State of California
AIR RESOURCES BOARD

RESOLUTIONS

No.	Item	Staff	Hearing Scheduled	Date Adopted	+ EIS to Resources
85-1	UCD-$46,319-"Effects of Ozone on Cellular Synthesis and Viral Repli-cation in Vitro"	Research	1-24-85 (Deferred to February Bd. Mtg.	2-21-85	N/A
85-2	UCR-$49,928-"Development of a Humi-dification System for Use in Field Studies of AP Effects on Crops"	Research	1-24-85 (Deferred to February Bd. Mtg.	2-21-85	N/A
85-3	South Central Coast Cooperative Aerometric Monitoring Program (SCCCAMP)	ESD	1-24-85	1-24-85	N/A
85-4	San Joaquin Valley Air Basin Request for Federal Funding for Studies	TSD	1-24-85	1-24-85	N/A
85-5	Suggested Control Measure for Control of Reactive Organic Compounds for Resin Manufacturing	SSD	1-24-85	1-24-85	N/A
85-6	Identification of Benzene as a Toxic Air Contaminant (Regulatory)	SSD/RD	1-25-85	1-25-85	8-5-85
85-7	Desert Res. Inst.-$61,195-"Effects on Steel of Acid Dep. by Gases, Part's, Fogs and Dew"	RD	2-21-85	2-21-85	N/A
85-8	Envtl. Monitor. & Svcs.-$297,562-"Invest. of the Effects of Acid Dep. on Matls."	RD	2-21-85	2-21-85	N/A
85-9	UC/Irvine-$453,052-"Pulmonary Func. & Symptomatic Responses of Asthmatics to Ambient Acid Atmospheres"	RD	2-21-85	2-21-85	N/A
85-10	UC/Irvine-$264,672-"Respiratory Effects of Acid Containing Multicomponent Pollutant Atmospheres"	RD	2-21-85	2-21-85	N/A
85-11	UC/SF-$125,457-"The Roles of pH, Titra. Acid & Spec. Chemical Comp. in Mediat. Effects of Acid Aerosols on the Airways"	RD	2-21-85	2-21-85	N/A
85-12	EPA Reasonable Efforts Program	TSD	3-21-85	3-21-85	N/A
85-13	SCM - Wood Furniture and Cabinet Coatings Operations	SSD	3-21-85	3-21-85	N/A
85-14	Long Range Research Plan	RD	No Res. Needed	No Res. Needed	N/A
85-15	NO_2 Redesignation for SCAB	TSD	Postponed to 4-26-85	utilized NEW Resolution Number 85-29	N/A
85-16	Sonoma Tech.-"South Coast Field Study" $87,121	RD	3-21-85	3-21-85	N/A

State of California
AIR RESOURCES BOARD

RESOLUTIONS

No.	Item	Staff	Hearing Scheduled	Date Adopted	+ El[illegible] Resources
85-17	SAI-$199,976-"Sources and Concentrations of Chloroform in the SCAB"	RD	3-21-85	3-21-85	N/A
85-18	UCLA-$145,478-"Vegetation Process Studies"	RD	4-26-85	4-26-85	N/A
85-19	UCSB-$160,781-""Integrated Watershed Study: Fish and Amphibian Populations	RD	4-26-85	4-26-85	N/A
85-20	UCLA-$200,570-"The Hydrologic Mass Balance Component of the Emerald Lake Basin"	RD	4-26-85	4-26-85	N/A
85-21	UCD-$58,092-"Particulate Monitoring for Acid Deposition Research at Seqouia"	RD	4-26-85	4-26-85	N/A
85-22	UCLA Project Basin - $15,000	RD	4-26-85	4-26-85	N/A
85-23	UNIV. SOUTH FLORIDA-$47,036-"Nitric Acid and Ammonia in Air, Sequoia"	RD	4-26-85	4-26-85	N/A
85-24	CIT-$46,321-"Atmospheric Tracer Experiments Aimed at Characterizing Upslope"	RD	4-26-85	4-26-85	N/A
85-25	UCD-$43,777-"Transport of Atmospheric Aerosols Above the Sierra Nevada Slopes"	RD	4-26-85	4-26-85	N/A
85-26	UCSB-$35,902-"Califbration of Diatom-pH-Alkalinity Methodology"	RD	4-26-85	4-26-85	N/A
85-27	Malfunction Indicator Regulations	MSD	4-25-85	4-25-85	8-5-85
85-28	Warranty Regulations	MSD	4-25-85	NO ACTION	N/A
85-29	NO_2 Redesignation	TSD	4-25-85	4-25-85	N/A
85-30	Sulfur Content of Diesel Fuel Regs.	SSD	4-26-85	6-28-85	8-5-85
85-31	SAI-$124,290-"Evaluation of Potential Toxic Air Contaminants"	RD	4-26-85	5-24-85	N/A
85-32	SW Research Inst.-$219,144-"Particulate Trap Demonstration for HD Diesels"	RD	4-26-85	4-26-85	N/A

State of California
AIR RESOURCES BOARD

RESOLUTIONS

No.	Item	Staff	Hearing Scheduled	Date Adopted	+ EIS to Resources
85-33	UCD-$269,823-"Effects of Airborne Part. Matter"	RD	4-26-85	4-26-85	N/A
85-34	UCR-$125,850-"Determination of Effects of Photochemical Oxidants and/or SO2 ~~on Yield of Valencia Oranges~~"	RD	4-26-85	4-26-85	N/A
85-35	UCLA-$39,260-"Evaluation of the Health Effects of AP on Asthmatics by a Novel ~~Application of Analysis Methods~~"	RD	4-26-85	4-26-85	N/A
85-36	CIT-$$470,415-"Short-Term Trends and Spatial Variability in Precipitation Chemistry ~~in the SCAB: Novel Tracers~~"	RD	5/23/85	5/24/85	N/A
85-37	Univ. of Washington-$141,743-"Cloud and Precipitation Scavenging Processes in ~~the SCAB~~"	RD	5/23/85	5/24/85	N/A
85-38	CIT-"Acquisition of Acid Vapor and Aerosol Concentration Data for use in Dry Deposition Studies in the SCAB" $293,107	RD	5/23/85	5/24/85	N/A
85-39	Desert Research Inst.-$52,500-"Quality Assurance and Measurement Uncertainty Quantification in the SCAB Dry Acid"	RD	5/23/85	5/24/85	N/A
85-40	CIT-$164,050-"Mathematical Modeling of the Formation and Dynamics of Acidic Aerosols"	RD	5/23/85	5/24/85	N/A
85-41	CA Public Health Found.-$42,604-"Intermethod Comparison of Procedures for Nitric Acid and Ammonia"	RD	5/23/85	5/24/85	N/A
85-42	Unisearch-$43,392-"Intercomparison Study of Nitric Acid and NO2 Using Tunable Diode Laser Absorption Spectrometry"	RD	5/23/85	5/24/85	N/A
85-43	Global Geochemistry-$$69,557-"Development of a Analyzer for Exhaust from Methanol HC-Fueled Motor Vehicles"	RD	5/23/85	5/24/85	N/A
85-44	Radian Corp.-$99,798-"Development of Inspection and Maintenance Proc. for ~~Diesel Powered Heavy Duty Vehicles~~"	RD	5/23/85	5/24/85	N/A
85-45	Sierra Research-$49,790-"Survey of HD Diesel Engine Rebuilding, Reconditioning, and Remanufacturing Practices"	RD	5/23/85	5/24/85	N/A
85-46	Radian-$149,969-"Assessment of Fugitive Emissions of PROC from Petroleum Refinery Operations"	RD	5/23/85	5/24/85	N/A
85-47	Battelle Pac. NW Lab-$179,999-"Study of Vinyl Chloride Formation"	RD	5/23/85	5/24/85	N/A
85-48	Desert Research Inst.-$78,873-"Development of Methods for Estimating PM10 Concentrations from Emissions in CA"	RD	5/23/85	5/24/85	N/A

State of California
AIR RESOURCES BOARD

RESOLUTIONS

No.	Item	Staff	Hearing Scheduled	Date Adopted	+ EIS to Resource
85-49	UCR-$59,911-"Interaction of O3 with Salinity on Vegetation"	RD	5/23/85	5/24/85	N/A
85-50	UCR-$41,030-"Maintain and Operate CARB Field Fumigation Facility for Experimental Use"	RD	5/23/85	5/24/85	N/A
85-51	DOHS-$149,993-"SC Regional Air Pollution Study"	RD	5/23/85	5/24/85	N/A
85-52	UCD-$82,951- "Research and Development of Methods for the Engineering Evaluation and Control of Toxic Airborne Effluents"	RD	5/23/85	5/24/85	N/A
85-53	USC Med Ctr-$117,935-"Effects of Ambient Air Pollution on the LUng and Immune System"	RD	5/23/85	5/24/85	N/A
85-54	UCR-$97,972-"Crop Loss from Air Pollutants Assessment Program"	RD	5/23/85	5/24/85	N/A
85-55	MC Evaporative Emissions Regulations	MSD	5/24/85	5/24/85	9/24/85
85-56	Gordon Duffy's Farewell Resolution	Legal	5/24/85	5/24/85	N/A
85-57	ERT-$199,738-"A Proposal to Conduct Tracer and Flow Visualization Experiments to Develop a Relationship Between Overwater Dispersion Parameters and Meteorological"	RD	6/28/85	6/28/85	N/A
85-58	UCLA-$39,108-"ARB Nitrogen Species Methods Comparison Study-Program Manager"	RD	6/28/85	6/28/85	N/A
85-59	UCR-$16,375-"Absolute Meas./Nitric Acid ...Comparison...Other Meas. Methods"	RD	7/25/85	7/25/85	N/A
85-60	DOHS-$86,863-"Dry Acid Dep.:Mon. Tech."	RD	7/25/85	7/25/85	N/A
85-61	AB 965 Regs	MSD	7/25/85	7/25/85	9/24/85
85-62	Acid Deposition Fee Program	RD	7/25/85	7/25/85	9/24/85
85-63	Identification of EDB as a TAC	SSD	7/26/85	7/26/85	8-5-85
85-64	PM_{10} Sampler Method	ADD	8/22/85	8/22/85	1/27/86

