehicles certified pursuant to Title 13, California Administrative Code, Section 1960.15, the useful life shall be seven years, or 75,000 miles, whichever first occurs; however, the manufacturer's reporting and recall responsibility beyond 5 years or 50,000 miles shall be limited, as provided in Section 1960.15.

(b) "Emissions-Related Defect" shall mean a defect in design, materials, or workmanship in a device, system, or assembly described in the approved application for certification which affects any parameter, specification, or component enumerated in Appendix I. Excepted are defects in devices, systems and assemblies which the Executive Officer has deleted from the manufacturer's list of warranted parts pursuant to Section 2036(f), Title 13, California Administrative Code.

(c) Quarterly reports shall refer to the following calendar periods: January 1 - March 31, April 1 -June 30, July 1 -September 30, October 1 -December 31.

(d) "Days" shall mean normal working days when computing any period of time, unless otherwise noted.

(e) "Vehicle or engine manufacturer" means the manufacturer granted certification for a motor vehicle or motor vehicle engine. In the case of motor vehicles for which certification of the exhaust and evaporative emission control systems is granted to different manufacturers, the defect reporting responsibility shall be assigned accordingly.

(f) "Voluntary Emissions Recall" shall mean an inspection, repair, adjustment, or modification program voluntarily initiated and conducted by a manufacturer to remedy any emissions-related defect or nonconformity for which direct notification of vehicle or engine owners has been provided.

(g) "Ordered Emissions Recall" shall mean an inspection, repair, adjustment, or modification program required by the Board and conducted by the manufacturer to remedy any emissions-related defect or nonconformity for which direct notification of vehicle or engine owners has been provided.

(h) "Ultimate purchaser" shall be defined as provided in Section 39055.5 of the Health and Safety Code.

B. DEFECT INFORMATION REPORTS

(1) A manufacturer shall file a defect information report whenever:

(a) On the basis of data obtained subsequent to the effective date of these regulations, the manufacturer determines in accordance with procedures established by the manufacturer to identify safety-related defects (pursuant to 15 U.S.C. 1381 et seq., as amended) that a specific emissions-related defect exists in twenty-five or more vehicles or engines of the same model year; or

(b) The Executive Officer, with cause, requests such report, irrespective of when the defects were detected.

(2) No report shall be filed under these procedures for any emissions-related defect corrected prior to the sale of the affected vehicles or engines to an ultimate purchaser.

(3) Defect information reports required under subsection B.(1)(a) of these procedures shall be submitted not more than 15 working days after an emissions-related defect is found to affect twenty-five vehicles or engines of the same model year. Defect information reports requested under subsection B.(1)(b) of these procedures shall be submitted not more that 30 working days after the request is received. Items of information required by subsection B (4) of these procedures that are either not available within that period or are significantly revised shall be submitted as they become available.

(4) Except as provided in subsection B (3) of these procedures, each defect report shall contain the following information in substantially the format outlined below:

(a) The manufacturer's corporate name.

(b) A description of the defect.

(c) A description of each class or category of vehicles or engines potentially affected by the defect including make, model, model year, and such other information as may be required to identify the vehicles or engines affected.

(d) For each class or category of vehicle or engine described in response to subsection B (4)(c) of these procedures, the following shall also be provided:

(i) The number of vehicles or engines known or estimated to have the defect and an explanation of the means by which this number was determined.

(ii) The address of the plant(s) at which the potentially defective vehicles or engines were produced.

(e) An evaluation of the emissions impact of the defect and a description of any driveability problems which a defective vehicle might exhibit.

(f) Available emissions data which relate to the defect.

(g) An indication of any anticipated manufacturer follow-up.

C. VOLUNTARY EMISSIONS-RELATED RECALL

(1) When any manufacturer initiates a voluntary emissions recall campaign involving twenty-five or more vehicles or engines, the manufacturer shall submit a report describing the manufacturer's voluntary emissions recall plan as prescribed by these procedures within 15 working days of the date owner notification was begun. The report shall contain the following:

(a) A description of each class or category of vehicle or engine recalled including the number of vehicles to be recalled, the model year, the make, the model, and such other information as may be required to identify the vehicles or engines recalled.

(b) A description of the specific modifications, alterations, repairs, corrections, adjustments, or other changes to be made to correct the vehicles or engines affected by the emissions-related defect.

(c) A description of the method by which the manufacturer will determine the names and addresses of vehicle or engine owners and the method by which they will be notified.

(d) A description of the procedure to be followed by vehicle or engine owners to obtain correction of the nonconformity. This shall include designation of the date on or after which the owner can have the nonconformity remedied, the time reasonably necessary to perform the labor to remedy the defect, and the designation of facilities at which the defect can be remedied.

(e) If some or all of the nonconforming vehicles or engines are to be remedied by persons other than dealers or authorized warranty agents of the manufacturer, a description of the class of persons other than dealers and authorized warranty agents of the manufacturer who will remedy the defect.

(f) Three copies of the letters of notification to be sent to vehicle or engine owners.

(g) A description of the system by which the manufacturer will assure that an adequate supply of parts will be available to perform the repair under the remedial plan including tne date by which an adequate supply of parts will be available to initiate the repair campaign, the percentage of the total parts requirement of each person who is to perform the repair under the remedial plan to be shipped to initiate the campaign, and the method to be used to assure the supply remains both adequate and responsive to owner demand.

(h) Three copies of all necessary instructions to be sent to those persons who are to perform the repair under the remedial plan.

(i) A description of the impact of the proposed changes on fuel consumption, driveability, and safety of each class or category of vehicles or engines to be recalled.

(2) The manufacturer shall not condition eligibility for repair on the proper maintenance or use of the vehicle except for strong and compelling reasons and with the approval of the Executive Officer; however, the manufacturer shall not be obligated to repair a component which has been removed or altered so that the remedial action cannot be performed without additional cost.

(3) The manufacturer shall require those who perform the repair under the voluntary recall to affix a label to each vehicle or engine repaired, or, when required, inspected under the voluntary recall.

(a) The label shall be placed in such location as aproved by the Executive Officer consistent with State law and shall be fabricated of a material suitable for the location in which it is installed and which is not readily removable intact.

(b) The label shall contain:

(i) the voluntary recall campaign number; and

(ii) A code designating the campaign facility at which the repair, or inspection for repair, was performed.

(4) The notification of vehicle or engine owners shall contain the following statement, "Your (vehicle or engine) (is or may be) releasing air pollutants which exceed (California or California and Federal) standards".

(5) Unless otherwise specified by the Executive Officer, the manufacturer shall report on the progress of the voluntary recall campaign by submitting subsequent reports for six consecutive quarters commencing with the quarter

after the voluntary emissions recall campaign actually begins. Such reports shall be submitted no later than 25 working days after the close of each calendar quarter. For each class or category of vehicle or engine subject to the voluntary emissions recall campaign, the quarterly report shall contain the:

(a) Emissions recall campaign number designated by the manufacturer.

(b) Date owner notification was begun, and date completed.

(c) Number of vehicles or engines involved in the voluntary emissions recall campaign.

(d) Number of vehicles or engines known or estimated to be affected by the emissions-related defect and an explanation of the means by which this number was determined.

(e) Number of vehicles or engines inspected pursuant to the voluntary emissions recall plan.

(f) Number of inspected vehicles found to be affected by the emissions-related defect.

(g) Number of vehicles actually receiving repair under the remedial plan.

(h) Number of vehicles determined to be unavailable for inspection or repair under the remedial plan due to exportation, theft, scrapping, or for other reasons (specify).

(i) Number of vehicles or engines determined to be ineligible for remedial action due to removed or altered components.

(j) Three copies of any service bulletins transmitted to dealers which relate to the defect to be corrected and which have not previously been reported.

(k) Three copies of all communications transmitted to vehicle or engine owners which relate to the defect to be corrected and which have not previously been submitted.

(6) If the manufacturer determines that any of the information requested in B (4) of these procedures has changed or was incorrect, revised information and an explanatory note shall be submitted. Answers to paragraphs C (5) (c), (d), (e), (f), (g), (h), and (i) of these procedures shall be cumulative totals.

(7) The manufacturer shall maintain in a form suitable for inspection, such as computer information storage devices or card files, the names and addresses of vehicle or engine owners:

(a) To whom notification was given;

(b) Who received remedial repair or inspection under the remedial plan; and

(c) Who were determined not to qualify for such remedial action when eligibility is denied due to removed or altered components.

(8) The records described in subsection C (7) of these procedures shall be made available to the Executive Officer or his or her authorized representative upon request.

(9) The reports required by these procedures shall be sent to: Chief, Mobile Source Control Division, 9528 Telstar Avenue, El Monte, California 91731.

(10) The information gathered by the manufacturer to compile the reports required by these procedures shall be retained for not less than one year beyond the useful life of the vehicles or engines and shall be made available to authorized personnel of the Air Resources Board upon request.

(11) The filing of any report under the provisions of these procedures shall not affect a manufacturer's responsibility to file reports or applications, obtain approval, or give notice under any provisions of law.

(12) The act of filing an Emissions Defect Information Report pursuant to these procedures is inconclusive as to the existence of a defect subject to Section 43204 of the Health and Safety Code and its implementing regulations. A manufacturer may include on each page of its Emissions Defect Information Report a disclaimer stating that the filing of a Defect Information Report pursuant to these regulations is not conclusive as to the applicability of Section 43204 of the Health and Safety Code and its implementing regulations.

State of California
AIR RESOURCES BOARD

California Motor Vehicle Tune-Up
Label Specifications

1. Purpose. The Air Resources Board recognizes that certain emissions-critical or emissions-related parts must be properly adjusted in order for vehicles and engines to meet the applicable emission standards. The purpose of these specifications is to require motor vehicle or motor vehicle engine manufacturers to affix a label on each production vehicle in order to provide the vehicle owner with information necessary for the proper adjustment of these parts.

2. Applicability. These specifications shall apply to each new 1979 and subsequent model-year passenger car, light-duty truck, medium-duty vehicle, heavy-duty gasoline-fueled engine, and heavy-duty diesel-fueled engine, and to each new 1982 and subsequent model year motorcycle sold or offered for sale in California. Any vehicles or classes of vehicles exempt from exhaust emission standards pursuant to Article 2, Chapter 3, Title 13 of the California Administrative Code shall also be exempt from the requirements of these specifications. The responsibility for compliance with these specifications shall rest with the motorcycle, light-duty vehicle, medium-duty vehicle, or heavy-duty engine manufacturer who certified such vehicles or engines.

3. Label Content and Location

   (a) A plastic or metal label shall be welded, riveted or otherwise permanently attached to an area within the engine compartment (if any) or to the engine in such a way that it will be readily visible to the average person after installation of the engine in a vehicle.

In selecting an acceptable location, the manufacturer shall consider the possibility of accidental damage (e.g., possibility of tools or sharp instruments coming in contact with the label). The label shall be affixed in such a manner that it cannot be removed without destroying or defacing the label, and shall not be affixed to any part which is likely to be replaced during the vehicle's useful life. For motorcycles, passenger cars, light-duty trucks, and medium-duty vehicles, the label shall not be affixed to any equipment which is easily detached from the vehicle.

(b) The label shall contain the following information lettered in the English language in block letters and numerals which shall be of a color that contrasts with the background of the label:

i. The label heading: "Emission Control Information."

ii. Full corporate name and trademark of the manufacturer.

iii Engine family identification, model designation (for heavy-duty diesels), and engine displacement (in cubic inches, cubic centimeters or liters).

iv. Exhaust Emission Control System: Initials may be used such as EM - engine modification, AI - air injection, FI - fuel injection.

v. Engine tune-up specifications and adjustments as recommended by the manufacturer, including but not limited to valve lash, ignition dwell, ignition timing, idle air fuel mixture setting procedure and valve (e.g., idle CO, idle speed drop), high idle speed, and, for diesels, initial injection timing, advertised horsepower, and fuel rate (in $mm^3$/stroke) at advertised horsepower (all as applicable). These

specifications snall indicate the proper transmission position during tune-up and what accessories, if any (e.g. air conditioner), should be in operation, and what systems, if any (e.g. vacuum advance, air pump), should be disconnected during the tune-up. For gasoline-fueled vehicles, the instructions for tune-up adjustments shall be sufficiently clear on the label so as to preclude the need for a mechanic or vehicle owner to refer to another document in order to correctly perform the adjustments.

vi. A vacuum hose routing diagram showing all emissions-related and emissions-critical parts that are actuated by vacuum and the correct routing of vacuum hoses. This diagram shall contain no more than two different vacuum hose routing patterns; however, if there are two routings on a single diagram each routing must be easily understandable. The hose diagram may be separated from the "Emission Control Information" label provided that the vacuum hose diagram is placed in a visible and accessible position.

vii. For motorcycles only, any specific fuel or engine lubricant requirements (e.g., lead content, research octane number, engine lubricant type).

viii. For heavy-duty engines, the date of engine manufacture (month and year).

ix. An unconditional statement of compliance with the appropriate model year California regulations; for example, "This vehicle (or engine, as applicable) conforms to California regulations applicable to _____ model year new _____ (specify

motorcycles, passenger cars, light-duty trucks, medium-duty vehicles, heavy-duty gasoline engines, or heavy-duty diesel engines, as applicable)." For federally certified vehicles certified for sale in California the statement must include the phrase "conforms to federal regulations and is certified for sale in California". For incomplete light-duty truck and incomplete medium-duty vehicles the label shall contain the following statement in lieu of the above:

> "This vehicle conforms to California regulations applicable to _____ model-year new vehicles when completed at a maximum curb weight of ____ pounds and a maximum frontal area of _____ square feet."

x. For 1985 and subsequent model year heavy-duty diesel-powered engines, if the manufacturer is provided an alternate useful life period under the provisions of 40 CFR 86.085-21(f), the prominent statement: "This vehicle has been certified to meet California standards for a useful life period of _____ years or _____ miles of operation, whichever occurs first. This vehicle's actual life may vary depending on its service application." The manufacturer may alter this statement only to express the assigned alternate useful life in terms other than years or miles (e.g., hours, or miles only).

xi. For 1985 and subsequent model year heavy-duty diesel-powered engines, the prominent statement: "This engine has a primary intended service application as a _____ heavy-duty diesel-powered engine." (The primary intended service applications are light, medium, and heavy, as defined in 40 CFR 86.085-2.)

Such a statements shall not be used on labels placed on vehicles or engines which, in fact, do not comply with all applicable California regulations, including assembly-line test requirements, if any.

4. The provisions of these specifications shall not prevent a manufacturer from also reciting on the label that such vehicle or engine conforms to any applicable federal emission standards for new motor vehicles or new motor vehicle engines or any other information that such manufacturer deems necessary for, or useful to, the proper operation and satisfactory maintenance of the vehicle or engine.

5. As used in these specifications, readily visible to the average person shall mean that the label shall be readable from a distance of eighteen inches (46 centimeters) without any obstructions from vehicle or engine parts (including all manufacturer available optional equipment) except for flexible parts (e.g., vacuum hoses, ignition wires). Alternatively, information required by these specifications to be printed on the label shall be no smaller than 8 point type size provided that no vehicle or engine parts, (including all manufacturer available optional equipment), except for flexible parts, obstruct the label.

6. The label and any adhesives used shall be designed to withstand for the vehicle's total expected life, typical vehicle environmental conditions in the area where the label is attached. Typical vehicle environmental conditions shall include, but are not limited to, exposure to engine lubricants and coolants (e.g. gasoline, motor oil, brake fluids, water, ethylene glycol), underhood temperatures, steam cleaning, and paints or paint solvents. The manufacturer shall submit, with its certification

application, a statement attesting that its labels comply with this requirement.

7. The manufacturer shall obtain approval from the Executive Officer for all label formats and locations prior to use. Approval of the specific tune-up settings is not required; however, the format for all such settings and tolerances, if any, is subject to review. If the Executive Officer finds that the information on the label is vague or subject to misinterpretation, or that the location does not comply with these specifications, he or she may require that the label or its location be modified accordingly.

8. Samples of all actual production labels used within an engine family shall be submitted to the Executive Officer within thirty days after the start of production.

9. (a) The Executive Officer may, upon request, waive or modify any part of the requirements of these specifications for the 1979 model year if a vehicle or engine manufacturer does not have adequate lead time to comply with the aforementioned requirements.

   (b) The Executive Officer may approve alternate label locations or may, upon request, waive or modify the label content requirements provided that the intent of these specifications are met.

10. If the Executive Officer finds any motor vehicle or motor vehicle engine manufacturer using labels which are different from those approved or which do not substantially comply with the readability or durability requirements set forth in these specifications, the Executive Officer may invoke Secton 2109, Article 2, Subchapter 2, Chapter 3, Title 13, California Administrative Code.

State of California

# Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : February 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 decision and response to environmental comments raised during the comment period.

ATTACHMENTS
84-38
84-41
84-42
84-52

FILED AND POSTED BY
OFFICE OF THE SECRETARY
FEB 5 1985
Resources Agency of California

State of California
AIR RESOURCES BOARD

Response to Significant Enviromental Issues

Item: Public Hearing to Consider Amendments to Emissions Warranty Regulations, Title 13, California Administrative Code, Sections 2035 and 2036(c), and Incorporated Emissions Warranty Parts List

Agenda Item No.: 84-12-3

Public Hearing Date: August 23, 1984

Response Date: September 11, 1984

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: 01-29-85

State of California
AIR RESOURCES BOARD

Resolution 84-42

August 23, 1984

Agenda Item No.: 84-12-3

WHEREAS, Section 39601 of the Health and Safety Code authorizes the Air Resources Board (the "Board") to adopt standards, rules and regulations necessary for the proper execution of the powers and duties granted to and imposed upon the Board by law;

WHEREAS, Sections 39002, 43000, 43013, 43101, and 43104 of the Health and Safety Code authorize the Board to adopt emissions standards and test procedures to control air pollution caused by motor vehicles, and pursuant to these provisions the Board has adopted emissions standards and test procedures for new motor vehicles covering various pollutants including particulate emissions from diesel vehicles;

WHEREAS, Section 43100 of the Health and Safety Code authorizes the Board to certify new motor vehicles, and Section 43102 provides that no new motor vehicle shall be certified unless it meets the emission standards and test procedures adopted by the Board;

WHEREAS, Section 43106 of the Health and Safety Code requires that each new motor vehicle required to meet the emission standards established pursuant to Section 43101 be, in all material respects, substantially the same in construction as the test motor vehicle certified by the Board;

WHEREAS, Section 43204 of the Health and Safety Code requires the manufacturer of each motor vehicle to warrant to the ultimate purchaser and each subsequent purchaser that the motor vehicle is:

(1) Designed, built, and equipped so as to conform, at the time of sale, with the applicable emission standards;

(2) Free from defects in materials and workmanship which cause such motor vehicle or motor vehicle engine to fail to conform with the applicable regulations for its useful life;

WHEREAS, the Board has adopted emission control system warranty regulations which are set forth in Title 13, California Administrative Code, Sections 2035 et seq., and which incorporate the Emissions Warranty Parts List, as last amended June 29, 1983;

WHEREAS, the Board's emission control system warranty regulations provide that any part contained on the Emissions Warranty Parts List shall be warranted for the useful life of the vehicle, unless the part is scheduled for replacement during the useful life in the manufacturer's written instructions, in which case the part shall be warranted for the scheduled time or mileage, whichever first occurs, of the first scheduled replacement point for that part;

WHEREAS, the Emissions Warranty Parts List does not presently include the diesel particulate control system or components;

WHEREAS, Section 2035(c)(1)(E), Title 13, California Administrative Code, defines useful life to mean a period of use of ten years or 100,000 miles, whichever first occurs, in the case of light-duty and medium-duty vehicles certified under the Optional 100,000-Mile Certification Procedure;

WHEREAS, the durability vehicle basis of the Board's particulate emission standard for 1985 and subsequent model year diesel-powered passenger cars, light-duty trucks, and medium-duty vehicles, including those vehicles certified to the Optional 100,000-Mile Certification Procedure, is 50,000 miles;

WHEREAS, in accordance with recent amendments to Health and Safety Code Section 43204 (stats. 1982, ch. 1173; AB 2046), the Emissions Warranty Parts List identifies those components on new vehicles, certified to the optional emission standards pursuant to Section 1960.15, Title 13, California Administrative Code, which are subject to a reduced two-year or 24,000-mile warranty period;

WHEREAS, the staff has proposed regulatory amendments which would add diesel particulate control components to the Emissions Warranty Parts List; clarify the warranty period applicable to light-duty diesel particulate control systems on vehicles certified under the Optional 100,000-mile Certification Procedure; and clarify the applicability of the reduced two-year or 24,000-mile warranty provisions to miscellaneous warranted parts;

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 to reduce and avoid 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; and

WHEREAS, the Board finds that:

The addition to the Emissions Warranty Parts List of the diesel particulate emission control system components proposed by staff is appropriate and necessary to assure that diesel particulate emission control systems are fully subject to the Board's emissions warranty regulations;

In order for the useful life definitions of the Board's emissions warranty regulations to be parallel with the certification durability bases, it is necessary and appropriate to amend the useful life definition in Section 2035(c)(1)(E), Title 13, California Administrative Code, as set forth in Attachment A hereto;

The amendments to Section X and the footnote in the Emissions Warranty Parts List, shown in Attachment B hereto, are necessary to remove a potential ambiguity in the regulations and to make clear that the miscellaneous items subject to the two-year/24,000-mile warranty include only those items used on the fuel metering and ignition system components which are themselves subject to the shorter warranty period; and

The amendments approved herein will have no significant adverse environmental impacts.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves the amendments to Sections 2035 and 2036(c), Title 13, California Administrative Code, set forth in Attachment A hereto.

BE IT FURTHER RESOLVED that the Board hereby approves the amendments to the "Emissions Warranty Parts List", set forth in Attachment B hereto.

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

BE IT FURTHER RESOLVED that the Board hereby determines that the amendments approved herein will not cause the California emission standards, in the aggregate, to be less protective of public health and welfare than applicable federal standards, will not cause the California requirements to be inconsistent with Section 202(a) of the Clean Air Act, and raise no new issues affecting previous waiver determinations of the Administrator of the Environmental Protection Agency pursuant to Section 209(b) of the Clean Air Act.

BE IT FURTHER RESOLVED that the Executive Officer shall forward the amended regulation to the Environmental Protection Agency with a request for confirmation that the amendments are within the scope of an existing waiver, pursuant to Section 209(b)(1) of the Clean Air Act.

I certify that the above is a true and correct copy of Resolution 84-42, as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Public Hearing to Consider Amendments to Emissions Warranty Regulations

Hearing Date: August 23, 1984
Public Availability Date: August 27, 1984

On August 23, 1984, the Air Resources Board (the "Board") approved ammendments to its emissions warranty regulations which would add specified diesel particulate control system components to the list of parts subject to the defect warranty requirements; clarify the definition of "useful life" for these components, which determines the duration of the manufacturer's warranty obligations; and clarify the applicability of reduced two-year or 24,000-mile warranty provisions to miscellaneous warranted parts used on emission control systems. The regulations which would be amended are Sections 2036 and 2036(c), Title 13, California Administrative Code, and the incorporated "Emissions Warranty Parts List." Attached is a copy of the Board's Resolution 84-42, approving these amendments.

The approved amendments are identical to those previously proposed by staff, with the exception of one deletion in the proposed language in Section 2035(c)(i)(E). Appended to Resolution 84-42 are the approved amendments, showing the deletion from the original proposed language in slashes.

In Resolution 84-42 the Board directed the Executive Officer to adopt the approved amendments after making them available to the public for a period of 15 days, and with such minor modifications as may be appropriate in light of written comments submitted during this period, provided that the Executive Officer shall present the regulations to the Board for further consideration if he determines that this is warranted in light of the written comments recevied. Any written comments must be received by the Board Secretary, Air Resources Board, P. O. Box 2815, Sacramento CA 95812 by September 11, 1984 to be considered.

ATTACHMENT A

Proposed Amendments to Sections 2035 and 2036(c),

Title 13, California Administrative Code

Amend Section 2035, Title 13, California Administrative Code, to read as follows:

2035. Purpose, Applicability, and Definitions

(a) The purpose of this article is to interpret and make specific the statutory emissions warranty set forth in Health and Safety Code Section 43204 by clarifying the rights and responsibilities of individual motor vehicle and motor vehicle engine owners, motor vehicle and motor vehicle engine manufacturers, and the service industry.

(b) This article shall apply to:

(1) California certified 1973 and subsequent model year motorcycles, light-duty, medium-duty, and heavy-duty vehicles, registered in California, and

(2) California certified motor vehicle engines used in such vehicles.

(c) For the purposes of this article, the following definitions shall apply:

(1) "Useful life" means:

(A) In the case of Class I motorcycles and motorcycle engines (50 to 169 cc or 3.1 to 10.4 cu. in.), a period of use of five years or 12,000 kilometers (7,456 miles), whichever first occurs.

(B) In the case of Class II motorcycles and motorcycle engines (170 to 279 cc or 10.4 to 17.1 cu. in.), a period of use of five years or 18,000 kilometers (11,185 miles), whichever first occurs.

(C) In the case of Class III motorcycles and motorcycle engines (280 cc and larger or 17.1 cu. in. and larger), a period of use of five years or 30,000 kilometers (18,641 miles), whichever first occurs.

(D) In the case of diesel-powered heavy-duty vehicles (except medium-duty vehicles), and motor vehicle engines used in such vehicles, a period of use of five years, 100,000 miles, or 3000 hours of operation, whichever first occurs.

(E) In the case of light-duty and medium-duty vehicles certified under the Optional 100,000 Mile Certification Procedure, and motor vehicle engines used in such vehicles, a period of use of ten years or 100,000 miles, whichever first occurs~~.~~, except as otherwise provided in this paragraph. In the case of diesel particulate control system components on 1985 and subsequent model year light-duty and medium-duty vehicles certified under the Optional 100,000 Mile Certification Procedure, "useful life" means five years or 50,000 miles, whichever first occurs, for failures of such components which do not result in the failure of any other warranted part ~~substantially~~ to perform as designed during the useful life of the vehicle, and ten years or 100,000 miles, whichever first occurs, for all other failures.

(F) In the case of vehicles certified to the optional emission standards pursuant to Health and Safety Code Section 43101.5(a), which are sold on or after January 1, 1983, for fuel metering and ignition components contained in the state board's "Emissions Warranty Parts List", dated December 14, 1978, as amended ~~June 29, 1983,~~ _____, a period of use of two years or 24,000 miles, whichever first occurs, and for all other warranted parts, a period of use of five years or 50,000 miles, whichever first occurs.

(G) In the case of all other light-duty, medium-duty and heavy-duty vehicles, and motor vehicle engines used in such vehicles, a period of use of five years or 50,000 miles, whichever first occurs.

(2) "Warranted part" means any emissions-related part installed on a motor vehicle or motor vehicle engine by the vehicle or engine manufacturer which is included on the "Emissions Warranty Parts List" required by Section 2036(c) and approved for the vehicle or engine by the executive officer.

(3) "Vehicle or engine manufacturer" means the manufacturer granted certification for a motor vehicle or motor vehicle engine. In the case of motor vehicles for which certification of the exhaust and evaporative emission control sytems is granted to different manufacturers, the warranty responsibility shall be assigned accordingly.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code.
Reference: Sections 43106 and 43204, Health and Safety Code.

Amend Section 2036(c), Title 13, California Administrative Code, to read as follows:

(c) Commencing with 1980 models sold on or after September 1, 1979, furnish with each new vehicle or engine a list of the "warranted parts" installed on that vehicle or engine. The list shall include those parts included on the Air Resources Board "Emissions Warranty Parts List," dated December 14, 1978, as amended on ~~June 29, 1983~~ _____, and incorporated herein by reference.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code.
Reference: Sections 43106 and 43204, Health and Safety Code.

ATTACHMENT B

# Proposed Amendments to Emissions Warranty Parts List

State of California
AIR RESOURCES BOARD

Adopted: December 14, 1978
Amended: June 29, 1983
Amended:

## Emissions Warranty Parts List

I. Fuel Metering System

A. Carburetor and internal parts (or fuel injection system)*
B. Air/fuel ratio feedback and control system
C. Cold start enrichment system*

II. Air Induction System

A. Controlled hot air intake system
B. Intake manifold
C. Heat riser valve and assembly
D. Turbocharger systems

III. Ignition System

A. Distributor and internal parts*
B. Spark advance/retard system
C. Spark plugs*
D. Ignition coil and/or control module
E. Ignition wires*

IV. Evaporative Control System

A. Vapor storage canister
B. Vapor-liquid separator
C. Fuel tank and filler cap

V. Positive Crankcase Ventilation (PCV) System

A. PCV valve
B. Oil filler cap

VI. Exhaust Gas Recirculation (EGR) System

A. EGR valve body, and carburetor spacer if applicable
B. EGR rate feedback and control system

VII. Air Injection System

A. Air pump
B. Valves affecting distribution of flow
C. Distribution manifold

VIII. Catalyst or Thermal Reactor System

A. Catalytic converter & constricted fuel filler neck
B. Thermal reactor
C. Exhaust manifold
D. Exhaust portliner and/or double walled exhaust pipe

IX. Diesel Particulate Control System

A. Traps, filters, precipitators, and any other device used to capture particulate emissions.
B. Regenerators, oxidizers, fuel additive devices, and any other device used to regenerate or aid in the regeneration of the particulate control device.
C. Control device enclosures and manifolding.

~~IX~~ X. Miscellaneous Items Used in Above Systems

A. Hoses, clamps, fittings, tubing, sealing gaskets or devices, and mounting ~~hardware*~~ hardware
B. Pulleys, belts and ~~idlers*~~ idlers
C. Vacuum, temperature, and time sensitive valves and switches
D. Electronic controls

* These ~~items~~ components, and parts in Sections X.A. and X.B. to the extent they are used in conjunction with these components, are warranted for two years or 24,000 miles, whichever first occurs, if the vehicle was certified to the optional emission standards pursuant to Section 1960.1.5, Title 13, California Administrative Code, and sold on or after January 1, 1983. The warranty period for other items or vehicles is specified in Section 2035 of Title 13.

State of California

# Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : February 1, 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 decision and response to environmental comments raised during the comment period.

ATTACHMENTS
84-38
84-41
84-42
84-52

FILED AND POSTED BY
OFFICE OF THE SECRETARY

FEB 5 1985

Resources Agency of California

State of California
AIR RESOURCES BOARD

Resolution 84-43
September 26, 1984

WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution, pursuant to Health and Safety Code Sections 39700 through 39705; and

WHEREAS, an unsolicited research proposal, Number 1269-108(R), entitled "Effect of Pollutant Exposure-Ambient Air in Childhood and Adulthood", has been submitted by the University of California, Los Angeles to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Research Screening Committee has reviewed and recommends for funding:

> Proposal Number 1269-108(R), entitled "Effect of Pollutant Exposure-Ambient Air in Childhood and Adulthood", submitted by the University of California, Los Angeles for a total amount not to exceed $113,691.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

> Proposal Number 1269-108(R), entitled "Effect of Pollutant Exposure-Ambient Air in Childhood and Adulthood", submitted by the University of California, Los Angeles for a total amount not to exceed $113,691.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $113,691.

I hereby certify that the above is a true and correct copy of Resolution 84-43 as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM NO.: 84-13-6(b)1
DATE: September 26, 1984

ITEM: Research Proposal No. 1269-108(R) entitled "Effect of Pollutant Exposure-Ambient Air in Childhood and Adulthood".

RECOMMENDATION: Adopt Resolution 84-43 approving Proposal No. 1269-108(R) for funding in an amount not to exceed $113,691.

SUMMARY: The Air Resources Board and several federal agencies have contributed to the support of the Chronic Obstructive Respiratory Diesease (CORD) study, a large, long-term epidemiological study carried out in the Los Angeles area by the University of California at Los Angeles. The study involved the collection of data on pulmonary function and life style for approximately 16,000 residents at intervals over a 12-year period. The objective of the study was to determine the extent to which high concentrations of pollutants affect pulmonary function and other measures of pulmonary condition in residents exposed to these concentrations for extended periods. The investigation was the largest ever conducted on the West Coast and one of the largest in the United States.

The study, as it was orginally conceived, is nearly complete. All data have been collected and coded, and the influence of age, sex and residence location on pulmonary function changes during the study have been analyzed. The annual rates of change in pulmonary function in the least polluted city were compared to the same rates in each of two more polluted cities. Whenever there was a statistically significant difference in the rates, the rate of decline in the more polluted city was found to be steeper. High rates of deterioration of lung function in children and in adults less than 25 years old were also noted.

The current proposal would provide further detailed analysis of the data collected in order to relate individual pulmonary function to detailed estimates of individual exposure, to age at initial residence and to length of residence in the Los Angeles area, for

both the entire sample and for subgroups expected to be sensitive. The proponents expect this analysis to sharpen the conclusions of the CORD study and to identify specific additional features of interest in the existing data.

The CORD study has been a massive, expensive and time consuming research effort which has encountered and overcome many of the problems common to epidemiological studies. This type of study offers a unique opportunity to investigate how people of various ages and states of health respond to long-term exposures to community air pollution. The study, thus far, has indicated disturbing trends in the loss of lung function. The proposed effort would explore these findings. Originally, it was very costly to collect this large data base, but it is relatively cost-efficient to pursue a detailed analysis of these data.

State of California
AIR RESOURCES BOARD

Resolution 84-44
September 26, 1984

WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution, pursuant to Health and Safety Code Sections 39700 through 39705; and

WHEREAS, an unsolicited research proposal, Number 1276-109, entitled "The Role of $NO_2$ and $O_3$ in Cancer Metastasis and in Systemic Adverse Effects", has been submitted by the University of Southern California to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Research Screening Committee has reviewed and recommends for funding:

Proposal Number 1276-109, entitled "The Role of $NO_2$ and $O_3$ in Cancer Metastasis and in Systemic Adverse Effects", submitted by the University of Southern California for a total amount not to exceed $96,981.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

Proposal Number 1276-109, entitled "The Role of $NO_2$ and $O_3$ in Cancer Metastasis and in Systemic Adverse Effects", submitted by the University of Southern California for a total amount not to exceed $96,981.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $96,981.