State of California
AIR RESOURCES BOARD

RESOLUTIONS

No.	Item	Staff	Hearing Scheduled	Date Adopted	+ EIS to Resources
85-65	Conflict of Interest Regs	Legal	8/22/85	8/22/85	1/27/86
85-66	UCR - $132,127 "Crop Loss Study"	RD	9/19/85	9/19/85	N/A
85-67	Sonoma Tech. Inc. - Wkshp for TAC for So. CA Study	RD	9/19/85	9/19/85	N/A
85-68	UCR - $143,518 "Acid Deposition Crops"	RD	9/19/85	9/19/85	N/A
85-69	Fuels Inspection Program	CD	9/19/85	NOT USED	N/A
85-70	Identification of Ethylene Dichloride (EDC) as a Toxic Air Contaminant (Regulatory)	RD	9/19/85	9/19/85	1/27/86
85-71	REP for MV	MSD	10/24/85	10/24/85	N/A
85-72	Hazardous Waste Incineration	SSD	10/24/85	10/24/85	N/A
85-73	NO_2 Ambient Air Quality Standard	RD	10/24/85	CONT: 12/19/85 02/28/86	
85-74	UCLA - $6800 "Project Basin"	RD	11/22/85	11/22/85	N/A
85-75	UCR - $196,186 "Toxic Chemicals"	RD	11/22/85	11/22/85	N/A
85-76	UCD - $72,377 "Field Crop Losses"	RD	11/22/85	11/22/85	N/A
85-77	Boundary Change for NE Plateau	TSD	11/22/85	11/22/85	8/27/86
85-78	Test Methods for Nonvehicular Sources	SSD	11/22/85	11/22/85	8/27/86
85-79	Class III Motorcycle Regs	MSD	11/22/85	11/22/85	1/27/86
85-80	Gray Market/Nonconforming Import Vehicles	MSD	11/21/85	CONT: 12/19/85	8/27/86

State of California
AIR RESOURCES BOARD

RESOLUTIONS

No.	Item	Staff	Hearing Scheduled	Date Adopted	+ EIS to Resources
85-81	Food Processors Exemption Report	SSD	12/20/85	12/20/85	N/A
85-82	Toxics Report to the Legislature	SSD	12/20/85	12/20/85	N/A
85-83	Third Annual Report/Gov. & Leg. on ARB Acid Deposition Res. & Mon. Prog.	RD	12/20/85	12/20/85	N/A
85-84	NOx Report	TSD	12/19/85		N/A
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State of California
AIR RESOURCES BOARD

Resolution 85-1

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 1282-111(R), entitled "Effects of Ozone on Cellular Synthesis and Viral Replication In Vitro", 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 1282-111(R), entitled "Effects of Ozone on Cellular Synthesis and Viral Replication In Vitro", submitted by the University of California, Davis for a total amount not to exceed $46,819.

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 1282-111(R), entitled "Effects of Ozone on Cellular Synthesis and Viral Replication In Vitro", submitted by the University of California, Davis for a total amount not to exceed $46,819.

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 $46,819.

I hereby certify that the above is a true and correct copy of Resolution 85-1, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-3-4(b)1
DATE: 2-21-85

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 1282-111(R) entitled "Effects of Ozone on Cellular Synthesis and Viral Replication In Vitro".

RECOMMENDATION: Adopt Resolution 85-1 approving Proposal No. 1282-111(R) for funding in an amount not to exceed $46,819.

SUMMARY: Strong circumstantial evidence indicates that exposure to ozone at ambient levels increases susceptibility to respiratory infections. However, studies on this effect using human subjects and animal models are technically difficult and ethically limited. The use of cultured cells offers the opportunity to obtain key information on how pollutants influence the susceptibility to infection.

The proposal is designed to study how ozone affects different cell types. The major objectives are to determine effects of ozone on: 1) early markers of damage in cells; 2) replication of human and animal viruses; and 3) the interferon molecule and on the ability of cells to produce and respond to interferon. Interferon is a naturally produced compound important in the process the human body uses in fighting viral infections.

This is a novel experimental system which could be used for other gaseous pollutants or combinations of pollutants. The project will explore the effect of ambient levels of ozone on respiratory viruses in order to provide information for decisions on the risks of ozone. The expected result is a better understanding of the mechanism of air pollution damage.

State of California
AIR RESOURCES BOARD

Resolution 85-2

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 1279-110(R), entitled "Development of a Humidification System for Use in Field Studies of Air Pollution Effects on Crops", 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 1279-110(R), entitled "Development of a Humidification System for Use in the Field Studies of Air Pollution Effects on Crops", submitted by the University of California, Riverside for a total amount not to exceed $49,928.

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 1279-110(R), entitled "Development of a Humidification System for Use in the Field Studies of Air Pollution Effects on Crops", submitted by the University of California, Riverside for a total amount not to exceed $49,928.

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 $49,928.

I hereby certify that the above is a true and correct copy of Resolution 85-2, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-3-4(b)2
DATE: 2-21-85

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 1279-110(R) entitled "Development of a Humidification System for Use in Field Studies of Air Pollution Effects on Crops".

RECOMMENDATION: Adopt Resolution 85-2 approving Proposal No. 1279-110(R) for funding in an amount not to exceed $49,928.

SUMMARY: This is a proposal to design, construct and test a pilot humidification system for use with the ARB open-top field chambers at the Statewide Air Pollution Research Center at U.C. Riverside. Proponents will determine the operating characteristics of the pilot system, including required amounts of water, steam generating capacity, humidity profiles in the chambers, and software for computer monitoring and regulation of humidity levels. The proponents will also conduct a small pilot study on the interaction of humidity and ozone on alfalfa and prepare a plan for building and operating a humidification system suitable for the further study of pollutants on plants.

There is evidence that ambient humidity can have a major influence on the amount of injury to plants which results from any given exposure to air pollutants. This influence has not been taken into account in most earlier research on the effects of air pollution on plants, and it poses a major problem in integrating results from different studies. The influence of environmental factors, including humidity, on plant response to air pollution has been identified in the plan for the new five-year program to assess crop losses as a critical input for determining and explaining the impacts of air pollution on crops. This plan was recently approved by the Air Resources Board. A research facility in which humidity can be experimentally controlled will be needed in order to perform research to fill information gaps on how humidity interacts with pollutants to affect plants.

State of California
AIR RESOURCES BOARD

Resolution 85-3

January 24, 1985

Agenda Item Nos.: 84-16-1
85-1-1

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, 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 39607 directs the Board to secure data on air quality in various areas of the state;

WHEREAS, the Board staff has participated in the development of a draft agreement entitled "Agreement of Participation in the South Central Coast Cooperative Aerometric Monitoring Program" (the "Agreement") that will establish a monitoring program intended to provide additional aerometric information and to lead to a better understanding of air quality impacts of activities, including those related to the drilling for oil and gas on the Outer Continental Shelf, which affect the air quality of the South Central Coast;

WHEREAS, the participants in the proposed South Central Coast Aerometric Monitoring Program in addition to the Board will be the Western Oil and Gas Association; the U.S. Environmental Protection Agency, Region IX; the Minerals Management Service of the Department of Interior; the California Coastal Commission; and the Ventura, Santa Barbara, and San Luis Obispo County Air Pollution Control Districts;

WHEREAS, the South Central Coast Cooperative Aerometric Monitoring Program will be funded by the Western Oil and Gas Association and jointly managed by the representatives of the private industry and public agency participants in the program; and

WHEREAS, the Board has held duly noticed public meetings at which it considered the draft Agreement and comments from the public.

NOW, THEREFORE, BE IT RESOLVED that the Board approves the "Agreement of Participation in the South Central Coast Cooperative Aerometric Monitoring Program" and authorizes the Chairman to execute the Agreement, in the final form approved by the other participants, on behalf of the Board.

BE IT FURTHER RESOLVED that the Executive Officer is authorized to participate in the Program on behalf of the Board; provided that the Executive Officer shall regularly submit informal status reports to a Committee of the Board regarding program activities and the development of program reports, and shall provide to the Board for consideration for review and approval all draft, interim-final, and final reports produced for the program.

BE IT FURTHER RESOLVED that the Board affirms that, as provided in the Agreement itself, nothing in the Agreement, nor in the Board's participation therein, is intended to or shall be construed to preclude or constrain the Board in carrying out its legal responsibilities.

BE IT FURTHER RESOLVED that it is the Board's intent that nothing in the Agreement, nor in the Board's participation therein, shall be construed to delay compliance with any applicable air pollution control policies and requirements or to alter any of the Board's existing policies, regulations, or requirements.