I hereby certify that the above is a true and correct copy of Resolution 84-44 as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM NO.: 84-13-6(b)2
DATE: September 26, 1984

ITEM: Research Proposal No. 1276-109 entitled "The Role of $NO_2$ and $O_3$ in Cancer Metastasis and in Systemic Adverse Effects"

RECOMMENDATION: Adopt Resolution 84-44 approving Proposal No. 1276-109 for funding in an amount not to exceed $96,981.

SUMMARY:

Cancer is characterized by its ability to spread to other tissues and organs. Evidence from the Air Resources Board's research program has shown that nitrogen dioxide ($NO_2$) inhalation facilitates cancer spread, or metastasis, to the lungs of experimental animals. This project proposes to: (1) investigate this effect in animals exposed to both ozone ($O_3$) and $NO_2$; and (2) investigate effects of $NO_2$ on immune system factors which could enable melanoma cells to survive and grow.

In the first study, mice will be exposed to a combination of $O_3$ and $NO_2$. Then, the lungs and other organs will be examined for development of melanoma nodules. In the second study, the effects of $NO_2$ on the immune system and capillary cells of the lung, liver, spleen and kidney will be examined.

The South Coast Air Basin is characterized by high concentrations of photochemical oxidants, including $O_3$ and $NO_2$. The combined effect of these pollutants upon cancer metastasis is not known but may be sustained.

Recent studies have shown that $NO_2$ is unusual because it affects other organs besides the lung, especially those of the immune system. Laboratory methods will be developed to measure these effects. Such methods, if developed, would also be useful for future investigations of effects of toxic materials.

State of California
AIR RESOURCES BOARD

Resolution 84-45
September 26, 1984

WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution, pursuant to Health and Safety Code Sections 39700 through 39705; and

WHEREAS, an unsolicited research proposal, Number 1277-109, entitled "Human Physiological Responses to Inhalation of $NO_2$, $O_3$ and $NO_2$ plus $O_3$ During Heavy, Sustained Exercise", has been submitted by the University of California, Davis to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Research Screening Committee has reviewed and recommends for funding:

Proposal Number 1277-109, entitled "Human Physiological Responses to Inhalation of $NO_2$, $O_3$ and $NO_2$ Plus $O_3$ During Heavy, Sustained Exercise", submitted by the University of California, Davis for a total amount not to exceed $89,610.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

Proposal Number 1277-109, entitled "Human Physiological Responses to Inhalation of $NO_2$, $O_3$ and $NO_2$ Plus $O_3$ During Heavy, Sustained Exercise", submitted by the University of California, Davis for a total amount not to exceed $89,610.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $89,610.

I hereby certify that the above is a true and correct copy of Resolution 84-45 as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM NO.: 84-13-6(b)3
DATE: September 26, 1984

ITEM: Research Proposal No. 1277-109 entitled "Human Physiological Responses to Inhalation of $NO_2$, $O_3$ and $NO_2$ Plus $O_3$ During Heavy, Sustained Exercise"

RECOMMENDATION: Adopt Resolution 84-45 approving Proposal No. 1277-109 for funding in an amount not to exceed $89,610.

SUMMARY: Health effects of nitrogen dioxide ($NO_2$) and ozone ($O_3$) are of concern in California since they are major and persistent components of our oxidant air quality problem. $NO_2$ often occurs in the presence of $O_3$ and animal studies have shown that it has the potential to synergize the effects of $O_3$. This research study would investigate the effects of exercise upon humans exposed to the combination of $NO_2$ and $O_3$.

Recent observations have shown that females are more sensitive to $O_3$ than males. This project would investigate whether females are also more sensitive to $NO_2$ and $NO_2$ plus $O_3$.

In the course of the study, several specific problems related to human exposures would also be addressed. These include:

(1) The sequence of air pollution may be important in $NO_2$ effects, and pre-exposure to $O_3$ could enhance $NO_2$ effects. These problems would be investigated in this project.

(2) Initial $O_3$ exposures cause the subject to be hypersensitive to consequent exposures. Since the decay of $O_3$ sensitivity is not known, this information could reduce the cost of subject recruitment, time of experimentation and statistical variability.

(3) Lung airways can be altered during air pollutant inhalation. New detection techniques have been developed in animals to evaluate the alteration. These techniques would be adapted for human use.

BUDGET SUMMARY: UNIVERSITY OF CALIFORNIA, DAVIS

"Human Physiological Responses to Inhalation of $NO_2$, $O_3$, and $NO_2$ Plus $O_3$ During Heavy, Sustained Exercise"

BUDGET ITEMS:

| | | |
|---|---|---|
| Salaries | $35,636 | |
| Benefits | $ 992 | |
| Supplies | $ 2,000 | |
| Equipment | $17,500 | |
| Travel | $ 2,000 | |
| Subject Compensation | $ 6,750 | |
| Physician Support | $ 1,500 | |
| Misc. Expenses | $ 3,000 | |
| Total Direct Costs | | $69,378 |
| Indirect Cost | | $20,232 |
| TOTAL PROJECT COST | | $89,610 |

State of California
AIR RESOURCES BOARD

Resolution 84-46
September 26, 1984

WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution, pursuant to Health and Safety Code Sections 39700 through 39705; and

WHEREAS, an unsolicited research proposal, Number 1275-109, entitled "The Effects of Present and Potential Air Pollution on Important San Joaquin Valley Crops: Thompson Seedless Grapes and Tomatoes", has been submitted by the University of California, Riverside to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Research Screening Committee has reviewed and recommends for funding:

Proposal Number 1275-109, entitled "The Effects of Present and Potential Air Pollution on Important San Joaquin Valley Crops: Thompson Seedless Grapes and Tomatoes", submitted by the University of California, Riverside for a total amount not to exceed $127,971.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

Proposal Number 1275-109, entitled "The Effects of Present and Potential Air Pollution on Important San Joaquin Valley Crops: Thompson Seedless Grapes and Tomatoes", submitted by the University of California, Riverside for a total amount not to exceed $127,971.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $127,971.

I hereby certify that the above is a true and correct copy of Resolution 84-46 as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM NO.: 84-13-6(b)4
DATE: September 26, 1984

ITEM: Research Proposal No. 1275-109 entitled "The Effects of Present and Potential Air Pollution on Important San Joaquin Valley Crops: Thompson Seedless Grapes and Tomatoes"

RECOMMENDATION: Adopt Resolution 84-46 approving Proposal No. 1275-109 for funding in an amount not to exceed $127,971.

SUMMARY:

Grapes are the single most valuable crop grown in California. In 1983, the value of grapes harvested in the state exceeded $1 billion. Processing tomatoes are another economically important annual crop. California accounts for 85 percent of the processing tomatoes produced in the United States.

This proposal would enable the investigators to carry out the second year of a three-year study on the effects of oxidants and sulfur dioxide on Thompson Seedless grapes, as well as to perform a single-year study of these pollutants' effects on tomatoes.

In the study, grape vines are being exposed to oxidants and sulfur dioxide alone and in combination. Effects of these pollutants on the growth of vines, and on grape yield and quality, will be measured.

The one-year study of processing tomatoes will involve exposures to oxidants and sulfur dioxide alone and in combination. Effects on growth, yield and quality of tomatoes will be determined and described relative to commercial standards. At the end of each study, a written report will be prepared presenting the results.

This project will provide information on the losses which may occur to important California crops as a result of exposure to oxidants and sulfur dioxide.

BUDGET SUMMARY: UNIVERSITY OF CALIFORNIA, RIVERSIDE

"The Effects of Present and Potential Air Pollution on Important San Joaquin Valley Crops: Thompson Seedless Grapes and Tomatoes"

BUDGET ITEMS:

| | | |
|---|---|---|
| Salaries | $51,345 | |
| Benefits | $15,188 | |
| Equipment | $14,650 | |
| Supplies and Expenses | $20,950 | |
| Travel | $ 7,105 | |
| Publications | $ 400 | |
| Total Direct Costs | | $109,638 |
| Indirect Cost | | $ 18,333 |
| TOTAL PROJECT COST | | $127,971 |

State of California
AIR RESOURCES BOARD

Resolution 84-47
September 26, 1984

WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution, pursuant to Health and Safety Code Sections 39700 through 39705; and

WHEREAS, a program plan proposal, Number 1278-109, entitled "A Program to Assess Crop Loss from Air Pollutants", has been submitted by the University of California, Riverside to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Research Screening Committee has reviewed and recommends for funding:

Proposal Number 1278-109, entitled "A Program to Assess Crop Loss from Air Pollutants", submitted by the University of California, Riverside for a total amount not to exceed $98,000.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

Proposal Number 1278-109, entitled "A Program to Assess Crop Loss from Air Pollutants", submitted by the University of California, Riverside for a total amount not to exceed $98,000.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $98,000.

I hereby certify that the above is a true and correct copy of Resolution 84-47 as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM NO.: 84-13-6(b)5
DATE: September 26, 1984

ITEM: Program Plan Proposal No. 1278-109 entitled "A Program to Assess Crop Loss from Air Pollutants"

RECOMMENDATION: Adopt Resolution 84-47 approving Proposal No. 1278-109 for funding in an amount not to exceed $98,000.

SUMMARY: This is a proposed work plan for a newly budgeted crop loss assessment program initiated by ARB. The objective of the program is to evaluate, in the field, crop losses due to air pollution that are occurring in California. The results of these evaluations will be integrated with economic models, to be developed separately, in order to ascertain the economic impact of these crop losses. This proposal requests funds for the first year of a program that is approved by the administration for five years. A specific appropriation to sponsor this work has been included in the ARB's budget for the current year.

The project would be conducted in three phases in order to take into account the complexity of the problem: (1) a phase of identifying needed information about how to perform the field evaluation; (2) a phase of gathering and synthesizing all needed information; and (3) actually performing the evaluation on a continuing basis.

Phase I (year one, current proposal) would focus on identifying knowledge gaps such as how present knowledge derived from chamber studies can be adapted to field evaluations. For example, the effects of key environmental factors such as soil, weather, and cultural practices need to be specified. Also, key physiological processes will need to be understood in order to predict ultimate yield loss from observations during growth season. All pertinent literature would be gathered. The best approaches to obtain needed information would be sought with the help of experts at a special workshop.

In Phase II (years two and three), field evaluation methods would be developed and tested, information from the literature, pilot experiments, and special projects would be applied to the field evaluation

schemes, local agricultural specialists would be contacted and trained in field assessment, and a pilot field survey would be carried out. Input from economists will be sought to ensure that all data necessary for economic modeling are collected.

In Phase III (years four and five), full-scale field investigations would be initiated. Vegetative damage and yield losses would be estimated and air quality would be compared with these injuries.

The field surveys would be carried out by local county and university extension agricultural specialists. These individuals are already highly trained and are familiar with local conditions and agricultural practices. Working with local specialists would also allow more extensive crop loss surveys to be carried out than could be done by a single individual or a small team.

This program would provide much better crop loss information than is now available, including documentation of actual damage occurring in the field. This information is needed to develop more realistic estimates of the economic impacts of air pollution on agriculture, both at current and future levels. The program would also be both a driving and guiding force for the ARB extramural research program on vegetation effects. In particular, the identification of major knowledge gaps and the extensive first-year planning effort would help to ensure the most cost-effective and thorough long-term research program to assess air pollution damage to crops.

State of California
AIR RESOURCES BOARD

Resolution 84-48
September 26, 1984

WHEREAS, the Air Resources Board has been directed to design and implement a comprehensive research program of research and monitoring of acid deposition in California pursuant to Health and Safety Code Section 39903; and

WHEREAS, an unsolicited research proposal, Number 042-6, entitled "Fog, Cloud and Dew Chemistry", has been submitted by the California Institute of Technology to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Scientific Advisory Committee on Acid Deposition has reviewed and recommends for funding:

> Proposal Number 042-6, entitled "Fog, Cloud and Dew Chemistry", submitted by the California Institute of Technology for a total amount not to exceed $400,648.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39906, hereby accepts the recommendation of the Scientific Advisory Committee on Acid Deposition and approves the following:

> Proposal Number 042-6, entitled "Fog, Cloud and Dew Chemistry", submitted by the California Institute of Technology for a total amount not to exceed $400,648.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $400,648.

I hereby certify that the above is a true and correct copy of Resolution 84-48 as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM NO.: 84-13-6(b)6
DATE: September 26, 1984

ITEM: Research Proposal No. 042-6 entitled "Fog, Cloud and Dew Chemistry"

RECOMMENDATION: Adopt Resolution 84-48 approving Proposal No. 042-6 for funding in an amount not to exceed $400,648.

SUMMARY: Over the last three years, the proponents have determined the chemical composition of fog-, cloud-, and rainwater in various areas of California. The results established that fog- and cloudwater in Southern California are regularly acidic (pH 1.7 to 4.0), and provide an environment for the accumulation in water droplets of nitric and sulfuric acids. High acidity was common not only in Los Angeles, but also in the southern San Joaquin Valley and in some nonurban coastal areas. It has been hypothesized that the potential for environmental insult may be highest during foggy conditions when dilution and cleansing processes cannot effectively limit deposition of acid on plants and exposed surfaces.

The proposed two-year research effort is a continuation of an on-going study of the chemistry, rate of formation and occurrence of acid fogs in the State. Specific objectives are: 1) to construct and optimize an automatic fogwater collector; 2) to conduct multiple site sampling to determine temporal and spatial variations of fogwater chemistry; 3) to characterize the flux of acids and acid precursors to dew-wetted surfaces; 4) to determine variations in fogwater composition with droplet size; and 5) to correlate fog- and cloudwater data with air quality and meteorological data.

With the aid of automated collectors, the proponents would determine the spatial and temporal variation of fog/cloud chemistry in the following areas: 1) along the coastal areas of Los Angeles; 2) Riverside and San Bernardino; 3) mountain ranges around the Los Angeles basin; 4) Santa Barbara channel; and 5) southern San Joaquin Valley. The objectives of the extensive sampling program along the coastal areas of Los Angeles will be to determine the sources

and the chemical variations in acidic fogwater. The tendency of atmospheric ammonia to neutralize fogwater acidity will be of particular interest in the Riverside/San Bernardino area. Simultaneous sampling at a number of mountain sites in the Los Angeles basin is proposed to obtain a better understanding of transport, vertical mixing and chemistry of the marine layer. The primary purpose for the proposed Santa Barbara channel monitoring is to predict, with the help of aqueous-phase models, the impact of increased offshore emissions associated with oil lease sites on the onshore aerosol composition. Finally, the parameters controlling pollutant build-up in the southern San Joaquin Valley during a stagnation episode and fate of the aerosols will be determined with the aid of tracer studies.

Dew will be collected with dew plates at sites that are representative of: 1) marine proximity; 2) industrial plume impacts; 3) intense secondary smog exposure; and 4) remote, unpolluted atmospheres.

Sampling sites will be located at or near air quality monitoring sites so that deposition data can be analyzed and compared to ambient pollutant concentrations, wind speed, and temperature. In addition, all of the fogwater data collected in this study will be combined with standard air quality and meteorological data to search for statistical correlations that would aid in prediction of extreme acid events from routine air monitoring data. This study is needed to improve our understanding of the relationships between emission sources and the evolution and extent of acid fogs in California.

Under current plans, the two-year research study would be funded in the following manner: Year 1 - $202,202 - FY 84-85; Year 2 - $198,446 - FY 85-86; for a total of $400,648.

BUDGET SUMMARY: CALIFORNIA INSTITUTE OF TECHNOLOGY

"Fog, Cloud and Dew Chemistry"

BUDGET ITEMS:

| | First Year | Second Year | Total |
|---|---|---|---|
| Salaries | $ 68,870 | $ 74,160 | $143,030 |
| Benefits | $ 17,348 | $ 18,713 | $ 36,061 |
| Supplies | $ 17,600 | $ 16,500 | $ 34,100 |
| Equipment | $ 25,000 | $ 12,000 | $ 37,000 |
| Travel | $ 12,000 | $ 12,480 | $ 24,480 |
| Total Direct Costs | $140,818 | $133,853 | $274,671 |
| Indirect Cost | $ 61,384 | $ 64,593 | $125,977 |
| TOTAL PROJECT COST | $202,202 | $198,446 | $400,648 |

State of California
AIR RESOURCES BOARD

Resolution 84-49
September 26, 1984

WHEREAS, the Air Resources Board has been directed to design and implement a comprehensive research program of research and monitoring of acid deposition in California pursuant to Health and Safety Code Section 39903; and

WHEREAS, an unsolicited research proposal, Number 041-6, entitled "Determination of Acidity in Ambient Air-Phase II", has been submitted by the California Department of Health Services to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Scientific Advisory Committee on Acid Deposition has reviewed and recommends for funding:

> Proposal Number 041-6, entitled "Determination of Acidity in Ambient Air - Phase II", submitted by the California Department of Health Services for a total amount not to exceed $279,291.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39906, hereby accepts the recommendation of the Scientific Advisory Committee on Acid Deposition and approves the following:

> Proposal Number 041-6, entitled "Determination of Acidity in Ambient Air - Phase II", submitted by the California Department of Health Services for a total amount not to exceed $279,291.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $279,291.