I hereby certify that the above is a true and correct copy of Resolution 85-3, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 85-4

January 24, 1985

Agenda Item No.: 85-1-2

WHEREAS, Section 39600 of the Health and Safety Code provides that the Air Resources Board (the "Board") shall 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 Section 39003 of the Health and Safety Code, the Board is the state agency charged with coordinating efforts to attain and maintain ambient air quality standards and to conduct research into the causes of and solution to air pollution;

WHEREAS, Section 39705 of the Health and Safety Code directs the Board to coordinate and collect research data on air pollution;

WHEREAS, in Section 39602 of the Health and Safety Code, the Board is designated as the state agency responsible for all purposes set forth in federal law and is directed to coordinate the activities of districts necessary to comply with the Clean Air Act (42 U.S.C. Section 7401, et seq.);

WHEREAS, in accordance with Section 171 of the Clean Air Act Amendments of 1977 (42 U.S.C. Section 7501), the San Joaquin Valley Air Basin is designated a nonattainment area for the national ambient air quality standard (NAAQS) for ozone;

WHEREAS, Section 172 of the Clean Air Act Amendments of 1977 (42 U.S.C. Section 7502) requires that reasonably available control measures be implemented to attain the NAAQS for ozone;

WHEREAS, in Section 39001 of the Health and Safety Code, the Legislature declares that a regional approach to air pollution problems should be encouraged whenever possible;

WHEREAS, uncertainty exists with regard to the contribution of sources in different geographical areas within and around the San Joaquin Valley on ozone and particulate matter levels within the valley, including questions regarding the extent of the transport of these pollutants and their precursors between different urban areas, between urban and rural areas, from the San Francisco Bay Area to the valley, and from the valley to the Southeast Desert Air Basin;

WHEREAS, knowledge concerning the relationship between ozone and particulate matter concentrations and the unique meteorology and topography of the San Joaquin Valley is incomplete;

WHEREAS, attainment of the NAAQS for ozone and particulate matter is necessary to protect public health, safety, and welfare, agricultural productivity and the agricultural and industrial economies in the San Joaquin Valley area;

WHEREAS, the San Joaquin Valley Air Pollution Task Force created by Assembly Concurrent Resolution No. 104 (Stats. 1982 (Reg. Sess.) res. ch. 160), in its final report issued in June 1984, found there to be a need for regional air pollution studies in the San Joaquin Valley, and the Task Force further recommended that the San Joaquin Valley Basinwide Control Council established pursuant to Section 40900 of the Health and Safety Code and the state set as high priorities the design, implementation and funding of such studies and that funding for this purpose be sought, in part, from the federal government;

WHEREAS, on August 23, 1984, the San Joaquin Valley Basinwide Control Council adopted a resolution requesting that the Environmental Protection Agency provide substantial funding for a regional study in the San Joaquin Valley; and

WHEREAS, the Board finds that:

The ozone and particulate matter problems in the San Joaquin Valley are of national significance due to the region's economic importance;

The cost of a regional study of air quality problems in the San Joaquin Valley would exceed the available resources of the air pollution control districts within the valley and of the Board; and

Because of the significance of the ozone and particulate problems in the San Joaquin Valley, research should commence during 1985.

NOW, THEREFORE BE IT RESOLVED, that the Board supports the San Joaquin Valley Basinwide Control Council's request to the federal government to provide substantial funding of a regional air quality study; and

BE IT FURTHER RESOLVED, that the Board urges the Environmental Protection Agency to provide funding for a study to begin in 1985.

I hereby certify that the above is a true and correct copy of Resolution 85-4, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 85-5

January 24, 1985

Agenda Item No.: 85-1-5

WHEREAS, the Air Resources Board ("Board") and the Environmental Protection Agency have established health-based ambient air quality standards for oxidant and ozone, respectively, and for particulate matter, and the Board has established standards for visibility reducing particles, and these standards are frequently violated in several of the State's air basins;

WHEREAS, Health and Safety Code Sections 39003, 39500, 39602, and 41500 authorize the Board to coordinate, encourage, and review efforts to attain and maintain state and national ambient air quality standards;

WHEREAS, Health and Safety Code Sections 39600 and 39605 authorize the Board to act as necessary to execute the powers and duties granted to and imposed upon the Board and to assist the air pollution control districts;

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, the statewide Technical Review Group for Suggested Control Measure Development (TRG) has approved a proposed Suggested Control Measure for Control of Emissions of Reactive Organic Compounds From Resin Manufacturing (the "Suggested Control Measure") and has forwarded the Suggested Control Measure to the Board for consideration;

WHEREAS, the Board has held a duly noticed public meeting to consider approval of the Suggested Control Measure and has heard and considered the comments presented by representatives of the Board, districts, affected industries, and other interested persons and agencies; and

WHEREAS, the Board finds that:

Emissions of reactive organic compounds from resin manufacturing facilities contribute to concentrations of oxidant and ozone and of photochemically generated particulate matter in excess of state and national ambient air quality standards in some of the State's air basins;

Methods to reduce emissions of reactive organic compounds from resin manufacturing facilities can include condensing such emissions in condensers or chillers, combusting the exit gases from the resin manufacturing equipment with a flame incinerator or afterburner, and recovering vapors during on-loading or off-loading raw materials and products;

The technology to control emissions from resin manufacturing plants to the extent provided in the Suggested Control Measure is reasonably available and cost-effective; and

The proposed Suggested Control Measure is consistent with the Environmental Protection Agency Control Techniques Guideline covering the manufacture of polystyrene resins; and

No significant adverse environmental impacts associated with the proposed Suggested Control Measure have been identified and no potentially significant adverse environmental effects are likely to result from the adoption and implementation of the proposed Suggested Control Measure.

NOW, THEREFORE, BE IT RESOLVED that the Board approves the Suggested Control Measure for Control of Emissions of Reactive Organic Compounds from Resin Manufacturing as set forth in Attachment A to this Resolution.

BE IT FURTHER RESOLVED that the Executive Officer shall forward the Suggested Control Measure to districts for consideration and adoption in regulatory form to the extent necessary to provide for the attainment and maintenance of the ambient air quality standards.

I hereby certify that the above is a true and correct copy of Resolution 85-5, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

Proposed Rule - Control of Reactive Organic Gases from Resin Manufacturing

(a) Definitions

For the purpose of this rule the following definitions shall apply:

(1) REACTIVE ORGANIC GASES (ROG) means any gaseous chemical compound which contains the element carbon; excluding carbon monoxide, carbon dioxide, carbonic acid, carbonates, metallic carbides, methane, [1, 1, 1 trichloroethane, methylene chloride,][1] [trifluoromethane and chlorinated fluorinated hydrocarbons.][2]

(2) AN ORGANIC RESIN REACTOR is any piece of equipment in which organic and/or other materials are reacted to produce an organic resin, and any stripping columns, condensers, and water separators which are used in connection with such equipment and which return evaporated solvent to the reaction vessel.

(3) ORGANIC RESIN is a solid or semi-solid, water insoluble, organic material with little or no tendency to crystallize and is used as the basic component of plastics and/or as a component of surface-coating formulations.

(4) A VENT is a port or opening that allows gases to discharge to the atmosphere when leaving a reactor or other equipment. Where a product recovery condenser is used, the vent is the point of discharge from the condenser to the atmosphere.

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1) As a matter of prudent public health policy, the District Control Board may wish to control these compounds pending consideration of potential toxicity.

2) In accordance with EPA policy (45 Federal Register 48941, July 22, 1980) the District Control Board may wish to substitute the following compounds for the compounds shown: trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), chlorodifluoromethane (CFC-22), trifluoromethane (FC-23), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane(CFC-114), chloropentafluoroethane (CFC-115).

(5) A THINNING TANK is a vessel which receives organic resin and/or reaction products from an organic resin reactor and to which solvents may be added in order to thin the product.

(6) A BLENDING TANK is a vessel in which organic resin is blended with solvents and/or other materials, normally to produce a final product blend.

(7) A CONDENSER is a jacketed tube which has a cooling fluid, often water, flowing through the jacket and which cools and liquifies gases entering the inside of the tube.

(8) A RESIN MANUFACTURER is a person who reacts organic compounds to produce an organic resin and is classified as 2821 in the Standard Industrial Classification Manual.

(9) COMPLETED RESIN is organic resin solids, solvents, and additives as delivered for sale or use.

(10) A CONTINUOUS POLYSTYRENE PROCESS is the reaction of styrene and other ingredients and the purification of the reaction products, to produce a normally uninterrupted flow of resin.

(11) A VACUUM DEVOLATILIZER SYSTEM consists of equipment used in the vacuum separation of polystyrene from styrene monomer and reaction by-products.

(12) A STYRENE RECOVERY SYSTEM consists of equipment that separates styrene monomer from reaction by-products.

(5) A THINNING TANK is a vessel which receives organic resin and/or reaction products from an organic resin reactor and to which solvents may be added in order to thin the product.

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(11) A VACUUM DEVOLATILIZER SYSTEM consists of equipment used in the vacuum separation of polystyrene from styrene monomer and reaction by-products.

(12) A STYRENE RECOVERY SYSTEM consists of equipment that separates styrene monomer from reaction by-products.

(b) Requirements

(1) On and after (one year from date of adoption) a resin manufacturer shall not manufacture organic resin unless the total emissions of reactive organic gases (ROG) from the vents of the organic resin reactor, thinning tanks, blending tanks, vacuum devolatilizer, and styrene recovery systems, before being vented to the atmosphere, are reduced:

(A) to 0.5 pound per 1000 pounds of completed organic resin produced, or

(B) by 95 percent or more.

(2) On and after (two years from date of adoption) a resin manufacturer shall not manufacture organic resin by a continuous polystyrene process unless the total emissions of ROG from the vacuum devolatilizer system and styrene recovery system, before being vented into the atmosphere, are reduced to 0.12 pound per 1000 pounds of completed organic resin produced.

(c) Exemptions

(1) Section (b) of this rule shall not apply to any facility that emits less than a total of 10 pounds of ROG per day to the atmosphere from all of the equipment subject to this rule.

[(2) The exclusions from the definition of Reactive Organic Gases (ROG) in Section (a)(1) of this rule shall only apply where the owner or operator demonstrates, to the satisfaction of the air pollution control officer, that an emitted compound is one of the excluded compounds.] 3)

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3)This section may be inserted at the discretion of the District Control Board.

(d) Compliance

(1) On or before (6 months from date of adoption) an organic resin manufacturer shall either:

(A) submit to the Executive Officer test data or the theoretical calculations which demonstrate planned compliance with either Section (b)(1)(A) or (b)(1)(B) and specify the operating conditions that achieve such reductions, and submit applications for permits to construct or operate any new or modified control equipment necessary for the planned method of compliance; or

(B) submit test data or theoretical calculations which demonstrate qualification for an exemption under Section (c) of this rule and specify the operating conditions which will qualify the resin manufacturer for such an exemption, and submit applications for permits to construct or operate any new or modified equipment necessary to qualify the resin manufacturer for an exemption under Section (c) of this rule.

(2) On or before (one year from date of adoption) a resin manufacturer making organic resin by a continuous polystyrene process shall submit test data or theoretical calculations which demonstrate planned compliance with Section (b)(2) and specify the operating conditions that achieve reductions and submit application(s) for permits to construct or operate as necessary for any new or modified control equipment necessary for the planned method of compliance.

(d) Compliance

(1) On or before (6 months from date of adoption) an organic resin manufacturer shall either:

(A) submit to the Executive Officer test data or the theoretical calculations which demonstrate planned compliance with either Section (b)(1)(A) or (b)(1)(B) and specify the operating conditions that achieve such reductions, and submit applications for permits to construct or operate any new or modified control equipment necessary for the planned method of compliance; or

(B) submit test data or theoretical calculations which demonstrate qualification for an exemption under Section (c) of this rule and specify the operating conditions which will qualify the resin manufacturer for such an exemption, and submit applications for permits to construct or operate any new or modified equipment necessary to qualify the resin manufacturer for an exemption under Section (c) of this rule.

(2) On or before (one year from date of adoption) a resin manufacturer making organic resin by a continuous polystyrene process shall submit test data or theoretical calculations which demonstrate planned compliance with Section (b)(2) and specify the operating conditions that achieve reductions and submit application(s) for permits to construct or operate as necessary for any new or modified control equipment necessary for the planned method of compliance.

(e) Method of Analysis

The ROG content of the emissions subject to the provisions of this rule shall be determined by the procedure outlined in Rule _____ (or alternatively - the Administrative Procedures Manual)

-or-

The ROG content of the emissions subject to the provisions of this rule shall be determined by EPA Reference Method 21 (date) or an equivalent method.

(f) Record Keeping

A person shall maintain a record of daily production, raw material and solvent usage for each process line. These records shall be kept for a minimum of one year and shall be made available to the District upon request.

4)

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[4] Any of these sections may be inserted at the discretion of the District Control Board.

State of California
AIR RESOURCES BOARD

Resolution 85-6

January 25, 1985

Agenda Item No.: 85-2-1

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

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

WHEREAS, Section 39655 of the Health and Safety Code defines a "toxic air contaminant" as an air pollutant which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health, and specifies that substances which have been identified by the Environmental Protection Agency (EPA) as hazardous air pollutants pursuant to Section 112 of the federal Clean Air Act (42 U.S.C. Section 7412) shall be identified by the Board as toxic air contaminants;

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

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

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

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

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

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

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

WHEREAS, upon receipt of the DHS evaluation, staff of the Board prepared a health effects report including and in consideration of the DHS evaluation and recommendations and in the form required by Section 39661 of the Health and Safety Code and, in accordance with the provisions of that section, made the report available to the public and submitted it for formal review to the Scientific Review Panel (SRP) established pursuant to Section 39670 of the Health and Safety Code;

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

WHEREAS, in accordance with Section 39661 of the Health and Safety Code, the SRP reviewed the staff health effects report, including the scientific procedures and methods used to support the data in the report, the data itself, and the conclusions and assessments on which the report was based, considered the public comments received regarding the report, and, on November 27, 1984, submitted its written findings to the Board;

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

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

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

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

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

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

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

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

Benzene is a human carcinogen;

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

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

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

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

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

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

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

Harold Holmes, Board Secretary

ATTACHMENT A

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

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

Substance	Threshold Determination
Benzene (C_6H_6)	No threshold

State of California

Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : August 5, 1985

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

From : Harold Holmes
Board Secretary
Air Resources Board

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

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

FILED AND POSTED BY
OFFICE OF THE SECRETARY
AUG 05 1985
Resources Agency of California

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

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

Agenda Item No.: 85-2-1

Public Hearing Date: January 25, 1985

Response Date: January 25, 1985

Issuing Authority: Air Resources Board

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

Response: N/A

Certified: _____
Board Secretary

Date: 08-19-85

State of California
AIR RESOURCES BOARD

Resolution 85-7
February 21, 1985

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 052-8, entitled "Effects on Steel of Acid Deposition by Gases, Particles, Fogs and Dew", has been submitted by Desert Research Institute, Nevada; 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 052-8 entitled "Effects on Steel of Acid Deposition by Gases, Particles, Fogs and Dew", submitted by Desert Research Institute, Nevada for a total amount not to exceed $61,195.

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 052-8 entitled "Effects on Steel of Acid Deposition by Gases, Particles, Fogs and Dew", submitted by Desert Research Institute, Nevada for a total amount not to exceed $61,195.

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 $61,195.

I hereby certify that the above is a true and correct copy of Resolution 85-7, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-3-4(b)3
DATE: February 21, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 052-8 entitled "Effects on Steel of Acid Deposition by Gases, Particles, Fogs and Dew".

RECOMMENDATION: Adopt Resolution 85-7 approving Proposal No. 052-8 for funding in an amount not to exceed $61,195.

SUMMARY: The Kapiloff Acid Deposition Act requires the California Air Resources Board to assess the economic impact of acid deposition upon materials as part of a comprehensive research program to determine the nature, extent and potential effects of acid deposition in California. The major objective of the materials damage research program is to distinguish the portion of materials damage which is caused by acid deposition from the damage that is induced by non-acidic pollutants or normal weathering in the absence of air pollutants. Additional objectives include: 1) identification and possible quantification of the major synergistic, additive, and antagonistic relationships between degradation agents; and 2) identification of materials that are significantly affected in California and determination of damage functions for those materials with respect to acid deposition.

The Request for Proposals (RFP) indicated that several proposals addressing various facets of the problems may be funded. A total of eleven proposals were received in response to the RFP. The Scientific Advisory Committee (SAC) approved two complementary studies to initiate the material damage research program. These studies would be performed by the Desert Research Institute (DRI) and the Environmental Monitoring & Service, Inc. (EMSI). DRI's study is discussed here; EMSI's study is discussed in Resolution 85-8.

The Desert Research Institute (DRI) would perform a comprehensive laboratory study using galvanized steel and coated carbon steel as the test materials. The proposed study would quantify the rate of corrosion for these materials by gaseous nitrogen dioxide and nitric acid. The materials damage would be investigated under varying conditions of pollutant concentrations,

temperatures and humidities. The quantitative analysis of the damage will be assessed by determining the surface properties using electrochemical and spectroscopic measurements.

The original proposal by DRI offered to study the effects of gaseous sulfation, gaseous nitration, particles, fogs and dew on steel. The SAC, however, approved only the gaseous nitration portion at this time. This study would be useful to the Board by providing direct comparison of corrosion rates by natural and anthropogenic pollutants. Such information would be extremely useful in determining the cost-benefits of emission controls with respect to the materials damage. The study would also provide mechanistic insight on the corrosion chemistry and physics of gaseous nitration of metals.

State of California
AIR RESOURCES BOARD

Resolution 85-8
February 21, 1985

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 054-8, entitled "Investigation of the Effects of Acid Deposition on Materials", has been submitted by Environmental Monitoring & Services, Inc. to the ARB; 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 054-8 entitled "Investigation of the Effects of Acid Deposition on Materials", submitted by Environmental Monitoring & Services, Inc. for a total amount not to exceed $297,562.

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 054-8 entitled "Investigation of the Effects of Acid Deposition on Materials", submitted by Environmental Monitoring & Services, Inc. for a total amount not to exceed $297,562.

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 $297,562.

I hereby certify that the above is a true and correct copy of Resolution 85-8, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-3-4(b)4
DATE: February 21, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 054-8 entitled "Investigation of the Effects of Acid Deposition on Materials".

RECOMMENDATION: Adopt Resolution 85-8 approving Proposal No. 054-8 for funding in an amount not to exceed $297,562.

SUMMARY: The Kapiloff Acid Deposition Act requires the California Air Resources Board to assess the economic impact of acid deposition upon materials as part of a comprehensive research program to determine the nature, extent and potential effects of acid deposition in California. The major objective of the materials damage research program is to distinguish the portion of materials damage which is caused by acid deposition from the damage that is induced by non-acidic pollutants or normal weathering in the absence of air pollutants. Additional objectives include: 1) identification and possible quantification of the major synergistic, additive, and antagonistic relationships between degradation agents, and 2) identification of materials that are significantly affected in California and determination of damage functions for those materials with respect to acid deposition.

The Request for Proposals (RFP) indicated that several proposals addressing various facets of the program may be funded. A total of eleven proposals were received in response to the RFP. The Scientific Advisory Committee (SAC) approved two complementary studies to initiate the materials damage research program. The two studies would be performed by the Environmental Monitoring and Services, Inc. (EMSI) and Desert Research Institute (DRI). EMSI's study is discussed here; DRI's study is discussed in Resolution 85-7.

The research plan proposed by EMSI includes a combined field and laboratory study. EMSI would study five economically important materials. Ten one-month long laboratory chamber experiments would be conducted to investigate the effects of natural weathering and the relative effects of individual and combinations of aerometric parameters with continuous wet/dry cycles. In addition, a twelve-month field exposure program would

be initiated at four California sites to distinguish the portion of materials damage caused by acidic pollution from that caused by natural weathering. EMSI would also monitor ambient nitric acid concentrations and relative humidity. Other aerometric data will be obtained from an existing monitoring network.

This comprehensive laboratory and field study would be useful to the Board in providing valuable information on the direct comparison of corrosion rates caused by natural and anthropogenic pollutants. Such information would be very useful in determining the cost-benefit of emission controls with respect to the materials damage for a number of economically important materials in California.

BUDGET SUMMARY

ENVIRONMENTAL MONITORING & SERVICES, INC.