I hereby certify that the above is a true and correct copy of Resolution 84-49 as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM NO.: 84-13-6(b)7
DATE: September 26, 1984

ITEM: Research Proposal No. 041-6 entitled "Determination of Acidity in Ambient Air - Phase II"

RECOMMENDATION: Adopt Resolution 84-49 approving Proposal No. 041-6 for funding in an amount not to exceed $279,291.

SUMMARY:

Atmospheric acidity in the form of sulfuric, nitric and hydrochloric acids is important because of: its potential as a health-related inhalation hazard and its role as a precursor of visibility-degrading atmospheric particles; and as a contributor to the acidity of suspended particles, rain-, cloud- and fogwater. Nitric acid may also act as a nitrating agent in forming nitro-PAH compounds of greatly increased mutagenicity compared to the parent hydrocarbon.

Despite their significant role in atmosphere chemistry, measurements of atmospheric acids have been limited, mainly because no analytical technique has been found to be fully satisfactory for determining their concentrations.

Measurements of atmospheric acidity which are based upon filter collection are labor intensive, involve expensive sample analysis, and are subject to an assortment of negative errors due to neutralization by ammonia ($NH_3$) during handling and analysis, and by reaction with aerosol constituents.

The proposed two-year research effort is a continuation of an on-going, multi-year program to evaluate techniques for measurement of atmospheric acidity. An automated, semi real-time monitor for measurement of both nitric acid and ammonia was constructed during Phase I, employing the tungstic acid (chemical absorption) technique and compared with filter techniques. In addition, a filter technique for measurement of hydrochloric acid was evaluated and alternative methods for semi real-time measurement of sulfuric acid were considered.

In Phase II, the sulfuric acid monitor will be constructed and validated. An additional automated nitric acid-ammonia analyzer and portable calibration system will be constructed for field sampling and for dry deposition flux monitoring. A manual denuder for measurement of hydrochloric acid will also be assembled and compared to the dual filter techniques. Following the construction and evaluation of the aforementioned analyzers, a field study will be conducted at downtown Los Angeles and Riverside during the summer of 1985 to measure atmospheric concentrations of sulfuric acid, gaseous nitric and hydrochloric acids and total particulate acidity.

The major purpose of this study is to overcome many of the limitations that are inherent in the techniques which are now used for measurement of atmospheric ammonia and sulfuric, nitric and hydrochloric acids. The proposed work should produce reliable and nearly real-time analytical capability for measuring these compounds and improve our ability to determine possible effects of atmospheric acidity upon human health, visibility, materials and aquatic and terrestrial ecosystems.

Under current plans, the two-year research study would be funded in the following manner: Year 1 - $138,943 - FY 84-85; Year 2 - $140,348 - FY 85-86; for a total of $279,291.

BUDGET SUMMARY: CALIFORNIA DEPARTMENT OF HEALTH SERVICES
AIR AND INDUSTRIAL HYGIENE LABORATORY

"Determination of Acidity In Ambient Air--Phase II"

BUDGET ITEMS:

| | First Year | Second Year | Total |
|---|---|---|---|
| Salaries | $ 59,145 | $ 70,263 | $129,408 |
| Benefits | $ 18,406 | $ 21,866 | $ 40,272 |
| Supplies | $ 5,822 | $ 5,000 | $ 10,822 |
| Equipment | $ 21,228 | $ -- | $ 21,228 |
| Rent | $ 3,410 | $ 3,410 | $ 6,820 |
| Travel | $ 1,500 | $ 5,210 | $ 6,710 |
| General Expenses | $ 2,754 | $ 2,907 | $ 5,661 |
| Total Direct Costs | $112,265 | $108,656 | $220,921 |
| Indirect Cost | $ 26,678 | $ 31,692 | $ 58,370 |
| TOTAL PROJECT COST | $138,943 | $140,348 | $279,291 |

State of California
AIR RESOURCES BOARD

Resolution 84-50

September 26, 1984

Agenda Item No. 84-13-3

WHEREAS, Health and Safety Code Section 39600 requires the Air Resources Board (the "Board") to do such acts as may be necessary for the proper execution of the powers and duties granted to, and imposed upon, the Board;

WHEREAS, pursuant to AB 1807 (Stats 1983, ch 1047; Health and Safety Code Section 39650 et seq., Food and Agriculture Code Section 14021 et seq.), the Board has established a program for the evaluation, identification and control of substances which may be toxic air contaminants, and, pursuant to other provisions of Division 26 of the Health and Safety Code carries out other activities, including the provision of assistance to local air pollution control districts, relating to the control of toxic pollutants;

WHEREAS, the supplemental report of the 1984 Budget Act requires the Board and the Department of Health Services to report to the Legislature on the Toxic Air Contaminants Program by November 1, 1984;

WHEREAS, the report to the Legislature is to include (a) resources, by agency, assigned to the program (including the number of filled positions and personal services contracts), (b) toxic air contaminants referred for evaluation to the Department of Health Services by the Board, (c) toxic air contaminants evaluated by the Department of Health Services, (d) the toxic air contaminants reviewed by the Scientific Review Panel, and (e) a work plan for both agencies for the remainder of 1984-1985;

WHEREAS, the Department of Health Services will submit to the Legislature a report separate from the report of the Board;

WHEREAS, in accordance with the provisions of the supplemental report of the 1984 Budget Act, Board staff has prepared a draft report entitled "Status Report to the California Legislature Regarding the Toxic Air Contaminants Program";

WHEREAS, the draft report has been prepared for submittal at the end of October, and its contents, therefore, include anticipated activities and events;

WHEREAS, the Board has held a duly noticed public meeting at which it received comments on and considered the draft report prepared and presented to it by the staff; and

WHEREAS, the Board finds that the report responds appropriately and thoroughly to the direction contained in the 1984 Budget Act.

NOW, THEREFORE, BE IT RESOLVED that the Board approves the "Status Report to the California Legislature Regarding the Toxic Air Contaminants Program," and directs the Executive Officer to forward it to the Legislature in accordance with the supplemental report of the 1984 Budget Act, provided that, if the anticipatory portions of the report do not accurately reflect those events and activities occurring prior to the submission of the report to the Legislature, the Executive Officer shall make appropriate revisions to the report.

I certify that the above is a true and correct copy of Resolution 84-50, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 84-51
October 25, 1984

WHEREAS, the Air Resources Board has been directed to carry out an effective research program in conjunction with its efforts to combat air pollution, pursuant to Health and Safety Code Sections 39700 through 39705; and

WHEREAS, an unsolicited research proposal, Number 1280-110, entitled "A Coordinated Study of the Role of Nitrogenous Pollutants in the Formation of Atmospheric Mutagens and Acid Deposition", has been submitted by the University of California, Riverside, to the Air Resources Board; and

WHEREAS, the Research staff has reviewed and recommended this proposal for approval; and

WHEREAS, the Research Screening Committee has reviewed and recommends for funding:

> Proposal Number 1280-110 entitled "A Coordinated Study of the Role of Nitrogenous Pollutants in the Formation of Atmospheric Mutagens and Acid Deposition", submitted by the University of California, Riverside, for a total amount not to exceed $440,437.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703, hereby accepts the recommendation of the Research Screening Committee and approves the following:

> Proposal Number 1280-110 entitled "A Coordinated Study of the Role of Nitrogenous Pollutants in the Formation of Atmospheric Mutagens and Acid Deposition", submitted by the University of California, Riverside, for a total amount not to exceed $440,437.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $440,437.

I hereby certify that the above is a true and correct copy of Resolution 84-51 as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

ITEM NO.: 84-14-6b(1)
DATE: October 25, 1984

ITEM: Research Proposal No. 1280-110 entitled "A Coordinated Study of the Role of Nitrogenous Pollutants in the Formation of Atmospheric Mutagens and Acid Deposition"

RECOMMENDATION: Adopt Resolution 84-51 approving Research Proposal No. 1280-110 for funding in an amount not to exceed $440,437.

SUMMARY:

Oxides of nitrogen play a key role in the formation and/or transformation of a number of important air pollutants including: ozone, nitrogen dioxide, fine particulate matter, mutagenic compounds, and atmospheric acidity. This project addresses the last two of these, the complex role of NOx in the enhancement of mutagenicity of polycyclic aromatic hydrocarbons (PAH), and the closely associated role of NOx as a contributor to atmospheric acidity and acid deposition.

This proposal consists of two carefully coordinated ambient air monitoring studies that would employ sophisticated long-path-length spectroscopic techniques and highly specialized analytical techniques. Using these methods, the investigators would characterize the diurnal concentrations of gaseous precursors and reaction intermediates in the atmosphere during a summer oxidant episode and during a winter NOx/CO episode. In conjunction with these measurements, various PAHs would be exposed to the ambient atmosphere on filters to determine whether and to what extent nitrogenous pollutants enhance the mutagenicity of atmospheric particles by forming nitro-PAHs.

Specifically, this project would investigate the following: 1) the role of the various NOx species in the formation of mutagenic particles in the atmosphere; 2) whether mutagen formation occurs in the atmosphere, or is an artifact of the sampling method (i.e., do mutagens form on the filter as a result of prolonged exposure to a large volume of polluted air?); and 3) the role of the various NOx species in the formation of nitric acid in the atmosphere.

The specific measurements to be made are:

1) long-path (approximately 1-2 km) Fourier Transform Infrared Spectroscopy (FTIR) would be used to measure nitric acid, formaldehyde, ozone, PAN, formic acid and dinitrogen pentoxide, an important precursor of nitric acid;

2) differential optical absorption spectroscopy would be used to measure nitrate radical, $NO_2$, nitrous acid, and formaldehyde; and

3) conventional continuous monitors would be used to measure ozone, NOx, CO, temperature, relative humidity, solar radiation, light extinction, wind direction and wind velocity.

The information from this investigation would provide, for the first time, simultaneous measurements of all the nitrogen oxides species known to be important in air pollution chemistry, including precursors, atmospheric intermediates and end products such as nitric acid and possible nitro-PAHs. Combining the mutagenicity studies and atmospheric studies is expected to result in improved efficiency as compared to the cost of performing these needed studies separately.

BUDGET SUMMARY

STATEWIDE AIR POLLUTION RESEARCH CENTER

A COORDINATED STUDY OF THE ROLE OF NITROGENOUS POLLUTANTS IN THE FORMATION OF ATMOSPHERIC MUTAGENS AND ACID DEPOSITION

($440,437 - 24 MONTHS)

| BUDGET ITEMS | Year 1<br>January 1,1985<br>December 31,1985 | Year 2<br>January 1,1986<br>December 31,1986 |
|---|---|---|
| Salaries | $ 98,350 | $105,571 |
| Employee Benefits | 22,388 | 23,972 |
| Equipment | 10,501* | 12,185** |
| Supplies and Materials | 20,265 | 18,505 |
| Travel | 1,260 | 2,520 |
| Other Expenses (reproduction and computer usage) | 2,000 | 2,500 |
| Total Direct Costs | $154,764 | $165,253 |
| Indirect Costs | 58,427 | 61,993 |
| Total Costs | $213,191 | $227,246 |

* Includes $4,210 (half of the total price) for Teknivert Data System for Gas Chromatograph

** Includes $7,975 for state-of-the art TECO Pulsed Fluorescence $SO_2$ analyzer and the remaining $4,210 for Teknivert Data System for Gas Chromatograph

State of California
AIR RESOURCES BOARD

Resolution 84-52

October 26, 1984

Agenda Item No.: 84-14-1

WHEREAS, Health and Safety Code Sections 39600 and 39601 require the Air Resources Board (the "Board") to adopt rules and regulations and take all actions necessary for the proper execution of the powers and duties granted to and imposed upon the Board;

WHEREAS, Health and Safety Code Section 39606(b) requires the Board to adopt ambient air quality standards, as defined by Health and Safety Code Section 39014, for the protection of the public health, safety, and welfare, including but not limited to health, illness, irritation to the senses, aesthetic value, interference with visibility, and effects on the economy;

WHEREAS, in accordance with AB 1111 (Stats 1979, ch 567, section 1) and a 1983 directive by the Governor, the Board has reviewed its regulations entitled "Ambient Air Quality Standards," contained in Title 17, California Administrative Code, Sections 70100-70201;

WHEREAS, as a result of these reviews and on the basis of public comment and continuing staff analysis, the Board finds that the proposed explanatory and editorial changes are needed to improve the clarity of the regulations, to eliminate unnecessary or redundant language, and to conform the regulations to current practice, policy, and methodology;

WHEREAS, the Board has determined that the change proposed by the staff regarding the addition of language to authorize use of an equivalent method for the measurement of $PM_{10}$ will be considered at a future Board meeting;

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

WHEREAS, the Board finds that the proposed action will have no adverse impacts on the environment and that therefore no mitigation measures are required; and

WHEREAS, a public hearing has 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.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves the amendments to the regulations contained in Title 17, California Administrative Code, Sections 70100-70201, as set forth in Attachment A hereto, and directs the Executive Officer to adopt such amendments after making them available to the public for a period of 15 days; provided, however, that the Executive Officer shall consider such written comments as may be submitted during this period and shall present the regulations to the Board for further consideration if he determines that this is warranted in light of the written comments received.

I hereby certify that the above is a true and correct copy of Resolution 84-52, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ATTACHMENT A

Amend Title 17, California Administrative Code, Section 70100 to read as follows:

70100. Definitions

(a) Ambient Air Quality Standards. "Ambient air quality standards" are ~~specific~~ specified concentrations and durations of air pollutants which reflect the relationship between the intensity and composition of pollution to undersirable effects.

(b) Most Relevant Effects. "Most Relevant Effects," shown in the Table of Ambient Air Quality Standards, are the effects which the standards are intended to prevent or abate.

(c) Parts Per Million (ppm). "Parts per million" is a volumetric unit of gas concentration, which is numerically equal to the volume of a gaseous contaminant present in one million volumes of air.

(d) Micrograms Per Cubic Meter ($ug/m^3$). "Micrograms per cubic meter" is a unit of concentration which is numerically equal to the mass of a contaminant (in micrograms) present in a one cubic meter sample of air, measured at ~~standard-conditions~~ EPA reference conditions (corrected to 25 degrees Celsius, 760 torr).

(e) Equivalent Method. "Equivalent Method" is any ~~pocedure~~ procedure for measuring the concentration of a contaminant, other than that specified in the air quality standard for the contaminant, which can be shown to the satisfaction of the Air Resources Board to give equivalent results at or near the level of the air quality standard.

(f) Prevailing Visibility. "Prevailing visibility" is the greatest visibility which is attained or surpassed around at least half of the horizon circle, but not necessarily in continuous sectors. Prevailing visibility is determined by the procedure given in ~~"Manual-of-Surface-Observations",-U.S. Weather-Bureau,-Army-and-Navy~~ "Federal Meteorological Handbook #1," U. S. Departments of Commerce, Defense and Transportation.

(g) Oxidant. Oxidant is a substance that oxidizes a selected reagent that is not oxidizable by oxygen under ambient conditions~~,~~. ~~for~~ For the purposes of this section, ~~it~~ oxidant includes ozone, organic peroxides, and peroxyacyl nitrates but not nitrogen dioxide. Atmospheric oxidant concentrations are to be measured ~~by-the-neutral-potassium-iodide-method,-corrected-for-nitrogen dioxide,-or-by-an-equivalent-method~~ with ozone as a surrogate by ultraviolet photometry, or by an equivalent method.

(h) Carbon Monoxide (CO). Carbon monoxide is a colorless gas, odorless under atmospheric conditions, having the molecular form CO. ~~Atmospheric-carbon-monoxide-concentrations-are-to-be-measured-by-the-nondispersive infrared-method,-corrected-for-interferences-of-carbon-dioxide-and-water vapor,-or-by-an-equivalent-method.~~

(i) Sulfur Dioxide ($SO_2$). Sulfur dioxide is a colorless, irritating gas under atmospheric conditions, having the molecular form $SO_2$. ~~Atmospheric-sulfur-dioxide-concentrations-are-to-be-measured-by-the conductimetric-method,-or-by-an-equivalent-method.~~

(j) Suspended Particulate Matter. Suspended particulate matter refers to atmospheric particles, solid and liquid, except uncombined water. Atmospheric suspended particulate matter is to be measured by the high volume sampler method or by an equivalent method for purposes of determining total suspended

particulate and by a $PM_{10}$ sampler ~~or equivalent method~~ for purposes of monitoring for compliance with the Suspended Particulate Matter standard ($PM_{10}$).

(k) Visibility Reducing Particles. Visibility reducing particles are atmospheric particles ~~in the light scattering size range~~ which significantly scatter or absorb light. The effect of these particles on prevailing visibility is to be determined by direct observation, or by an equivalent method.

(l) Hydrogen Sulfide ($H_2S$). Hydrogen sulfide is a colorless gas having the molecular form $H_2S$. At~~mospheric hydrogen sulfide concentrations are to be measured by the cadmium hydroxide Stractan method.~~

(m) Nitrogen Dioxide ($NO_2$). Nitrogen dioxide is a red-brown gas, odorless under atmospheric conditions, having the molecular form $NO_2$. ~~Atmospheric nitrogen dioxide concentrations are to be measured by the Saltzman Reagent method, or by an equivalent method.~~

(n) Lead (particulate). Lead (particulate) is suspended particulate matter containing lead (Pb).