"Investigation of the Effects of Acid Deposition on Materials"

BUDGET ITEMS:

Salaries	$ 33,722		
Supplies/ Materials	24,015		
Other Costs	6,120		
Travel	8,594		
Consultant/ Subcontractor	113,797*		
TOTAL, Direct Costs			$186,248
TOTAL, Indirect Costs			111,314
		TOTAL PROJECT COST	$297,562

* Consultant (Prof. Norbert Baer) -- $ 4,000

Subcontractor (Rockwell Science Center)

Salaries and Benefits	$37,987
Indirect Costs	48,780
Other Costs	9,847
General & Administration Costs	13,183
TOTAL, Subcontractor	$109,797
TOTAL, Consultant/Subcontractor	$113,797

State of California
AIR RESOURCES BOARD

Resolution 85-9
February 21, 1985

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 049-7, entitled "Pulmonary Function and Symptomatic Responses of Asthmatics to Ambient Acid Atmospheres", has been submitted by the University of California, Irvine, to the ARB; 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 049-7 entitled "Pulmonary Function and Symptomatic Responses of Asthmatics to Ambient Acid Atmospheres", submitted by the University of California, Irvine, for a total amount not to exceed $453,052.

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 049-7 entitled "Pulmonary Function and Symptomatic Responses of Asthmatics to Ambient Acid Atmospheres", submitted by the University of California, Irvine, for a total amount not to exceed $453,052.

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 $453,052.

I hereby certify that the above is a true and correct copy of Resolution 85-9, as adopted by the Air Resources Board.

Harold Holmes

(Harold Holmes, Board Secretary

ITEM NO.: 85-3-4(b)5
DATE: February 21, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 049-7 entitled "Pulmonary Function and Symptomatic Responses of Asthmatics to Ambient Acid Atmospheres".

RECOMMENDATION: Adopt Resolution 85-9 approving Proposal No. 049-7 for funding in an amount not to exceed $453,052.

SUMMARY: The Kapiloff Acid Deposition Act provides that the Air Resources Board establish a research program to evaluate the possible health consequences of acidic pollution in California air. A Request for Proposals (RFP) was issued to solicit proposals that would begin a program to study the possible health effects. The range of approaches suggested in the RFP included epidemiological studies, controlled exposures of human or animal subjects, in vitro testing, and studies of carcinogenic and mutagenic potential. The RFP encouraged the development of new methods to study complex acidic atmospheres in California. Eight proposals were received in response to this RFP. Three were selected for funding by the Scientific Advisory Committee. The selection included an epidemiological study (presented in this summary), a human clinical study and an animal exposure study.

This proposal, for an epidemiology study, would monitor 100 carefully-selected asthmatics for one year with the objective of relating daily symptoms and lung function changes to measured urban pollution. The selection of asthmatics was made because, as a group, they represent a significant part of the population who are sensitive to the effects of air pollution. In addition, protocols to evaluate effects on asthmatics have become highly developed. Subjects would be selected from the Irvine/Costa Mesa area of Orange County, which has moderate air pollution, including acid components and their precursors. The fogs of highest acidity measured in the State have occurred in this area.

This study would use both routinely collected air quality data, specially collected data on particulate matter (PM_{10}) and fog acidity. Additional data would be obtained by using a specially designed continuous

sulfate-sulfuric acid analyzer. Statistical analysis would involve a "time-series" approach, in which the response of individuals is considered over time in relation to pollutant exposure. Such methods have been successfully employed in related studies of the effects of air pollution on human subjects exposed to ambient air pollution.

The results of this study would provide an assessment of how atmospheres containing acidic components affect the health of a large group of sensitive subjects. The experimental plan should allow the investigators to apportion the relative effects of the important individual components of the acidic atmospheres.

The Scientific Advisory Committee recommended that the air monitoring portion of the work be carried out by the Air Resources Board rather than UCI and that funds requested by UCI be used to support the increased ARB monitoring effort.

BUDGET SUMMARY

University of California, Irvine

"Pulmonary Function and Symptomatic Response of Asthmatics to Ambient Air Atmospheres"

BUDGET ITEMS:

Salaries	$173,131	
Equipment	43,298*	
Supplies	8,084	
Travel	9,090	
Consultants	13,600	
Subcontracts	35,594*	
Other Costs	51,107	
TOTAL, Direct Costs		$333,904
TOTAL, Indirect Costs		119,148
TOTAL PROJECT COST		$453,052

*These two items are related to air quality monitoring and sample analysis. The Scientific Advisory Committee recommended removal of these activities from the scope of work presented in this proposal. A portion of these funds will be used by the Board's Haagen-Smit Laboratory to perform the needed tasks.

State of California
AIR RESOURCES BOARD

Resolution 85-10
February 21, 1985

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 050-7, entitled "Respiratory Effects of Acid Containing Multicomponent Pollutant Atmospheres", has been submitted by the University of California, Irvine, to the ARB; 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 050-7 entitled "Respiratory Effects of Acid Containing Multicomponent Pollutant Atmospheres", submitted by the University of California, Irvine, for a total amount not to exceed $264,672.

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 050-7 entitled "Respiratory Effects of Acid Containing Multicomponent Pollutant Atmospheres", submitted by the University of California, Irvine, for a total amount not to exceed $264,672.

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 $264,672.

I hereby certify that the above is a true and correct copy of Resolution 85-10, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-3-4(b)6
DATE: February 21, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 050-7 entitled "Respiratory Effects of Acid Containing Multicomponent Pollutant Atmospheres".

RECOMMENDATION: Adopt Resolution 85-10 approving Proposal No. 050-7 for funding in an amount not to exceed $264,672.

SUMMARY: The Kapiloff Acid Deposition Act provides for the Air Resources Board to establish a research program to evaluate the possible health consequences of acidic pollution in California air. A Request for Proposals (RFP) was issued to solicit proposals that would begin a program to study the possible health effects. In the RFP the range of approaches included epidemiological studies, controlled exposures of human or animal subjects, in vitro testing, and studies of carcinogenic and mutagenic potential. The RFP encouraged the development of new methods to study complex acidic atmospheres seen in California. Eight proposals were received in response to this RFP. Three were selected for funding by the Scientific Advisory Committee. The selection included an epidemiological study, a human clinical study, and an animal exposure study (presented in this summary).

The objective of this proposed study is to assess the possible adverse effects of inhaled complex acidic air pollutant mixtures on the respiratory system of rats. The investigators plan to generate a complex atmosphere using ozone, NO_2, SO_2, $MnSO_4$, $(NH_4)_2SO_4$ and carbon aerosol as starting reagents. This complex atmosphere reacts in the chamber to produce an acid-rich particulate atmosphere. Important components of the atmosphere would be studied in simple combinations and alone. In addition, a H_2SO_4-HNO_3 atmosphere would also be utilized. Three different concentrations of the multi-component mixture would be used in order to evaluate the dose-response nature of any observed effects.

The health effects end points that would be measured include several different indicators of respiratory system status and injury. Changes in breathing

pattern would be assessed using methods similar to those used in human studies. Tissue injury and lung cell death would be evaluated by radio tracer techniques which measure the rate of DNA incorporation into tissue. Cellular damage to the deep lung would be measured by quantitative changes in cell types present in the air sacs where gas exchange occurs. Clearance rates of inhaled radio-labeled particles from the lung would be followed for up to 30 days to determine whether the test atmospheres affect particle removal. Possible changes in the lung fluids present in the lung of the test animals would be evaluated by gas chromotography. Lung fluids contain many essential components important in defense against infectious agents, as well as components necessary to provide lubrication and prevent collapse of the air sacs.

Findings from this study are intended to provide an initial assessment of the acute effects of such atmospheres.

BUDGET SUMMARY

University of California, Irvine

"Respiratory Effects of Acid Containing Multicomponent Pollutant Atmospheres"

BUDGET ITEMS:

Salaries	$74,789	
Equipment	36,651*	
Supplies	31,860	
Travel	4,200	
Consultants	5,600	
Other Costs	45,995	
TOTAL, Direct Costs		$199,095
TOTAL, Indirect Costs		65,577
TOTAL PROJECT COST		$264,672

*Equipment budget includes a number of items in a new device to make simultaneous measurements of the pulmonary function of eight rats.

EQUIPMENT DETAIL:

8 Ultra low differential pressure transducers	$ 4,464
8 Pneumotachographs	1,760
4 Validyne CD19 Carrier Demodulators	1,492
4 Validyne Flow Integrators	4,400
1 Validyne 10 channel module case	1,886
Gould Recorder, 8 channel Gould	16,533
4 General Purpose Amplifiers Gould	3,520
2 Universal Amplifiers	2,596
	$ 36,651

State of California
AIR RESOURCES BOARD

Resolution 85-11
February 21, 1985

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 051-7, entitled "The Roles of pH, Titratable Acid and Specific Chemical Composition in Mediating Effects of Acid Aerosols on the Airways", has been submitted by the University of California, San Francisco, to the ARB; 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 051-7 entitled "The Roles of pH, Titratable Acid and Specific Chemical Composition in Mediating Effects of Acid Aerosols on the Airways", submitted by the University of California, San Francisco, for a total amount not to exceed $125,457.

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 051-7 entitled "The Roles of pH, Titratable Acid and Specific Chemical Composition in Mediating Effects of Acid Aerosols on the Airways", submitted by the University of California, San Francisco, for a total amount not to exceed $125,457.

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 $125,457.

I hereby certify that the above is a true and correct copy of Resolution 85-11, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-3-4(b)7
DATE: February 21, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 51-7 entitled "The Roles of pH, Titratable Acid and Specific Chemical Composition in Mediating Effects of Acid Aerosols on the Airways".

RECOMMENDATION: Adopt Resolution 85-11 approving Proposal No. 051-7 for funding in an amount not to exceed $125,457.

SUMMARY: The Kapiloff Acid Deposition Act provides for the Air Resources Board to establish a research program to evaluate the possible health consequences of acidic pollution in California air. A Request for Proposals (RFP) was issued to solicit proposals that would study possible health effects. The RFP indicated that a wide range of approaches would be considered: epidemiological studies, controlled exposures of human or animal subjects, in vitro testing, and studies of carcinogenic and mutagenic potential. In addition, the RFP encouraged the development of new methods to study complex acidic atmospheres in California. Eight proposals were received in response to this RFP. Three were selected for funding by the Scientific Advisory Committee. The selection included an epidemiological study, a human clinical study and an animal exposure study. The human clinical study is presented in this summary.

The objective of this study is to clarify the nature of the human pulmonary response to inhaled acidic materials. This proposal addresses several basic unanswered questions that could provide guidance for future studies of human responses to acid aerosols. These questions are: 1) Does the chemical composition of an acid aerosol influence human response, independent of pH; 2) Does an un-buffered acid produce a different pulmonary response than buffered acids of the same pH; and 3) What are the pulmonary effects of aerosols with differing pH?

Ten carefully characterized asthmatic subjects would be used in each experiment. The subjects would be exposed for brief periods to acid aerosols, sulfites and SO_2. The study would use well-established, non-invasive techniques to assess the pulmonary responses of the exposed subjects. Previous studies by this research

group have shown this number to be sufficient to provide statistically valid findings using these proposed methods.

In order to determine what changes may be occurring in the lung at the cellular level, guinea pigs would also be exposed to these various acid aerosols, with and without sulfite and SO_2. The use of animals in this study allows for a more direct assessment of the actual sites of injury and mechanisms of response. Possible effects to be assessed would be bronchoconstriction (airway tightening), airway injury and lung tissue leakage.

The rationale for this approach is that, before any investigators begin an acid-by-acid study of inhaled acids, the basis of the response to acidic insult should be determined. The results of this study will provide the type of basic information that will be useful to guide future research activities into the health effects of acidic materials. It would also provide information on how asthmatics are affected by acidic pollutants.

BUDGET SUMMARY

University of California, San Francisco

"The Roles of pH, Titratable Acid and Specific Chemical Composition in Mediating Effects of Acid Aerosols in the Airways"

BUDGET ITEMS:

Salaries	$66,758	
Equipment	10,665*	
Supplies	8,990	
Travel	1,600	
Other Costs	9,206	
TOTAL, Direct Costs		$ 97,219
TOTAL, Indirect Costs		28,238
TOTAL PROJECT COST		$125,457

*Equipment is needed for 1) the measurement and automatic computer acquisition of data on airway changes; 2) observation of tissue injury; and 3) the laboratory preparation of reagents. This equipment is listed below:

EQUIPMENT DETAIL:

Microscope	$ 3,515
Electronic protractor	1,100
IBM PC	1,910
Printer	470
A/D convertor	1,300
pH meter	950
2 Differential pressure transducers	900
Pneumotachygraph	520
	$10,665

State of California
AIR RESOURCES BOARD

Resolution No. 85-12

March 21, 1985

Agenda Item No.: 85-4-2

WHEREAS, Health and Safety Code Section 39003 provides that the Air Resources Board (the "Board") is the state agency charged with coordinating efforts to attain and maintain ambient air quality standards and Section 39602 designates the Board as the state agency responsible for the implementation of the State Implementation Plan required by the Clean Air Act and directs the Board to coordinate the activities of all air pollution control districts necessary to comply with that act;

WHEREAS, on February 3, 1983, the EPA proposed to disapprove the nonattainment area plans for Fresno County (CO and O_3), the Sacramento Air Quality Maintenance Area (O_3), the South Coast Air Basin (CO and O_3), and Ventura County (O_3), because they failed to demonstrate attainment of air quality standards by 1987;

WHEREAS, the EPA also proposed to impose construction bans and to withhold federal funds for air quality planning and highway projects in the above named areas;

WHEREAS, on July 30, 1984, the EPA withheld action on the disapprovable portions of the plans and approved the remaining portions with the understanding that a program would be designed to determine whether or not the areas are making all reasonable efforts to clean up the air;

WHEREAS, the staffs of the ARB and the EPA developed the "Reasonable Efforts Program" which is designed to produce cleaner air by strengthening existing control strategies in the post '87 areas and by improving the air program operations in those areas;

NOW, THEREFORE BE IT RESOLVED, that the Board supports the Reasonable Efforts Program, and the Board directs the staff to continue to work with the EPA and the districts towards the orderly implementation of such a program for the benefit of air quality in California.

I hereby certify that the above is a true and correct copy of Resolution 85-12, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 85-13

March 21, 1985

Agenda Item No.: 85-4-3

WHEREAS, the Air Resources Board ("Board") and the Environmental Protection Agency have established health-based ambient air quality standards for oxidant and ozone, respectively, and for particulate matter, and the Board has established a standard for visibility, and these standards are frequently violated in several of the State's air basins;

WHEREAS, Health and Safety Code Sections 39003, 39500, 39602, and 41500 authorize the Board to coordinate, encourage, and review efforts to attain and maintain state and national ambient air quality standards;

WHEREAS, Health and Safety Code Sections 39600 and 39605 authorize the Board to act as necessary to execute the powers and duties granted to and imposed upon the Board and to assist the air pollution control districts;

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, the statewide Technical Review Group for Suggested Control Measure Development (TRG) has approved a proposed Suggested Control Measure for Control of Emissions of Reactive Organic Compounds from Wood Furniture and Cabinet Coating Operations (the "Suggested Control Measure") and has forwarded the Suggested Control Measure to the Board for consideration;

WHEREAS, the Board has held a duly noticed public meeting to consider approval of the Suggested Control Measure and has heard and considered the comments presented by representatives of the Board, districts, affected industries, and other interested persons and agencies; and

WHEREAS, the Board finds that:

Emissions of reactive organic compounds from wood furniture and cabinet coating operations contribute to concentrations of oxidant and ozone and of photochemically generated particulate matter in excess of state and national ambient air quality standards in some of the State's air basins;

Methods to reduce emissions of reactive organic compounds from wood furniture and cabinet coating operations include improving coating transfer efficiencies by using more efficient application equipment, reducing the amount of reactive organic compounds (solvents) in the coatings, and substituting water-borne for solvent-borne coatings;

The technology to control emissions from wood furniture and cabinet coating operations to the extent provided in the Suggested Control Measure is reasonably available and cost-effective; and

No significant adverse environmental impacts associated with the proposed Suggested Control Measure have been identified and no potentially significant adverse environmental effects are likely to result from the adoption and implementation of the proposed Suggested Control Measure.

NOW, THEREFORE, BE IT RESOLVED that the Board approves the Suggested Control Measure for Control of Emissions of Reactive Organic Compounds from Wood Furniture and Cabinet Coating Operations as set forth in Attachment A to this Resolution.

BE IT FURTHER RESOLVED that the Executive Officer shall forward the Suggested Control Measure to districts for consideration and adoption in regulatory form to the extent necessary to provide for the attainment and maintenance of the ambient air quality standards.

I hereby certify that the above is a true and correct copy of Resolution 85-13, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 85-16
March 21, 1985

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 solicited research proposal, Number 1296-112, entitled "South Coast Field Study," has been submitted by Sonoma Technology, Inc.; to the Air Resources Board; and

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

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

> Proposal Number 1296-112, entitled "South Coast Field Study", submitted by Sonoma Techology, Inc. for a total amount not to exceed $87,121.

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 1296-112, entitled "South Coast Field Study", submitted by Sonoma Techology, Inc. for a total amount not to exceed $87,121.

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 $87,121.

I hereby certify that the above is a true and correct copy of Resolution 85-16, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-4-5b(1)
DATE: March 21, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 1296-112 entitled "South Coast Field Study."

RECOMMENDATION: Adopt Resolution 85-16 approving Proposal No. 1296-112 for funding in an amount not to exceed $87,121.

SUMMARY: This is a project to design and develop a management plan for the large scale, multi-year air quality study in the South Coast Air Basin called for in the Board's long-range research plan. The contractor will prepare a detailed draft program plan that will:

- document specific objectives and hypotheses to be tested and a list of measurement methods and analyses to achieve objectives and test hypotheses;
- identify options on how to perform the study, considering the need for cooperative participation by a number of funding entities; at least one option is to include a core program of measurements and analyses which will be funded by the Air Resources Board in the event little or no cooperative participation is obtained;
- identify data requirements based on program objectives, to avoid unnecessary measurements;
- define detailed protocols for quality control and quality assurance in order to produce data of known validity, accuracy, and precision; and
- provide a management plan for the coordination of sponsors and researchers for the conduct of the study.

Many air pollution field studies conducted in the past have been performed without clearly-defined methods of attack and accompanying goals and objectives. Inasmuch as research funds are limited, and the need for additional progress toward clean air in the South Coast Air Basin is obvious, it is essential that a well-defined program with clearly articulated goals

and objectives be produced and agreed upon by program participants. As a result, scarce resources will not be wasted in collecting useless or unnecessary data. Conversely, the recording of essential data will not be inadvertently omitted from the protocol.

The program plan resulting from this proposal will provide a scientifically sound and defensible plan for the successful implementation of the field study called for in the Board's long-range research plan.

BUDGET SUMMARY

Sonoma Technology, Inc.