(o) Sulfates. Sulfates are the water soluble fraction of suspended particulate matter containing the sulfate radical ($SO_4$=) including but not limited to strong acids and sulfate salts, as measured by AIHL method No. 61 (Turbidimetric Barium Sulfate)~~/~~ or equivalent method.

(p) Vinyl Chloride. Vinyl chloride is a colorless gas with the molecular form $Ch_2$-CHCl; chloroethene.

NOTE: Authority cited: Section 39601, Health and Safety Code. Reference: Sections 39600, 39602, and 39607, Health and Safety Code.

Amend Title 17, California Administrative Code, Section 70101 to read as follows:

~~Ambient-air-quality-standards-are-not-intended-to-provide-a-sharp-line dividing-air-of-satisfactory-quality-from-air-of-unsatisfactory-quality. However,-pollution-levels-below-those-shown-in-the-standards-should-not ordinarily-produce-the-associated-effects.~~

The objective of ambient air quality standards is to provide a basis for preventing or abating the effects of air pollution, including effects on health, aesthetics and economy. ~~Since their objective is to improve air quality, the~~ The standards should not be interpreted as ~~permitting,~~ encouraging, or condoning degradation of present air quality in any air basin which now has air quality superior to that stipulated in the standards. Pollution levels below those shown in the standards should not ordinarily produce the associated effects.

In determining compliance with the standards through air monitoring, the sites and conditions of air sampling should be so chosen as to realistically represent the exposures of people, animals, vegetation and materials.

Ambient air quality standards ~~will~~ shall be reviewed ~~annually-in-the-light of-new-information-and-experience,-to-consider-whether-existing-standards-need to-be-revised-or-additional-standards-established~~ and subject to modification whenever substantial pertinent new information becomes available and at least once every five years. To the extent feasible, review of a standard shall be coordinated with the review of any corresponding federal standard by the Environmental Protection Agency.

NOTE: Authority cited: Section 39601(a), Health and Safety Code.
Reference: Sections 39600 and 39602, Health and Safety Code.

Amend portion of table in Section 70200, Title 17, California Administrative Code, to read as follows:

70200. Table of Standards~~,-Applicable-Statewide.~~***

| Substance | Concentration and Methods* | Duration of Averaging Periods | Most Relevant Effects | Comments |
|---|---|---|---|---|
| | | * * * * * | | |
| Visibility Reducing Particles | In sufficient amount to reduce ~~visibility***~~ visibility to less than 10 miles when relative humidity is less than 70%. | 1 observation | Visibility Impairment on days when relative humidity is less than 70%. | |
| Visibility Reducing Particles (Applicable only in Lake Tahoe Air Basin) | In sufficient amount to reduce the prevailing ~~visibility***~~ visibility to less than 30 miles when relative humidity is less than 70%. | 1 observation | Reduction in scenic quality on days when the relative humidity is less than 70%. | |
| Suspended Particulate Matter ($PM_{10}$) | 50 $\mu g/m^3$ $PM_{10}$** <br> 30 $\mu g/$~~$m^3$~~$m^3$ $PM_{10}$** | 24 hour sample <br> 24 hour samples, annual geometric mean | Prevention of excess deaths from short-term exposures and of exacerbation of symptoms in sensitive patients with respiratory disease. Prevention of excess seasonal declines in pulmonary function, especially in children. | This standard applies to suspended matter as measured by $PM_{10}$ sampler, which collects 50% of all particles of 10 µm aerodynamic diameter and collects a declining fraction of particles as the diameter increases, reflecting the characteristic of lung deposition.~~*~~ |
| Lead (Particulate) | 1.5 $\mu g/m^3$ AIHL Method No. 54 (Atomic Absorption) or equivalent | 30-day average | Increased body burden, impairment of blood formation and nerve conduction | |

* * * * *

| | | | | |
|---|---|---|---|---|
| Nitrogen Dioxide | 0.25 ppm, ~~Saltzman~~ Gas Phase Chemi-luminescence | 1 hour | a. At slightly higher dosage effects are observed in experimental animals, which imply a risk to the public health.<br>b. Produces atmospheric discoloration | |
| Sulfates | 25 $\mu g/m^3$ total sulfates, AIHL #61 (Turbidimetric Barium Sulfate) | 24 hours | a. Decrease in ventilatory function<br>b. Aggravation of asthmatic symptoms<br>c. Aggravation of cardio-pulmonary disease<br>d. Vegetation damage<br>e. Degradation of visibility<br>f. Property damage | This standard is based on a Critical Harm Level, not a threshold value. |

* Any equivalent procedure which can be shown to the satisfaction of the Air Resources Board to give equivalent results at or near the level of the air quality standard may be used.

** These standards are violated when concentrations exceed those set forth in the body of the regulation. All other standards are violated when concentrations equal or exceed those set forth in the body of the regulation.

~~***-Prevailing-visibility-is-defined-as-the-greatest-visibility-which-is-attained or-surpassed-around-at-least-half-of-the-horizon-circle,-but-not-necessarily in-continuous-sectors.~~

*** Applicable statewide unless otherwise noted.

* * * * *

NOTE: Authority cited: Sections 39600, 39601(a) and 39606(b), Health and Safety Code.
Reference: Sections 39014, 39606(b), 39701 and 39703(g), Health and Safety Code.

* * * * *

| | | | | |
|---|---|---|---|---|
| Nitrogen Dioxide | 0.25 ppm, ~~Saltzman~~ Gas Phase Chemi-luminescence | 1 hour | a. At slightly higher dosage effects are observed in experimental animals, which imply a risk to the public health.<br>b. Produces atmospheric discoloration | |
| Sulfates | 25 $\mu g/m^3$ total sulfates, AIHL #61 (Turbidimetric Barium Sulfate) | 24 hours | a. Decrease in ventilatory function<br>b. Aggravation of asthmatic symptoms<br>c. Aggravation of cardio-pulmonary disease<br>d. Vegetation damage<br>e. Degradation of visibility<br>f. Property damage | This standard is based on a Critica Harm Level, not a threshold value. |

* Any equivalent procedure which can be shown to the satisfaction of the Air Resources Board to give equivalent results at or near the level of the air quality standard may be used.

** These standards are violated when concentrations exceed those set forth in the body of the regulation. All other standards are violated when concentrations equal or exceed those set forth in the body of the regulation.

~~***-Prevailing-visibility-is-defined-as-the-greatest-visibility-which-is-attained or-surpassed-around-at-least-half-of-the-horizon-circle,-but-not-necessarily in-continuous-sectors.~~

*** Applicable statewide unless otherwise noted.

* * * * *

NOTE: Authority cited: Sections 39600, 39601(a) and 39606(b), Health and Safety Code. Reference: Sections 39014, 39606(b), 39701 and 39703(g), Health and Safety Code.

* * * * *

| | | | | |
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~~*** Prevailing visibility is defined as the greatest visibility which is attained or surpassed around at least half of the horizon circle, but not necessarily in continuous sectors.~~

*** Applicable statewide unless otherwise noted.

* * * * *

NOTE: Authority cited: Sections 39600, 39601(a) and 39606(b), Health and Safety Code.
Reference: Sections 39014, 39606(b), 39701 and 39703(g), Health and Safety Code.

Amend Section 70200.5, Title 17, California Administrative Code, to read as follows:

70200.5. Ambient Air Quality Standards for Hazardous Substances.*

| Substance | Concentration and Methods | Duration of Averaging Periods | Most Relevant Effects | Comments |
|---|---|---|---|---|
| Vinyl Chloride (Chloro-ethene $CH_2$=CHCl) | 0.010 ppm ARB ~~method-specified in Staff Report 78-8-3~~ Haagen-Smit Lab Method No. 101 (Tedlar Bag Collection Gas Chromatography) | 24 hours | Known human and animal carcinogen | Low-level effects are undefined, but are potentially serious. Level is not a threshold level and does not necessarily protect against harm. Level specified is lowest level at which violation can be reliably detected by the method specified. Ambient concentration at or above the stand constitute an endange ment to the health of the public. |

* Applicable statewide unless otherwise noted.

NOTE: Authority cited: Section 39601, Health and Safety Code. Reference: Section 41700, Health and Safety Code.

State of California
AIR RESOURCES BOARD

Public Hearing to Consider Amendments to Regulations Regarding Ambient Air Quality Standards

Hearing Date: October 25, 1984
Public Availability Date: November 19, 1984

On October 25, 1984, the Air Resources Board (the "Board") approved amendments to its regulations re: Ambient Air Quality Standards in order to improve the clarity of the regulations, eliminate unnecessary or redundant language, and to conform the regulations to current practice, policy, and methodology. While no changes were made to the ambient standards themselves, the Board approved changes to definitions and measurement methods for several air pollutants, approved amendments to the general statement of policy and scope regarding the ambient standards, and approved clarifying changes to the table of standards. The regulations which would be amended are set forth in Sections 70100 - 70201 of Title 17, of the California Administrative Code. Attached is a copy of the Board's Resolution 84-52, approving these amendments.

The approved amendments are identical to those previously proposed by the staff and outlined in the public hearing notice on this matter, dated August 28, 1984, with several exceptions. Language concerning an equivalent method for measuring $PM_{10}$ was deleted, language specifying use of an equivalent method for measuring sulfates was added, and language re: the purpose of the ambient air quality standards was deleted from the policy statement. Appended to Resolution 84-52 are the approved amendments, showing the deletions from the originally proposed language in slashes, and the additions to the originally proposed language in double underlines.

In Resolution 84-52 the Board directed the Executive Officer to adopt the approved amendments after making them available to the public for a period of 15 days, provided that the Executive Officer is required to present the regulations to the Board for further consisderation if he determines that this is warranted in light of the written comments received. Any written comments on the changes approved by the Board must be received by the Board Secretary, Air Resources Board, P. O. Box 2815, Sacramento, California 95812 by 5:00 p.m. on December 4, 1984, to be considered.

State of California

# Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : February 1, 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 decision and response to environmental comments raised during the comment period.

ATTACHMENTS
84-38
84-41
84-42
84-52

FILED AND POSTED BY
OFFICE OF THE SECRETARY
FEB 5 1985
Resources Agency of California

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Amendments to Regulations Regarding Ambient Air Quality Standards

Agenda Item No.: 84-14-1

Public Hearing Date: October 25, 1984

Response Date: December 4, 1984

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: _____
Board Secretary

Date: 4-8-85

State of California
AIR RESOURCES BOARD

Resolution 84-53

October 25, 1984

Agenda Item No.: 84-14-4

WHEREAS, Health and Safety Code Sections 39600, 39601, 43013 and 43101 authorize the Air Resources Board (the "Board") to implement, interpret, or make specific Health and Safety Code Sections 39000, 39001, 39002, 39006, 43000, 43013 and 43101, and Western Oil and Gas Ass'n v. Orange County APCD, 14 Cal.3d 411 (1975), by adopting regulations governing the composition of motor vehicle fuels as they affect motor vehicle emissions;

WHEREAS, Title 13, California Administrative Code, Section 2252(d) prohibits, beginning January 1, 1985, any person from selling, producing for sale, offering for sale, or delivering for sale in the South Coast Air Basin or Ventura County, diesel fuel for use in motor vehicles which has a sulfur content greater than 500 parts per million, subject to an exemption in Section 2252(h) for specified amounts of diesel fuel produced in the South Coast Air Basin or Ventura County by small refiners and with provisions for variances in Section 2252(j);

WHEREAS, the Board has established ambient air quality standards for particles with an aerodynamic diameter less than 10 microns ($PM_{10}$) and those standards are estimated to be exceeded in most areas of the state;

WHEREAS, the U.S. Environmental Protection Agency has proposed national ambient air quality standards for $PM_{10}$;

WHEREAS, emissions from diesel engines, especially emissions of sulfur dioxide that react in the atmosphere to form secondary particulates, contribute to ambient concentrations of $PM_{10}$;

WHEREAS, the Board's staff has investigated the feasibility of achieving further diesel engine emissions reductions through modifications of motor vehicle diesel fuel specifications, and has prepared a report on this subject for the Board's consideration;

WHEREAS, the Board has held a duly noticed public meeting at which it considered the report prepared and submitted to it by the staff and received public comments; and

WHEREAS, the Board finds that:

> Further information on the relationship between the aromatics content and volatility of diesel fuel and diesel engine emissions is necessary before an adequate evaluation can be made of the feasibility of imposing standards for those qualities of motor vehicle diesel fuel as an emissions control measure;

Modification of diesel fuel properties would reduce directly emitted particulate matter but would not reduce visible emissions proportionately;

Reducing the sulfur content of motor vehicle diesel fuel appears to be a feasible control strategy for the reduction of ambient concentrations of $PM_{10}$;

The sulfur content of motor vehicle diesel fuel limits contained in Title 13, California Administrative Code, Section 2252 will provide substantial air quality benefits in the South Coast Air Basin and Ventura County; and

The small refiner exemption from the motor vehicle diesel fuel sulfur content limits in Section 2252 may have a significant adverse impact on the effectiveness of the regulation in reducing ambient concentrations of $PM_{10}$.

NOW, THEREFORE, BE IT RESOLVED that the Board directs the staff to

1. Investigate the impacts of eliminating or limiting the small refiner exemption in Title 13, California Administrative Code, Section 2252(h) and report to the Board no later than September 1985;

2. Consider a statewide regulation to control the sulfur content of motor vehicle diesel fuel as a strategy in developing a State Implementation Plan to attain the national ambient air quality standards for $PM_{10}$ when those standards are promulgated;

3. Further investigate the relationship between the aromatics content and volatility of diesel fuel and motor vehicle diesel engine emissions as additional information on those subjects becomes available.

I hereby certify that the above is a true and correct copy of Resolution 84-53 as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 84-54

November 30, 1984

Agenda Item No.: 84-16-2

WHEREAS, Health and Safety Code Section 39701 requires the Air Resources Board (the "Board") to coordinate and collect research data on air pollution, and Health and Safety Code Section 39703 authorizes the Board to establish applied research objectives, to receive and review research proposals, to recommend specific research projects, and to establish necessary administrative and review procedures;

WHEREAS, Health and Safety Code Section 39705 directs the Board to appoint a screening committee of scientific and engineering experts to review, and to give its advice and recommendations with respect to, all air pollution research projects funded by the state;

WHEREAS, on March 22, 1984, the Board met with the Research Screening Committee during a duly noticed public meeting to review and discuss the Board's research program;

WHEREAS, the Board has considered issues relating to the role and functioning of the Research Screening Committee and has received public comment on these issues at public hearings held April 27, 1984, and May 24, 1984;

WHEREAS, the Board, by Resolution 84-12, has resolved to pursue a policy of close liaison between the Board and the Research Screening Committee as a means of ensuring that the Board is aware of the latest developments in the research program and that the Committee is fully apprised of the Board's regulatory priorities as they apply to the research program;

WHEREAS, the Board staff, with the advice and assistance of the Research Screening Committee, has developed a proposal for a long-range plan for extramural research which is consistent with the Board's expressed research priorities and with the statutory requirements for the Board's research program;

WHEREAS, the Research Screening Committee has reviewed and recommended that the Board approve the proposed Long-Range Research Plan as set forth in Attachment A hereto;

WHEREAS, within 60 days, the staff will identify, for the Board's approval, specific recommendations for research activities within the categories identified in the Long-Range Research Plan;

WHEREAS, the California Environmental Quality Act and Board regulations require that an activity not be approved as originally proposed if feasible alternatives or mitigation measures are available which would reduce any significant adverse impacts the activity may have on the environment;

WHEREAS, the Board has considered the proposed Long-Range Research Plan at a duly noticed public meeting; and

WHEREAS, the Board finds that

> The proposed Long-Range Research Plan accurately sets forth the goals and objectives of the Board's research program and identifies to a reasonable degree the specific research topics which will lead toward achievement of those goals and objectives;
>
> The research priorities reflected in the allocation of funds among research categories in the proposed Long-Range Research Plan are consistent with the Board's current and future regulatory priorities; and
>
> The proposed action will have only beneficial effects on the environment.

NOW, THEREFORE, BE IT RESOLVED that the Board approves the Long-Range Research Plan, as set forth in Attachment A hereto, and directs the Executive Officer to implement the plan subject to available funds in accordance with the existing procedures established by the Board.

I hereby certify that the above is a true and correct copy of Resolution 84-54, as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

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## I. INTRODUCTION

In accordance with the California Health and Safety Code (Sections 39700-39706, Attachment A), ARB conducts a comprehensive program of research into the causes, effects and possible solutions to the air pollution problem in California.* The Health and Safety Code further provides (Section 39701) that the Board shall coordinate and collect research data on air pollution in several specified categories of research. Generally, these categories are: effects of air pollution; emissions inventory and control technology; atmospheric processes; meteorology, forecasting, and modeling; and air quality measurement and data analysis. The ultimate objective of the research program is to provide timely scientific and technical information needed for public policy decisions to operate an effective air pollution control program in California. Consistent with these needs and its statutory mandate, the ARB has defined six major research problems which reflect ARB's current priorities and needs for detailed scientific and technical information. These problems and knowledge gaps are:

a. Emissions from diesel-powered vehicles;
b. Toxic air contaminants;
c. Air pollution damage to agricultural crops;
d. Other air pollution health effects and standards review;
e. Regional Air Pollution Studies; and
f. Reducing emissions from mobile and stationary sources, other than diesels.