"South Coast Field Study"

BUDGET ITEMS:

Salaries/Benefits	$16,913	
Travel	5,478	
Other Costs	3,250	
Consultants*	33,940	
TOTAL, Direct Costs		$59,581
Labor Overhead	20,296	
G & A Expenses	4,267	
Fee (3.5%)	2,977	
TOTAL, Indirect Costs		$27,540
	TOTAL PROJECT COST	$87,121

*CONSULTANTS:

Dr. George Hidy, Desert Research Institute	$ 2,355
Dr. John Watson, Desert Research Institute	15,930
Dr. Sheldon Friedlander, UCLA	2,700
Dr. Susanne Hering, UCLA	3,850
Dr. Glen Cass, Caltech	1,875
Dr. Peter McMurry, Univ. of Minnesota	2,000
Dr. Ted Smith, Ted B. Smith Associates	800
Dr. Daniel Grosjean, Daniel Grosjean Assoc.	2,430
Dr. Warren Johnson, SRI International	2,000
TOTAL CONSULTANTS	$33,940

State of California
AIR RESOURCES BOARD

Resolution 85-17
March 21, 1985

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 solicited research proposal, Number 1286-112, entitled "Sources and Concentrations of Chloroform in the South Coast Air Basin", has been submitted by Science Applications International Corporation;

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

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

> Proposal Number 1286-112, entitled "Sources and Concentrations of Chloroform in the South Coast Air Basin", submitted by Science Applications International Corporation for a total amount not to exceed $199,976.

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 1286-112, entitled "Sources and Concentrations of Chloroform in the South Coast Air Basin", submitted by Science Applications International Corporation for a total amount not to exceed $199,976.

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 $199,976.

I hereby certify that the above is a true and correct copy of Resolution 85-17, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-4-5b(2)
DATE: March 21, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 1286-112 entitled "Sources and Concentrations of Chloroform Emissions in the South Coast Air Basin".

RECOMMENDATION: Adopt Resolution 85-17 approving Proposal No. 1286-112 for funding in an amount not to exceed $199,976.

SUMMARY: This project is a part of the Board's program to identify and regulate emissions of toxic air contaminants as mandated by the Health and Safety Code. The ARB staff has compiled a list of potential toxic air contaminants classified according to: degree of risk, amount of emissions, persistence in the atmosphere and ambient concentrations. Chloroform, one of the compounds listed, is regularly identified and measured in the atmosphere in the South Coast Air Basin; however, the known sources of chloroform emissions account for only a small fraction of the chloroform found in the atmosphere.

The objectives of this research project are to investigate both primary and secondary sources of chloroform in the South Coast Air Basin and to identify and quantify the emission sources and atmospheric mechanisms that are responsible for the observed atmospheric concentrations. The study was initiated in response to a request from the Toxic Pollutants Branch of the Stationary Source Division.

This research project will be conducted in two phases. The first phase involves a literature search for all known and suspected sources of chloroform emissions in the Basin, including chloroform possibly produced by atmospheric reactions. The second phase consists of quantifying chloroform emissions from these sources to achieve a mass balance. Probable rates for atmospheric reactions will be determined and documented.

The final report will include a complete description of all the research work performed to reduce the uncertainties in the mass balance for chloroform.

The results of this project will be used by the Air Resources Board staff and others to assist in control stategy development for risk management.

BUDGET SUMMARY

Science Applications International Corporation

"Sources and Concentrations of Chloroform in the South Coast Air Basin"

BUDGET ITEMS:

Salaries	$35,891	
Benefits	$14,356	
Supplies	$31,832	
Other Costs	$47,383	
Travel	$ 6,212	
Overhead	$29,646	
General & Administrative	$16,477	
Fee	$18,179	
TOTAL, Direct Costs		$165,320
TOTAL, Indirect Costs		$ 34,656
	TOTAL PROJECT COST	$199,976

ITEM NO.: 85-6-3(b)2
DATE: April 26, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 064-10 entitled "Vegetation Process Studies".

RECOMMENDATION: Adopt Resolution 85-18 approving Proposal No. 064-10 for funding in an amount not to exceed $145,478.

SUMMARY: The Kapiloff Acid Deposition Act requires the Air Resources Board to study the potential effects of acid deposition upon forested ecosystems with priority to poorly buffered ecosystems. In addition, the Board is required to assess the impacts, including economic impacts, of acid deposition upon forests and recreational aesthetic resources.

Emerald Lake, which is located in Sequoia National Park, was identified as a representative, poorly buffered watershed and chosen for an intensive ecosystem study supported by the ARB and other cooperating agencies. Emerald Lake occupies a subalpine basin with sparse vegetation and few tree species. Economically important tree species exist in greater abundance at lower elevations in the Sierra Nevada. For this reason, the proponent was funded to study vegetation at both Emerald Lake and the Log Meadow Watersheds in Sequoia National Park during the 1984 growing season. The proposal presented here would continue the research initiated in 1984.

The objectives of the research at both the Emerald Lake and Log Meadow watersheds are to collect baseline information on the above-ground and below-ground productivity of important plant species and the fluxes of nitrogen, sulfur, phosphorus, and aluminum through the vegetation. This information can serve as reference data from which future changes in the watersheds may be compared. The productivity of foliage and timber would be studied because these are the plant parts that are usually economically important, and acid deposition may affect the above-ground plant parts directly. Root productivity would be studied because acid deposition may affect plant growth through changes in soil chemistry and

processes. The amounts of nitrogen, sulfur, phosphorus, and aluminum in the vegetation would be determined and used to estimate the flow of these important elements from the soil, through the plants and into decomposing litter. In addition, the proponent would study the tolerance of white and red fir to aluminum under controlled experiments in growth chambers. This would be important information since aluminum mobility in the soil is increased by increasing acid deposition and since aluminum is known toxic to plants.

State of California
AIR RESOURCES BOARD

Resolution 85-18
April 26, 1985

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

WHEREAS, an unsolicited research proposal, Number 064-10, entitled "Vegetation Process Studies", has been submitted by the University of California, Los Angeles; 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 064-10 entitled "Vegetation Process Studies", submitted by the University of California, Los Angeles for a total amount not to exceed $145,478.

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 064-10 entitled "Vegetation Process Studies", submitted by the University of California, Los Angeles for a total amount not to exceed $145,478.

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 $145,478.

I hereby certify that the above is a true and correct copy of Resolution 85-18, as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 85-19
APRIL 26, 1985

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 065-10, entitled "Integrated Watershed Study: An Investigation of Fish and Amphibian Populations in the Vicinity of the 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 065-10 entitled "Integrated Watershed Study: An Investigation of Fish and Amphibian Populations in the Vicinity of the Emerald Lake Basin, Sequoia National Park", submitted by the University of California, Santa Barbara for a total amount not to exceed $160,781.

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 052-8 entitled "Integrated Watershed Study: An Investigation of Fish and Amphibian Populations in the Vicinity of the Emerald Lake Basin, Sequoia National Park", submitted by the University of California, Santa Barbara, for a total amount not to exceed $160,781.

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 $160,781.

I hereby certify that the above is a true and correct copy of Resolution 85-19, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-6-3(b)3
DATE: April 26, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 065-10 entitled "Integrated Watershed Study: An Investigation of Fish and Amphibian Populations in The Vicinity of the Emerald Lake Basin, Sequoia National Park".

RECOMMENDATION: Adopt Resolution 85-19 approving Proposal No. 065-10 for funding in an amount not to exceed $160,781.

SUMMARY: The Kapiloff Acid Deposition Act requires the California Air Resources Board to assess the potential for damage to natural ecosystems of the State due to acid deposition. Since the Sierra Nevada is known to be one of the most sensitive areas to acidic inputs, research to date has focused on the aquatic and terrestrial systems in this region. The objective of the ARB's Integrated Watershed Study (IWS) at Emerald Lake in Sequoia National Park is to perform an in-depth study of a subalpine watershed to determine the sensitivity of the ecosystem to acid deposition and to monitor ecological changes due to acid inputs. One component of the five-year IWS is an extensive, long-term study of fish and amphibian populations in the Basin. These biological populations have been identified as indicator organisms that respond readily to acid stress.

This proposal by the University of California, Santa Barbara will study the life history, feeding and reproductive behavior of fish and amphibian populations in Emerald Lake and associated streams and ponds. Additional fish population studies are proposed for other subalpine lakes in the vicinity of the IWS site for comparison purposes.

The proponents would carry out a two-year study of these populations. Population surveys and in-situ manipulation of the vertebrate populations would be carried out year round to determine changes in age and size structure and reproduction rates. Mark-recapture studies of brook trout would be undertaken throughout the ice-free season to investigate movements of individuals between the lake and streams.

This baseline information on population parameters for fish and amphibians would be evaluated along with chemical and biological data currently being collected in the Emerald Lake Basin. These data bases would aid in the understanding of the relationships between acid levels in lakes and streams of the Sierra Nevada and population changes in naturally reproducing fish and amphibian populations. This project would be integrated with the other IWS studies to provide a long-term data base on biogeochemical processes in a representative subalpine watershed. This data base would be used to identify changes in sensitive ecosystem variables due to acidic inputs.

The original proposal submitted by the University of California at Santa Barbara described a 30-month program to investigate fish and amphibian population sensitivity to acidic deposition. The SAC approved only a 24-month project to include the study of vertebrate populations for two field seasons. The SAC advised Research Division Staff to evaluate the two-year data base at the conclusion of the study and recommend,if necessary, a biological monitoring program to be continued at the IWS site until the completion of the Kapiloff Acid Deposition Research Program.

BUDGET SUMMARY

University of California, Santa Barbara

"Integrated Watershed Study: An Investigation of Fish and Amphibian Populations in the Vicinity of the Emerald Lake Basin, Sequoia National Park"

BUDGET ITEMS:

Salaries	$75,355	
Benefits	30,092	
Supplies	5,105	
Equipment	4,300	
Travel	8,716	
Other Costs	3,270	
TOTAL, Direct Costs		$126,838
TOTAL, Indirect Costs		33,943
TOTAL PROJECT COST		$160,781

State of California
AIR RESOURCES BOARD

Resolution 85-20
April 26, 1985

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 066-10, entitled "The Hydrologic Mass Balance Component of the Emerald Lake Basin, Integrated Watershed Study", has been submitted by the University of California, Los Angeles, and the University of California, Santa Barbara;

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 066-10 entitled "The Hydrologic Mass Balance Component of the Emerald Lake Basin, Integrated Watershed Study ", submitted by the University of California, Los Angeles, and the University of California, Santa Barbara, for a total amount not to exceed $200,570.