*Acid deposition research, which has been the subject of two recent Board meetings, is provided for under a separate chapter of the Health and Safety Code (Chapter 6, Sections 39900-39915) and, except as noted, is excluded from the discussion that follows. For those interested, a discussion and outline of the Board's long-range plans for acid deposition research and monitoring may be found in the Board's first annual report, entitled "Acid Deposition Research and Monitoring Program, Report to the Governor and Legislature", December 1983.

In the long-range research plan (Chapter II), these research problems are developed into a series of general goals and objectives which, in turn, are described by candidate research projects. The overall plan represents ARB's best current perception of future problems which should be addressed, in part, through extramural research. Many of the projects for the current fiscal year (1984-85) have already been started; these are shown primariliy for continuity. Detailed projects for the later years, 1985-86 and 1986-87, will be refined with greater specificity in the future, depending upon updated needs and results from ongoing studies. Accordingly, the research plan contained herein is intended to be flexible and adaptable to changing needs.

Beginning in 1984, the ARB intends to prepare and disseminate to interested parties its comprehensive long-range plan for air pollution research in California. Development of this plan begins with a survey and analysis of research problems. Identification of problems and needed projects originate with the identification of a relevant scientific or technical problem by the Legislature, by the Board, by ARB staff, local air pollution control district staffs, by Board advisory committees, such as the Agricultural Advisory Committee, or by independent scientific investigators in the academic community and elsewhere. Such problem statements are often accompanied by requests (or legislative mandates) for research studies, sometimes including detailed project objectives and research plans. This process is formalized in California through an annual zero-based* budget process. An initial research plan proposal is drafted annually by the Board staff and, after review and amendment (as necessary) by the Board Chairman and Secretary of Environmental Affairs, is submitted to the Governor for consideration in the Administration's budget proposal. The research budget proposal is subsequently reviewed by the Legislature's fiscal committees before funds are appropriated.

Once approved by the Board, the ARB's long-range research plan is intended to serve as a guide to all interested parties, particularly with regard to candidate research topics.

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Once approved by the Board, the ARB's long-range research plan is intended to serve as a guide to all interested parties, particularly with regard to candidate research topics.

As in the past, air pollution research proposals will be reviewed, in conformance with statutory requirements (Health and Safety Code Sections 39701, 39703-39705), by the Board staff and by the Research Screening Committee, which provides independent scientific and technical peer review (see Attachment B). Once initiated, each research contract will be monitored by the Research Division to ensure that projects stay on target and on schedule. Historically, most research projects have required from 12 to 36 months (statutory limit) for the contractor to complete the work. Upon completion of the research portion of the project, contractors prepare draft final reports which are then reviewed by staff and the Research Screening Committee. Final reports are then prepared by the contractor, and copies are forwarded to the ARB for distribution internally, to districts, and to other interested persons through the National Technical Information Service (a federal agency).

The ARB research program coordinates research efforts and exchanges information with a number of interested agencies and with the scientific and technical communities at large. Primary contacts are:

1. Local Air Pollution Control Districts sometimes represented by CAPCOA (California Air Pollution Control Officers' Association)
2. USEPA (United States Environmental Protection Agency)
3. CEC (California Energy Commission)
4. CDAWG (California Desert Air Working Group)
5. SAWG (State Agency Working Group on Acid Deposition)
6. Scientific and Technical communities at large

The research plan contained in Chapter II has been reviewed and approved by the Board's Research Screening Committee. A letter from the Chairman of the Committee is attached (Attachment D).

*A zero-based budget requires annual analysis and justification of each budget item to arrive at a total budget for the year, rather than specifying a baseline funding level which would subsequently be disaggregated by project area.

## II. LONG-RANGE RESEARCH PLAN

This chapter describes each of the six major research problems which have been identified as crucial to the overall success of the Board's efforts to maintain an effective air pollution control program in California. In addition, the outline following each section summarizes the Board's goals and objectives for research and lists candidate research topics to address the respective problems.

### A. EMISSIONS FROM DIESEL-POWERED VEHICLES

Particles emitted from light-duty (LD) and heavy-duty (HD) diesel-powered vehicles have been of increasing concern in recent years due to potential for adverse human health effects and significant effects upon atmospheric visibility and soiling. More precise determination of such health risks and the development of measures to reduce diesel emissions from all classes of vehicles are high priorities for ARB research. Nationally, the EPA is addressing similar problems, but California has taken the lead in promulgating and adopting more stringent emission standards for diesel vehicles. Such actions are necessary because air pollution problems are exacerbated in California by stagnant atmospheres and pollutant concentration buildups in some areas, especially the South Coast and San Joaquin Valley Air Basins.

Diesel fuel use and emissions from diesel-fueled vehicles have been increasing as diesels have penetrated further into the total vehicle fleet. This trend is expected to continue in the future. The emissions of greatest concern are particulate matter and oxides of nitrogen. In 1983, diesel-fueled vehicles emitted about 80 percent of the 61 tons per day of particulate emissions from statewide mobile sources (on-road vehicles). By 1995, diesel-fueled vehicles are projected to emit about 90 percent of the 110 tons per day of particulate emissions estimated for statewide mobile sources. For oxides of nitrogen (NOx) emissions, which are precursors of nitric

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acid formation in the atmosphere, diesel-fueled vehicles accounted for about 33 percent of the 1630 tons per day of NOx emissions from Statewide mobile sources in 1983. By 1995, these vehicles are projected to emit about 60 percent of 1380 tons per day of NOx emissions from the same source categories.

Currently, the ARB is sponsoring research projects to investigate the effects of acidity on the lung, using simulated urban atmospheres (diesels emit both sulfur oxides and nitrogen oxides which form acids in the atmosphere), to evaluate the retention of inhaled toxic pollutants (diesels emit many toxic organic compounds, most notably polycyclic organic materials), and to develop and demonstrate a catalytic trap oxidizer to reduce particulate exhaust from diesel buses (smoke from city buses is a major source of complaints from the public).

The ARB's three-year plan to address these problems (see outline at the end of this section) includes both an ongoing assessment of health risks and phased efforts to: more fully characterize HDV and LDV exhaust emissions; develop and demonstrate HDV emission control technologies (particulate traps); determine the feasibility of a field inspection program for heavy-duty diesels; evaluate the effects of changes in diesel fuel composition; and carry out studies to characterize diesel-emitted hydrocarbons and associated particles present in the atmosphere.

The information provided by these studies is needed by the Board to carry out its statutory role of controlling air pollutant emissions from motor vehicles, to address the intense public concern about diesel soot emissions, and to achieve and maintain the federal and state ambient air quality standards. Because air quality in California violates certain air quality standards by a wide margin, more timely and stringent control measures may be required, as compared to the balance of the nation. Without the unique

A. EMISSIONS FROM DIESEL-POWERED VEHICLES

| RESEARCH GOALS & OBJECTIVES | CURRENT RESEARCH TOPICS FY 84-85 | PLANNED RESEARCH TOPICS FY 85-86 | FY 86-87 |
|---|---|---|---|
| Health effects assessment | -investigate effects of acidity on the lung using simulated urban atmospheres | -continuing | -continuing |
| | | -absorption and excretion of mutagens and carcinogens from heavy duty diesel particulate matter | -repeat using PM from LD diesel and gasoline-powered vehicles |
| Characterize HDV and LDV emissions | -select analytical techniques, begin determining emissions factors | -complete emissions factor determination | -compile emissions data, assess trends |
| Evaluate and demonstrate HDV and LDV emission controls | -characterize and evaluate LDV emission controls | -set up and operate test vehicles | -analyze and report results of test vehicles |
| | -characterize and evaluate HDV emission controls | -set up and operate test vehicles | -analyze and report results of test vehicles |
| | -evaluate soot traps, engine modifications and alternative fuels (year 1 of 2) | -evaluate traps, etc. (year 2 of 2) | |
| | | -identify toxic and mutagenic materials emitted from controlled diesel-powered vehicles | |
| | -heavy duty engine rebuilding practices | | |
| | | -evaluate effects of changes to diesel fuel composition | |
| | | -evaluate transfer of control technology to off-road vehicles | |
| Develop diesel Motor Vehicle Inspection Program (HDV and LDV) (high priority) | -preliminary studies in support of diesel MVIP, pilot program | -continuing support studies, begin pilot program | -preliminary review of effectiveness of diesel MVIP |
| Characterize diesel-emitted particles in the atmosphere | -identify toxic and emitted mutagenic materials from diesel-powered vehicles (year 1 of 2) | -toxic materials from diesels (year 2 of 2) | |

## B. TOXIC AIR CONTAMINANTS

Assembly Bill No. 1807 (Tanner) defined toxic air contaminants as air pollutants which may cause or contribute to increased mortality or serious illness or pose a present or potential health threat. The Bill also established a two-phase program to address each toxic air contaminant; substances are first identified, then a control decision is made. Finally, the Bill established a Scientific Review Panel to review the information assembled by the staffs of the Department of Health Services and the Air Resources Board and make recommendations to the Board. The ARB has responsibilities in all aspects of the program. After completing the substance identification phase (risk assessment), in cooperation with the Department of Health Services, ARB is responsible for the control decision phase (risk management). In responding to this new legislative mandate, the Board has assigned the highest priority to fulfilling its responsibilities for the identification and control of toxic air contaminants in the state.

Following the prioritization criteria established in Assembly Bill 1807 (which include: risk of harm to public health; amount or potential amount of emissions; manner of usage; persistence in the atmosphere; and ambient concentrations), and information developed by the International Association for Research on Cancer, the staff of the ARB identified compounds of significant concern in California and compounds of potential concern in California. Currently, the ARB staff is proceeding with the AB 1807 process on the list of compounds of significant concern. A research project initiated in FY 1983-84 is investigating sampling and analytical methods for some of the compounds on this list.

The Board's three-year research plan identifies research needed to augment and complement the work of ARB staff in carrying out the Board's mandate relative to toxic air contaminants. The plan outlines a coordinated research program to fill both short-term and

## B. TOXIC AIR CONTAMINANTS

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Following the prioritization criteria established in Assembly Bill 1807 (which include: risk of harm to public health; amount or potential amount of emissions; manner of usage; persistence in the atmosphere; and ambient concentrations), and information developed by the International Association for Research on Cancer, the staff of the ARB identified compounds of significant concern in California and compounds of potential concern in California. Currently, the ARB staff is proceeding with the AB 1807 process on the list of compounds of significant concern. A research project initiated in FY 1983-84 is investigating sampling and analytical methods for some of the compounds on this list.

The Board's three-year research plan identifies research needed to augment and complement the work of ARB staff in carrying out the Board's mandate relative to toxic air contaminants. The plan outlines a coordinated research program to fill both short-term and

long-term needs for information on toxic air contaminants. Short-term research needs include information required to begin the AB 1807 process for the compounds of significant concern. Specifically, in 1984-85, staff proposes to initiate research projects to investigate the sources, emissions, atmospheric concentrations and fate in the atmosphere of chloroform and specific sources for vinyl chloride. Both of these toxic compounds are found in the atmosphere at unexpectedly large concentrations compared to the emissions from known sources.

The long-term plans for toxic substance research are oriented toward the toxic compounds of potential concern, including products of incomplete combustion. Future research projects will: survey and quantify toxic emissions from major sources; examine the formation and fate of such substances in the atmosphere and in controlled atmospheres; characterize source-receptor relationships; and study the retention and metabolism of inhaled toxic substances. The information to be provided by these studies is needed by the staff and Board to complete the risk assessment portion of the AB 1807 process for control of toxic air contaminants.

B. TOXIC AIR CONTAMINANTS

| RESEARCH GOALS & OBJECTIVES | CURRENT RESEARCH TOPICS FY 84-85 | PLANNED RESEARCH TOPICS FY 85-86 | FY 86-87 |
|---|---|---|---|
| Health assessment | -evaluate retention of inhaled toxic pollutants | -evaluate the possible role of particles as carriers of toxic compounds | -human retention studies at ambient levels |
| Identify toxic compounds of concern | -identification of toxic compounds | -continuing | -continuing |
| Quantify toxic compound emissions for significant sources of priority toxic compounds | -survey and quantify significant sources of priority toxic air contaminants (e.g. chloroform and vinyl chloride) | -continuing, other compounds of potential concern and products of incomplete combustion | -continuing |
| Develop and assess methods to reduce emissions of toxic air contaminants | -develop a methodology to assess costs and benefits of reducing toxic compound emissions (risk management) | -apply methodology to evaluate specific toxic substance controls | -continuing |
| Characterize atmospheric concentrations of toxic air contaminants | -develop improved methodologies for analyzing classes of toxic air pollutants (in progress) | -develop improved methodologies for analyzing selected toxic air pollutants | -continuing |
| Characterize atmospheric transformations for selected toxic air contaminants | -characterize atmospheric transformations resulting in formation and/or destruction of selected toxic and/or mutagenic compounds (in progress) | -continuing | -continuing |
| Characterize source-receptor relationships for priority toxic compound emission sources | -transport studies to determine source-receptor relationships for significant sources of priority toxic and/or mutagenic compounds | -continuing | -continuing |
| Investigate effects of particle deposition and toxicity | -investigate absorption characteristics and effects on deep lung cells | -continuing | -continuing |

B. TOXIC AIR CONTAMINANTS

| RESEARCH GOALS & OBJECTIVES | CURRENT RESEARCH TOPICS FY 84-85 | PLANNED RESEARCH TOPICS FY 85-86 | FY 86-87 |
|---|---|---|---|
| Health assessment | -evaluate retention of inhaled toxic pollutants | -evaluate the possible role of particles as carriers of toxic compounds | -human retention studies at ambient levels |
| Identify toxic compounds of concern | -identification of toxic compounds | -continuing | -continuing |
| Quantify toxic compound emissions for significant sources of priority toxic compounds | -survey and quantify significant sources of priority toxic air contaminants (e.g. chloroform and vinyl chloride) | -continuing, other compounds of potential concern and products of imcomplete combustion | -continuing |
| Develop and assess methods to reduce emissions of toxic air contaminants | -develop a methodology to assess costs and benefits of reducing toxic compound emissions (risk management) | -apply methodology to evaluate specific toxic substance controls | -continuing |
| Characterize atmospheric concentrations of toxic air contaminants | -develop improved methodologies for analyzing classes of toxic air pollutants (in progress) | -develop improved methodologies for analyzing selected toxic air pollutants | -continuing |
| Characterize atmospheric transformations for selected toxic air contaminants | -characterize atmospheric transformations resulting in formation and/or destruction of selected toxic and/or mutagenic compounds (in progress) | -continuing | -continuing |
| Characterize source-receptor relationships for priority toxic compound emission sources | -transport studies to determine source-receptor relationships for significant sources of priority toxic and/or mutagenic compounds | -continuing | -continuing |
| Investigate effects of particle deposition and toxicity | -investigate absorption characteristics and effects on deep lung cells | -continuing | -continuing |

## C. AIR POLLUTION DAMAGE TO AGRICULTURAL CROPS AND FORESTS

Air pollution damage to crops in California may exceed one billion dollars per year. In addition, air pollution injures forests and other native vegetation. The ARB has placed a high priority on investigating the effects of this air pollution injury on agriculture and native vegetation in California, its specific causes, and its associated economic impacts.

The Board's mandate to limit crop damage due to air pollution arises from the Board's explicit statutory responsibility to adopt ambient air quality standards in consideration of public welfare. Any such standard must be scientifically sound and technically defensible. In the absence of a coordinated research effort to assess crop damage induced by air pollution, it is unlikely that damage estimates used in standard setting can be made sufficiently accurate and reliable to avoid significant errors in the resulting pollution control policy. Depending upon the regulatory approach used, substantial undercontrol or overcontrol of pollutant levels may ensue, resulting in undue economic costs, either to California agriculture and consumers, or to the owners and operators of emissions sources. The coordinated research program proposed herein, in concert with the ongoing crop loss assessment program, is designed to provide the needed information to develop, implement and support economically efficient air pollution management strategies. The proposed three-year plan for vegetation effects research addresses both biological and economic impacts of air pollution on crops. Biological effects will be examined through two types of studies. The first type of study is of yield loss and is conducted in open-top chambers. This type of study has been a major element of the research program to date. Planned efforts will focus on economically important perennial crops such as grapes and citrus. The second type of biological study focuses on understanding processes by which yield losses occur, and factors which can modify plant response to air pollution. In these studies, researchers will

examine physiological response mechanisms, and environmental and cultural factors such as humidity, light, fertilization and irrigation. These studies are intended to develop information, applicable to most plants, about measurable physiological changes that can indicate future yield losses, and about how local growing conditions can be taken into account in using the yield loss information from field chamber experiments. This type of information is essential to the success of the new crop loss assessment program.

Economic impacts of air pollution on vegetation will be addressed through studies to improve methods of crop loss assessment, studies which apply these improved methods, and studies to determine air pollution emissions sources which adversely affect California's major agricultural regions. The results of these economic assessment and source determination studies will be integrated with the results of the studies on the biological aspects of air pollution to develop economically efficient strategies for mitigating crop losses due to air pollution.

The proposed plan also includes an expanded effort to increase public awareness of air pollution damage to vegetation, as suggested by the Board's Agricultural Advisory Committee. This plan is to set up demonstrations of healthy and air-pollution injured plants side-by-side. The demonstration would be readily accessible to the public and would provide a first-hand look at the plant damage that can result from elevated air pollution levels.

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C. AIR POLLUTION DAMAGE TO AGRICULTURAL CROPS AND FORESTS

| RESEARCH GOALS & OBJECTIVES | CURRENT RESEARCH TOPICS FY 84-85 | PLANNED RESEARCH TOPICS FY 85-86 | FY 86-87 |
|---|---|---|---|
| Assess effects of air pollution on plants under controlled conditions | -maintain ARB fumigation facility at UCR (in progress) | -continuing | -continuing |
| | -determine effect of $O_3$ and $SO_2$ on citrus (in progress) | -continuing | |
| | -determine effect of $O_3$ and $SO_2$ on grapes (in progress) | -continuing | |
| | -determine effect of $O_3$ and $SO_2$ on growth and yield of field crops | | |
| | | -assess $O_3$ and $SO_2$ effects on native vegetation | -continuing |
| Assess effects of air pollution on intrinsic plant factors and their influence on plant response (physiology, growth stage) | -identify sensitive early indicators of plant damage by air pollution | | |
| | | -assess premature plant tissue aging caused by $O_3$ and $SO_2$ | -continuing |
| | | -assess plant response to $O_3$ and $SO_2$ at different growth stages | -continuing |
| Assess influence of extrinsic factors on plant responses to air pollution (humidity soil, irrigation, fertilization, etc.) | | -determine effects of $O_3$ and $SO_2$ on plants as influenced by humidity, soil salinity, fertilizer, light, irrigation, etc. | -continuing |
| Disseminate scientific information to promote public awareness of air pollution damage to plants | | -set up and conduct demonstrations showing healthy and air pollution-damaged plants | |
| Improve methodologies for measuring and evaluating damage to specific crops, range plants and forest vegetation | -investigate statistical methods of estimating crop loss functions (in progress) | -evaluation of agricultural economic models | |
| | -develop and apply methods to measure and evaluate damage to forest in southern California (year 1 of 2) | -forest damage (year 2 of 2) | |
| Assess crop damage and determine emission sources affecting major farming regions of California | | | |
| a. San Joaquin Valley | -perform crop damage assessment at the farm level (in progress) | -continuing | -continuing |
| | -use input/output analysis to determine indirect economic losses associated with crop damage | | |
| | -determine aerometric data needs and plan field study to determine sources of air pollution that cause crop damage in the SJV (year 2 of 5) | -begin intensive field study (year 3 of 5) | -intensive field study and start of data analysis (year 4 of 5) |
| b. Other agricultural regions | -obtain disaggregated crop yield data for damage assessment (year 1 of 5) | -perform crop damage assessment for one or more major farming regions; plan field study to determine emission sources of air pollution that cause crop damage (year 2 of 5) | -continuing (year 3 of 5) |

## D. HEALTH EFFECTS AND AIR QUALITY STANDARDS REVIEW

The ARB has a major responsibility to protect the health of the people of California from the harmful effects of air pollution. These concerns guide most of the Board's research on the adverse effects of air pollution on human health. There are six major problem areas and lines of research which will be addressed in the next three years.

1. Particles and Their Associated Toxicity. The Board has placed a high priority on research on the effects of suspended particulate matter in order to furnish data for review of the ambient air quality standard for respirable particulate matter ($PM_{10}$). The Board continues to have a concern that the California standard for $PM_{10}$ is some three to seven times below a proposed federal standard. The ARB's reliance on quantitative epidemiological data from London requires close scrutiny. Indirect tests of the evidence appear to be most fruitful. Therefore, research will investigate how particles are absorbed, as well as their specific effects on deep lung cells, because the deep lung is most sensitive and susceptible to damage by particles. Studies are underway and are expected to continue over the next two years in order to provide information on how soots and acidic atmospheres interact to affect lung injury. These efforts may provide a clearer basis for assessing how particle-laden atmospheres impact health.

2. Effects of Gaseous Criteria Pollutants. Air quality standards are scheduled for regulatory review by the Board every five years, and studies are planned to provide essential information needed for these reviews. Three gaseous pollutant standards have been identified as needing specific new data for their next review: a) $NO_2$ - the evidentiary bases for both the current short- and long-term ambient air quality standards are in need of clarification and new data. Recent descriptions of

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responsiveness of asthmatic subjects to brief $NO_2$ exposures requires further investigation and confirmation. $NO_2$ is also suspected of causing long-term effects on lung function and the general health status of a broad range of individuals.
b) CO - an especially urgent problem because the scientific bases for current standards have been challenged. Exposure efforts are underway which may point to specific knowledge needs. c) $H_2S$ - questions regarding community exposure levels and perception of this pollutant. In addition to these pollutants there is a need to study the effects of various combined gaseous pollutants.

3. Long-term Exposure to Ambient Air Pollution. Air quality standards have been set to protect sensitive groups in the population. However, most of our air quality standards are short-term standards because most of our knowledge of health effects has been of short-term effects. Exposure to air pollution that occurs over a lifetime probably produces effects quite different from those seen in acute exposures. Long-term effects of photochemical air pollution (smog) have been difficult to assess and present a major gap in our knowledge. The proposed studies would continue previous epidemiological and derived studies which have identified groups of people who appear to have reduced lung function due to breathing community air. These studies will enhance knowledge about long-term effects on sensitive groups and aid in the Board's risk assessment activities.

4. Effects on Susceptible Groups. Air quality standards are set at levels which protect the most sensitive groups of the population. Not only are members of these groups more sensitive but they can be considered to present "early warning signals" of conditions that may affect the rest of the population. In order to constantly evaluate the appropriateness of our standards, continued research on these sensitive groups is needed, using

more sophisticated methods. The program is designed to study effects of pollutants, combinations of pollutants, and community air on three sensitive groups - asthmatics, children and sensitive groups identified in previous epidemiology studies.

5. Development of New Analytical Techniques to Evaluate Effects. The expense of doing biological research and the difficulty of obtaining precise, unambiguous results make a strong case for investing in improved research methods. Therefore, to provide the most accurate and reliable estimation of health effects, a review of more reliable laboratory and statistical techniques for evaluation of effects will be conducted and applied first to animals and then to humans.

6. Economic Cost of Health Damage. The costs of meeting various air quality standards or emission regulations can often be calculated by available methods. However, the need for estimating the monetary value of pollution damage, which often arises when the Board makes policy decisions concerning pollution effects, is much more difficult to meet. Accordingly, several research projects are planned to develop and employ new methods of estimating the benefits of control. A study is underway to estimate one facet of such control benefits, avoidance of asthma attacks caused by air pollution. A subsequent project will use the results of chamber studies to estimate the cost of ambient exposures.

Taken together, the above topics comprise a coordinated research program which is intended to meet the Board's short-term and long-term needs for information on health effects of air pollutants.

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D. HEALTH EFFECTS AND AIR QUALITY STANDARDS REVIEW

| RESEARCH GOALS & OBJECTIVES | CURRENT RESEARCH TOPICS FY 84-85 | PLANNED RESEARCH TOPICS FY 85-86 | FY 86-87 |
|---|---|---|---|
| Assess health effects of criteria pollutants | -assess effects of $H_2S$ at ambient levels | -assess physiological and neurological effects of carbon monoxide | -continuing |
| | | | -investigate short-term effects of nitrogen dioxide |
| | | | -perform epidemiology studies on long-term effects of $NO_2$ |
| Long-term exposure to ambient air pollution | -determine effects of animal exposure to ambient air pollution | -continuing | -continuing |
| | -perform follow-up epidemiology study on established groups | -initiate new epidemiology studies on effects using established study groups | -continuing |
| Determine effects of air pollution on susceptible groups | -perform laboratory testing of effects of pollutant combinations on lung functions of asthmatics | -continuing | -continuing |
| | | -field study on effects of ambient air pollution on children | -continuing |
| | | | -perform combination studies of $NO_2$ and $O_3$ effects on sensitive groups |
| | | -continue investigation of air pollutant and exercise interactions | |
| Develop novel indicators to evaluate human health effects of air pollutants | -review techniques available to detect cell and tissue loss | -apply techniques to animal models | -apply techniques to humans |
| | -analyze daily illness and mortality in the South Coast Air Basin | | |
| Estimate costs of California's air pollution-caused health effects | -measure expenditures and changes in behavior resulting from air pollution-induced asthma attacks (in progress) | -relate health impacts measured in controlled laboratory studies to health effects that can be assigned dollar values | -continuing |

## E. REGIONAL AIR POLLUTION STUDIES

Ozone, inhalable particles ($PM_{10}$) and other secondary pollutants which are formed in the atmosphere from gaseous pollutant precursors are major contributors to known air pollution health and property damage, particularly in the South Coast Air Basin, and they are major contributors to air pollution-caused crop damage in the San Joaquin Valley Air Basin. Major gaps exist in our knowledge and ability to manage these secondary pollutants due to the complexity of atmospheric chemistry and photochemistry and the limited capability in state-of-the-art of current air quality simulation models that are used to relate precursor emissions and secondary pollutant concentrations.

The plan addresses the beginning of at least a five-year project designed to provide significantly improved air quality prediction capability for ozone and soundly-based prediction capability (none now exist) for $PM_{10}$ in the major air basins in the state. Ambient air quality standards for both of these pollutants are now violated, particularly the Bay Area, South Coast, and San Joaquin Valley Air Basins. This will be accomplished by improving substantially the capabilities of available photochemical simulation models for ozone, by contributing to the development of simulation models for fine particles and $PM_{10}$, and by providing the necessary base of aerometric data to exercise and test both ozone and $PM_{10}$ models in these air basins. In addition, this multi-year research plan provides for: assessment of the major pathways for transport of pollutants and precursors within and between air basins, determination of sources and precursors of atmospheric mutagenicity, and documentation of the role of nitrogen oxides (NOx) in the formation of ozone, aerosols and mutagens.

The information from this set of field and modeling studies will be used by state, local and federal agencies and by industry to improve

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| RESEARCH GOALS & OBJECTIVES | CURRENT RESEARCH TOPICS FY 84-85 | PLANNED RESEARCH TOPICS FY 85-86 | FY 86-87 |
|---|---|---|---|
| Assess major pathways for transport of pollutants and precursors | -Project Basin, South Coast Air Basin upper air study (in-progress) | -San Diego-Tijuana trans-border study (year 1 of 2) | -San Diego-Tijuana study (year 2 of 2) |
| | -Sacramento Valley Particle Study (in-progress) | | -Mexicali-Imperial trans-border study (year 1 of 2) |
| Determine sources and precursors of atmospheric mutagenicity | -identification of mutagenic compounds in urban atmospheres | -determination of formation mechanisms and sources of mutagens | |
| Document the role of NOx in the formation of ozone, aerosols and mutagens | -field, laboratory and modeling studies to document the role of NOx | -continuing | -continuing |
| Develop and demonstrate improved photochemical and $PM_{10}$ models for Bay Area, South Coast and San Joaquin Valley Air Basins | -update LIRAQ model for use in Bay Area and North Central Coast Air Basins (in progress) | -continuing | |
| | | -develop and demonstrate photochemical and $PM_{10}$ models for SJV (year 1 of 4) | -SJV model (year 2 of 4) |
| | -develop and demonstrate improved photochemical and $PM_{10}$ models for the SCAB, using data from Project BASIN and SCAB field study (year 1 of 5) | -SCAB model (year 2 of 5) | -SCAB Model (year 3 of 5) |
| In-depth analysis of aerometric data | -determine statistical relationships between ambient concentrations of criteria pollutants, toxics, mutagens, $PM_{10}$ and visibility | -continuing | -continuing |
| | | -determine the spatial and temporal distribution of mutagens in the South Coast Air Basin | |
| | | | -determine the spatial and temporal distribution of mutagens in the southern San Joaquin Valley |
| Develop comprehensive aerometric data base for determining sources and receptors for $PM_{10}$ and $O_3$ in the SCAB | -plan field study to determine source-receptor relationships for $PM_{10}$ and $O_3$ in SCAB (year 1 of 5) | -begin intensive field study (year 2 of 5) | -intensive field study (year 3 of 5) |

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| Document the role of NOx in the formation of ozone, aerosols and mutagens | -field, laboratory and modeling studies to document the role of NOx | -continuing | -continuing |
| Develop and demonstrate improved photochemical and $PM_{10}$ models for Bay Area, South Coast and San Joaquin Valley Air Basins | -update LIRAQ model for use in Bay Area and North Central Coast Air Basins (in progress) | -continuing | |
| | | -develop and demonstrate photochemical and $PM_{10}$ models for SJV (year 1 of 4) | -SJV model (year 2 of 4) |
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| In-depth analysis of aerometric data | -determine statistical relationships between ambient concentrations of criteria pollutants, toxics, mutagens, $PM_{10}$ and visibility | -continuing | -continuing |
| | | -determine the spatial and temporal distribution of mutagens in the South Coast Air Basin | |
| | | | -determine the spatial and temporal distribution of mutagens in the southern San Joaquin Valley |
| Develop comprehensive aerometric data base for determining sources and receptors for $PM_{10}$ and $O_3$ in the SCAB | -plan field study to determine source-receptor relationships for $PM_{10}$ and $O_3$ in SCAB (year 1 of 5) | -begin intensive field study (year 2 of 5) | -intensive field study (year 3 of 5) |

## F. REDUCING EMISSIONS FROM MOBILE AND STATIONARY SOURCES (Excluding Diesel Vehicles)

Excess emissions of criteria pollutants in major air basins in the state contribute to current violations of health and welfare-based ambient air quality standards. Local districts, as well as Board staff, have been unable to identify sufficiently effective control measures to ensure that all federal ambient air quality standards will be achieved and maintained, while accommodating further growth in California. Accordingly, the determination of emissions and the development and assessment of control technologies for specified source categories, including the assessment of alternative technologies, is a major ARB research objective.

The information provided under the proposed three-year plan will provide to the ARB, to local air pollution control districts and to others, needed information on emissions and/or potential control technology options for criteria pollutants for specified emission categories of particular importance in California. Problems of particular importance to the state are: current exceedances of state or federal ambient air quality standards; major knowledge gaps as to the source of these problems; or significant trends toward or use of selected alternatives which have the clear potential for adverse air quality effects. Potential sources that warrant investigation include: VOC emissions from solvent-borne consumer products; VOC emissions from spreading of petroleum sludges on land (land farming); VOC emissions from exempt architectural coatings; VOC and other emissions from the burning of biomass and municipal wastes in power plants; NOx and SOx emissions from selected fuel combustion operations; fine particulate emissions from agricultural burning operations; and VOC emissions from the use of alternative fuels such as methanol and ethanol.

F. REDUCING EMISSIONS FROM MOBILE AND STATIONARY SOURCES, EXCLUDING DIESELS

| RESEARCH GOALS & OBJECTIVES | CURRENT RESEARCH TOPICS FY 84-85 | PLANNED RESEARCH TOPICS FY 85-86 | FY 86-87 |
|---|---|---|---|
| Determine volatile organic carbon (VOC) emissions from selected source categories | -speciate the volatile emissions from crude oil processing operations and relate to the total vapor pressure of the oil (in progress) | -quantify VOC emissions from sumps and working tanks; determine vapor pressure for petroleum products and crudes | -continuing |
| | -quantify fugitive emissions from refineries and oil production operations | -quantify VOC emissions from solvent-borne consumer products | -speciate and quantify VOC emissions from toxic waste burning |
| | -evaluate potential to reduce emissions from graphic arts processes | -quantify VOC emissions from land farming operations | -determine the change in VOC emissions as catalysts on light-duty vehicles age in use |
| | -laboratory testing of exempt architectural coatings | -continuing | -continuing |
| Determine NOx, SOx and fine particle emissions from selected sources and develop control strategies | -develop control methods for $PM_{10}$ emissions from blasting operations | -assess the applicability of NOx and SOx control demonstration projects to various sources in CA | -continuing |
| Assess emissions from agricultural burning and their mitigation | -develop test procedures for emissions from agricultural burning | -quantify (and for VOC, speciate) emissions from agricultural burning | -evaluate strategies to mitigate emissions from agricultural burning |
| | | -determine emissions and air quality impacts of burning agricultural waste and biomass products in power plants | -determine emissions from the production of fuels from biomass |
| Assess air pollution effects of alternative fuels | -assess atmospheric impacts of substituting alcohol-based for petroleum-based fuels in motor vehicles, effects on multi-day episodes (high priority-in progress) | -continuing | -continuing |
| Improve analyses of the economic impacts of air pollution and abatement strategies | -evaluate the impact of regulating toxic substances on the processors of food and fiber | -develop and apply microeconomic models to evaluate the impacts of regulations | -continuing |
| Improve economic bases for emission inventory estimates | -improve methods for disaggregating statewide economic forecasts into emission inventory-compatible industrial categories | | |
| Assess impacts of and alternatives to permit regulations for new sources | | -survey problems associated with permitting new sources and identify emission reductions available as offsets | -evaluate alternate methods to offsets required by local district regulations |
| Assess effects of selected on going control programs | | -assess benefits of motor vehicle inspection program for LDV | |
| Assess relationships between indoor and outdoor air quality | | | -pilot study to relate indoor and outdoor air quality |

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| Assess relationships between indoor and outdoor air quality | | | -pilot study to relate indoor and outdoor air quality |

## III. SUMMARY

The three-year reseach plan that is outlined in Chapter II describes the information needed over the next two to five years and the ARB's affirmative approach to obtaining this information. If these knowledge gaps are not addressed in an effective manner the Board will be unable to continue making significant progress toward attainment and maintenance of health and welfare-based ambient air quality standards, while accommodating substantial economic growth in the state.

## CHAPTER 4. RESEARCH

39700. The Legislature hereby declares that an effective research program is an integral part of any broad-based statewide effort to combat air pollution.

39701. The state board shall coordinate and collect research data on air pollution, including, but not limited to, all of the following:

(a) Research relating to specific problems in the following areas:

(1) Motor vehicle emissions control, including alternative propulsion systems, cleaner burning fuels, and improved motor vehicle pollution control devices.

(2) Control of nonvehicular emissions.

(3) Control of specific contaminants to meet ambient air quality standards.

(4) Atmospheric chemistry and physics.

(5) Effects of air pollution on human health and comfort, plants and animals, and reduction in visibility.

(6) Instrumentation development.

(7) Economic and ecological analysis.

(8) Mathematical model development.

(9) Trends in atmospheric quality throughout the state.

(10) Alternatives to agricultural burning.

(b) The consequences of various alternative solutions to specific air pollution problems.

(c) The identification of knowledge gaps.

39702. The state board shall report to the Legislature whenever it deems necessary to provide information on problems relating to air quality management.

39703. The state board shall administer and coordinate all air pollution research funded, in whole or in part, with state funds and, in discharging its responsibilities, the state board shall have the following duties and powers:

(a) Establish applied research objectives.

(b) Receive and review all air pollution research proposals.

(c) Recommend the initiation of specific air pollution research projects.

(d) Award contracts for air pollution research projects.

(e) Submit a detailed report to the Legislature by January 10th each year on the conduct of the air pollution research program conducted pursuant to this section.

(f) Establish the administrative and review procedures necessary to carry out the provisions of this section.

(g) Collect, validate, and disseminate educational information relating to air pollution.

39704. In awarding contracts for the conduct of air pollution research, the state board shall consider the capability of the University of California to mount a comprehensive program of research to seek solutions to air pollution problems and the ability of the university, through its several campuses, to mobilize a comprehensive research program for this purpose.

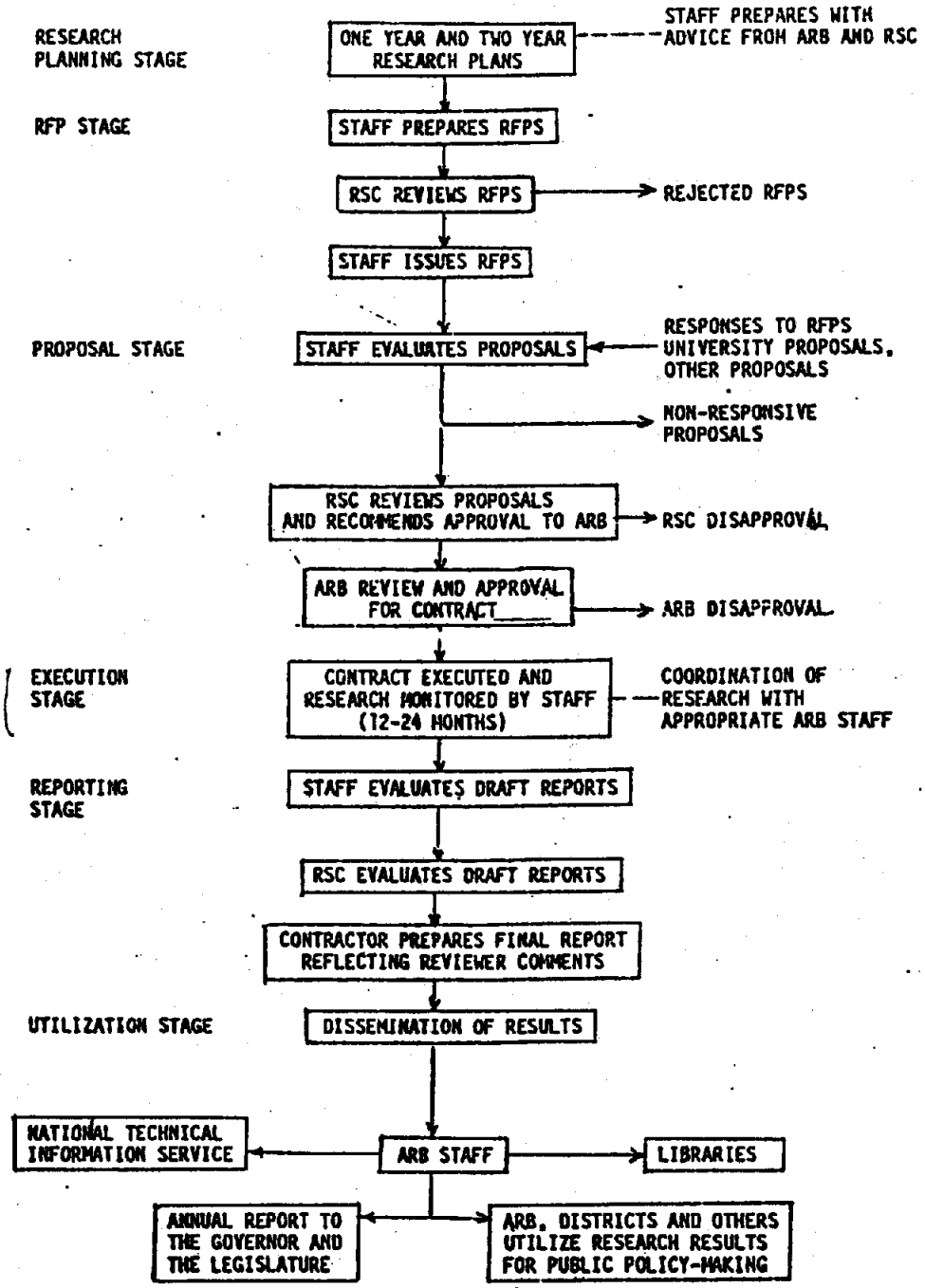
39705. The state board shall appoint a screening committee of not to exceed nine persons, the membership of which may be rotated as determined by the state board.

The committee shall consist of physicians, scientists, biologists, chemists, engineers, meteorologists, and other persons who are knowledgeable, technically qualified, and experienced in air pollution problems for which projects are being reviewed. The committee shall review, and give its advice and recommendations with respect to, all air pollution research projects funded by the state, including both those conducted by the state board and those conducted under contract with the state board.

The committee members shall receive fifty dollars ($50) per day for each day they meet to perform their duties under this section. In addition to such compensation, they shall receive their actual and necessary expenses incurred while performing such duties.

39706. The fees deposited in the Air Pollution Control Fund pursuant to Section 41853.5 are hereby continuously appropriated to the state board for research and development of a cotton gin trash incinerator heat exchanger or other device for the disposal of solid waste which is produced from the ginning of cotton, consistent with emission standards set by a district board or the state board. The state board shall consult with the Solid Waste Management Board prior to awarding a contract for, or conducting, such research and development. If the state board determines that such a device is available or that further expenditures for such purposes would not contribute meaningfully to their development, the fees shall be utilized in accordance with the provisions of Section 43014.

# AIR RESOURCES BOARD
# EXTRAMURAL RESEARCH PROGRAM
# RESEARCH PROJECT FLOW CHART




RSC - RESEARCH SCREENING COMMITTEE
RFP - REQUEST FOR PROPOSALS

STATE OF CALIFORNIA GEORGE DEUKMEJIAN, Governor

AIR RESOURCES BOARD
1102 Q STREET
P.O. BOX 2815
SACRAMENTO, CA 95812

(916) 621-1519

November 7, 1984

Mr. Gordon Duffy, Chairman
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812

Dear Mr. Duffy:

The Board's Research Screening Committee has reviewed the proposed long range research plan and recommends its adoption by the Air Resources Board.

The Committee received the plan in August and has had it under review since that time. We spent more than two hours discussing it at our October 4 meeting and suggested several changes to staff, which they have incorporated into the proposed plan.

The long range research plan has been designed to emphasize those areas of research whose importance the Board stressed at the March 22, 1984 joint meeting of the Board and the Research Screening Committee. Staff and the Committee believe that carrying out the proposed work on the proposed time scale will require an augmentation of the research budget. However, in view of the sense of urgency expressed by the Board, especially with respect to such critical areas as toxic air contaminants and diesel particulate matter, an augmentation would appear to be justified.

The Committee has asked me to communicate its views on the long-range plan on their behalf. Should you wish, I would be pleased to appear before the Board at your meeting later this month and respond to any questions you or the members of the Board may have regarding our recommendation.

Sincerely yours,

**Original Signed By**

Clarence Collier, M.D.
Chairman, Research Screening Committee

cc: James D. Boyd
Executive Officer

State of California
AIR RESOURCES BOARD

Resolution 84-55

November 29, 1984

Agenda Item No.: 84-16-4

WHEREAS, Health and Safety Code Section 39600 requires the Air Resources Board (the "Board") to do such acts as may be necessary for the proper execution of the powers and duties granted to, and imposed upon, the Board;

WHEREAS, the Legislature in 1982 enacted the Kapiloff Acid Deposition Act (Stats. 1982, ch. 1973; Health and Safety Code Sections 39900-39915) to address the problem of acid deposition in California;

WHEREAS, in Health and Safety Code 39901, the Legislature finds and declares that acid deposition resulting from other than natural sources is occurring in various regions of California and that this deposition may have significant adverse effects on the environment, on the economy and on public health;

WHEREAS, in Health and Safety Code Section 39902, the Legislature declares that the purpose of the Kapiloff Act is to establish a program to identify the sources of acid deposition, to determine its occurrence and environmental effects and to analyze the effectiveness and cost of emission control technologies and air quality management strategies, and, in Health and Safety Code Section 39903, makes the Board responsible for implementation of the Kapiloff Act;

WHEREAS, Health and Safety Code Section 39909 requires the Board, with the advice and participation of the State Agency Working Group on Acid Deposition and the Scientific Advisory Committee on Acid Deposition created by the Kapiloff Act, to prepare and submit annually, not later than January 1, to the Governor and to the Legislature a report describing the activities and findings to date of the research and monitoring program, and identifying further actions required to control or mitigate acid deposition and its potential adverse effects;

WHEREAS, in accordance with the provisions of Health and Safety Code Section 39909, a draft report entitled "Second Annual Report to the Governor and the Legislature on the Air Resources Board's Acid Deposition Research and Monitoring Program" has been prepared by the staff;

WHEREAS, the State Agency Working Group and the Scientific Advisory Committee have reviewed a preliminary draft of the report and the draft report includes revisions made by staff in consideration of their comments;

WHEREAS, the Board has held a duly noticed public meeting at which it received comments on and considered the draft "Second Annual Report to the Governor and the Legislature on the Air Resources Board's Acid Deposition Research and Monitoring Program"; and

WHEREAS, the Board finds that the report thoroughly and accurately describes the activities, findings and plans of the acid deposition research and monitoring program.

NOW, THEREFORE, BE IT RESOLVED that the Air Resources Board approves the "Second Annual Report to the Governor and the Legislature on the Air Resources Board's Acid Deposition Research and Monitoring Program," and directs the Executive Officer to submit the report to the Governor and the Legislature in accordance with Section 39909 of the Health and Safety Code, after incorporation of the changes presented by staff at the public meeting.

I hereby certify that the above is a true and correct copy of Resolution 84-55, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

# 84-56
# &
# 84-57
# Missing Resolutions

State of California
AIR RESOURCES BOARD

Resolution 84-58

November 30, 1984

Agenda Item No.: 84-16-3

WHEREAS, the Air Resources Board (the "Board") is the state agency charged with coordinating efforts to attain and maintain ambient air quality standards, and Health and Safety Code Section 39600 authorizes the Board 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, Health and Safety Code Section 39607 directs the Board to secure air quality data, to inventory sources of air pollution, and to determine the kinds and quantities of air pollutants;

WHEREAS, the Board staff has prepared a draft report entitled "The Effects of Oxides of Nitrogen on California Air Quality" that will provide information to the public, to air pollution control districts, and to project applicants;

WHEREAS, the Board finds that emissions of oxides of nitrogen (NOx) contribute to violations of three out of four national ambient air quality standards which are exceeded in much of California, to violations of state ambient air quality standards, and also to visibility degradation and acid deposition; and

WHEREAS, the Board is concerned that the public may not be sufficiently informed of the impacts of NOx emissions on California's air resources.

WHEREAS, the Board has been briefed on the contents of the draft report at a duly noticed public meeting;

NOW, THEREFORE, BE IT RESOLVED that the Board directs the Executive Officer to release a draft of the report, "The Effects of Oxides of Nitrogen on California Air Quality," to the public and to forward the report to air pollution control districts in California and other interested persons with a request for comments.

BE IT FURTHER RESOLVED that the staff is directed to return to the Board to present a final draft of "The Effects of Oxides of Nitrogen on California Air Quality" after it has revised the draft report as needed in response to the comments received.

I hereby certify that the above is a true and correct copy of Resolution 84-58, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 84-59

November 29, 1984

Agenda Item No.: 84-15-4

WHEREAS, Section 39601 of the Health and Safety Code authorizes the Air Resources Board (the "Board") to adopt standards, rules and regulations necessary for the proper execution of the powers and duties granted to and imposed upon the Board by law;

WHEREAS, Sections 43013 and 43101 of the Health and Safety Code authorize the Board to adopt vehicle emission standards in order to control air pollution caused by motor vehicles;

WHEREAS, Section 43104 of the Health and Safety Code directs the Board to adopt test procedures to determine whether new motor vehicles are in compliance with the emission standards adopted by the Board;

WHEREAS, the Board has adopted exhaust emission standards and test procedures for passenger cars, light-duty trucks, and medium-duty vehicles contained in Sections 1960.1 and 1960.1.5, Title 13, California Administrative Code;

WHEREAS, the Board finds that:

The Environmental Protection Agency's (EPA) current nonconforming import vehicle program is ineffective in ensuring that cars comply with emission standards and other requirements;

The number of nonconforming import vehicles has increased dramatically from approximately 1,500 vehicles in 1980 to a projected 45,000 vehicles in 1985 with approximately one-third of these vehicles ending up in California; and

There has been evidence of numerous violations of emission standards, laws and regulations;

WHEREAS, there are a significant number of these vehicles being registered in this state by use of the 7,500-mile used vehicle rule;

WHEREAS, ARB testing of these nonconforming vehicles has shown that their emissions can exceed the levels of other current in-use vehicles by over 300% for hydrocarbon emissions, over 40% for carbon monoxide and oxides of nitrogen emissions, and over 1000% for evaporative emission; and

WHEREAS, the excess emissions caused by these vehicles have an adverse impact on air quality.

NOW, THEREFORE, BE IT RESOLVED that the Board supports legislative changes which will allow California to prevent the importation and sale of nonconforming import vehicles which do not meet applicable California and federal vehicle emission standards and directs staff concurrently to hold workshops to consider the development of regulations to allow new noncomplying import vehicles to be legally and effectively converted and certified to meet California requirements.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to work with other state and federal agencies to prevent violation of California laws pertaining to importation and use of motor vehicles in California.

BE IT FURTHER RESOLVED that the Executive Officer report back to the Board on the progress made by the staff in this effort.

I hereby certify that the above is a true and correct copy of Resolution 84-59, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 84-60

WHEREAS, Tom Hamilton has served with distinction as a member of the Air Resources Board (the "Board") from February 1983 to December 1984;

WHEREAS, as a member of the Board of the San Diego Air Pollution Control District, he has for many years recognized the importance of state and local efforts to control air pollution and has developed knowledge of technical and policy issues relating to air pollution control;

WHEREAS, his considered judgment, ability to bring out pertinent information, willingness to listen to all sides of a question, and familiarity with the issues, particularly in the area of cogeneration and resource recovery, have enabled him to make consistent and valuable contributions to the activities of the Board;

WHEREAS, in addition to his contributions at regular Board meetings, he has dedicated his time and energy as a member of the Board committees dealing with the role of the Board's toxics scientific advisory panel, emissions from vessels, lead in gasoline, methanol, and the state ambient air quality standard for hydrogen sulfide; and

WHEREAS, his outgoing personality, wry sense of humor, gentle Texas charm, and long history of dedicated public service have won him the respect and affection of his fellow Board members, the Board staff, and members of the public.

NOW, THEREFORE, BE IT RESOLVED that the Air Resources Board extends its deepest appreciation and expresses its thanks to Tom Hamilton for his service on the Board and for his valuable contribution to California's progress towards clean air.

Gordon Duffy, Chairman

Tirso del Junco, M.D., Member

J. Gordon Kennedy, Member

Roberta H. Hughan, Member

Andrew Wortman, Ph.D., Member

Betty S. Ichikawa, Member