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 066-10 entitled "The Hydrologic Mass Balance Component of the Emerald Lake Basin, Integrated Watershed Study", submitted by the University of California, Los Angeles, and the University of California, Santa Barbara, for a total amount not to exceed $200,570.

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 $200,570.

I hereby certify that the above is a true and correct copy of Resolution 85-20, as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

ITEM NO.: 85-6-3(b)4
DATE: April 26, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 066-10 entitled "The Hydrologic Mass Balance Component of the Emerald Lake Basin, Integrated Watershed Study".

RECOMMENDATION: Adopt Resolution 85-20 approving Proposal No. 066-10 for funding in an amount not to exceed $200,570.

SUMMARY: The Kapiloff Acid Deposition Act requires the California Air Resources Board to conduct research to determine the impacts of acid deposition on natural ecosystems of the state. To satisfy this requirement, the Research Division has initiated the Integrated Watershed Study at Emerald Lake, Sequoia National Park. This program is designed to investigate the ecological processes important in determining the response of a representative Sierra lake to acidic inputs. Parts of the watershed study have already been funded under the Kapiloff Acid Deposition Research Program and field data were collected during the first year of this five-year investigation.

The various research components of the IWS (aquatic systems, terrestrial systems, wet and dry deposition) need to be integrated to allow for an analysis of the effects of acid inputs on the watershed. A study of the hydrology and chemical flows through the watershed would provide this needed integration. Such a study would characterize the mass flow of water and dissolved solutes through the basin.

The unsolicited proposal received from the University of California, Los Angeles and the University of California, Santa Barbara describes a program of field research and modeling that would provide the needed system integration. This two-year research program has two principal objectives: (1) to measure or estimate the magnitude of water flows and storages in the Emerald Lake Basin, and (2) to characterize the chemical composition of those flows and storages to allow for the calculation of a material balance for the watershed. This research program is designed to link together information on chemical flows and cycles collected during the various program components.

Changes in the chemistry of inputs as water flows through the basin will be measured, especially during major storm events. These data are important inputs to an understanding of surface water acidification.

The three general tasks to be performed as part of this project are: (1) measurement and monitoring of hydrology and chemistry, (2) carrying out of field experiments to identify and quantify the important water flow pathways and storages, and (3) modeling of the basin hydrology and material flows to aid in an understanding of surface water acidification.

This study would be useful to the Board by providing a method of integrating data collected by other IWS researchers. An analysis of chemical mass flows through the Basin is essential to an understanding of how acidic atmospheric inputs are chemically altered through the watershed.

BUDGET SUMMARY

University of California, Los Angeles
University of California, Santa Barbara

"The Hydrologic Mass Balance Component of the Emerald Lake Basin, Integrated Watershed Study"

BUDGET ITEMS:

Salaries	$101,644	
Benefits	7,777	
Supplies	7,400	
Other Costs	17,350	
Travel	12,750	
Equipment	11,800	
TOTAL, Direct Costs		$158,721
TOTAL, Indirect Costs		41,849
TOTAL PROJECT COST		$200,570

State of California
AIR RESOURCES BOARD

Resolution 85-21
April 26, 1985

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 068-10, entitled "Particulate Monitoring for Acid Deposition Research at Sequoia National Park, California", has been submitted by the University of California, Davis;

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 068-10 entitled "Particulate Monitoring for Acid Deposition Research at Sequoia National Park, California", submitted by the University of California, Davis, for a total amount not to exceed $58,092.

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 068-10 entitled "Particulate Monitoring for Acid Deposition Research at Sequoia National Park, California", submitted by the University of California, Davis for a total amount not to exceed $58,092.

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 $58,092.

I hereby certify that the above is a true and correct copy of Resolution 85-21, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-6-3(b)5
DATE: April 26, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 068-10 entitled "Particulate Monitoring for Acid Deposition".

RECOMMENDATION: Adopt Resolution 85-21 approving Proposal No. 068-10 for funding in an amount not to exceed $58,092.

SUMMARY: During 1984, five research projects were funded as part of the ARB's Integrated Watershed Study at Emerald Lake in Sequoia National Park. These projects were designed to assess the possible effects of acid deposition upon the watershed. No studies have been funded, however, to measure the atmospheric inputs to the basin. Except for a wet deposition monitor installed in summer 1984 to measure precipitation inputs, monitoring data are limited. Specifically, very little is known about the dry atmospheric inputs. The proposed study is designed to fill this knowledge gap.

The objective of this research project is to measure airborne particle concentrations at ground level during summer months so that dry deposition fluxes can be calculated. Specific objectives are: 1) to characterize the composition of fine particles by measuring concentrations of all elements from hydrogen through lead; 2) to resolve particle size in sufficient detail to make flux calculations possible; 3) to determine how particle concentrations vary with time in response to meteorological changes; and 4) to determine how particle concentrations vary with elevation and thereby estimate the extent of transport from the San Joaquin Valley.

The contractor will sample particles at Ash Mountain (elevation 2000 ft.), Giant Forest (6300 ft.) and Emerald Lake (9200 ft.) from mid-June through mid-October. A combination of samplers (stacked filter units and rotating drum impactors) and analysis methods will be used to maximize information obtained while considering analysis costs and logistics of sampling. The analysis methods will include mass by gravimetric analysis, carbon soot by Laser Integrating

BUDGET SUMMARY

University of California, Davis

"Particulate Monitoring for Acid Deposition

Research at Sequoia National Park, California"

BUDGET ITEMS:

Salaries	$ 16,491	
Benefits	2,682	
Supplies	3,000	
Equipment*	8,560	
Travel	1,000	
Other Costs**	12,462	
TOTAL, Direct Costs		$ 44,195
TOTAL, Indirect Costs		13,898
TOTAL PROJECT COST		$ 58,092

* Inludes $5000 for 1 drum sampler and $3000 for two solar powered aerosol impactors

** Includes $9462 for accelerator costs at Crocker Nuclear Laboratory (U.C. Davis) for PIXE analysis.

State of California
AIR RESOURCES BOARD

Resolution 85-22
April 26, 1985

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, to augment Contract A3-104-32, entitled "PROJECT BASIN", has been submitted by the University of California, Los Angeles;

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

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

> An augmentation to Contract A3-104-32, entitled "PROJECT BASIN", submitted by the University of California, Los Angeles for a total amount not to exceed $15,000.

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:

> An augmentation to Contract A3-104-32, entitled "PROJECT BASIN", submitted by the University of California, Los Angeles for a total amount not to exceed $15,000.

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 $15,000.

I hereby certify that the above is a true and correct copy of Resolution 85-22, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-6-3(b)1
DATE: April 26, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal to augment Contract A3-104-32 entitled "PROJECT BASIN".

RECOMMENDATION: Adopt Resolution 85-22 approving Proposed Augmentation of Contract A3-104-32 for funding in an amount not to exceed $15,000.

SUMMARY: In the first phase of this study researchers from UCLA augmented the existing network of surface-based meteorological stations 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. This major field effort was carried out with direct ARB support and major contributions of funds, equipment and labor from other sponsors, including the South Coast Air Quality Management District. The data collected in this study need to be analyzed to construct three-dimensional fields of wind-flows, temperature and humidity. This analysis will provide needed input to the Board's planned Southern California Air Resources Study and, ultimately, will assist in the development of more reliable 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 85-23
April 26, 1985

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

WHEREAS, an unsolicited research proposal, Number 069-10, entitled "Nitric Acid and Ammonia in Air, Sequoia National Park", has been submitted by the University of South Florida;

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 069-10 entitled "Nitric Acid and Ammonia in Air, Sequoia National Park", submitted by the University of South Florida for a total amount not to exceed $47,036.

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 069-10 entitled "Nitric Acid and Ammonia in Air, Sequoia National Park", submitted by the University of South Florida for a total amount not to exceed $47,036.

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 $47,036.

I hereby certify that the above is a true and correct copy of Resolution 85-23, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-6-3(b)6
DATE: April 26, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 069-10 entitled "Nitric Acid and Ammonia in Air, Sequoia National Park".

RECOMMENDATION: Adopt Resolution 85-23 approving Proposal No. 069-10 for funding in an amount not to exceed $47,036.

SUMMARY:

Although the ARB is currently monitoring acid deposition in precipitation in the Emerald Lake Watershed, very little is known about dry acid deposition. In particular, the magnitude of deposition of gaseous nitric acid and particulate nitrate is unknown. Furthermore, the deposition of neutralizing ammonia compounds has not been studied.

The primary objective of this research project is to estimate dry deposition flux by measuring the concentrations of nitric acid, ammonia, particulate nitrate, and ammonium ion in Sequoia National Park during the summer months of 1985. A secondary objective is to participate in a comparison of nitric acid sampling methodologies in Riverside, California, for one week during the summer of 1985.

The contractor will set up a laboratory at Giant Forest in Sequoia National Park. Samples will be collected and analyzed using an automated sampler on a nearly hourly basis. Two researchers will be stationed at Giant Forest to maintain operations. Concentrations of nitric acid, ammonia, particulate nitrate and ammonium ion will be measured. Samples will also be collected at Emerald Lake and Ash Mountain on a less frequent basis using a portable sampling apparatus, then carried back to Giant Forest for analysis. Calibration and maintenance will be carried out on a regular schedule.

The contractor will participate in a comparison of nitric acid sampling methods in Riverside for one week during the summer. One of the two people stationed at Giant Forest will travel to Riverside to set up a temporary laboratory and collect samples.

State of California
AIR RESOURCES BOARD

Resolution 85-24
April 26, 1985

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

WHEREAS, an unsolicited research proposal, Number 070-10, entitled "Atmospheric Tracer Experiments Aimed at Characterizing Upslope-Downslope Flows", has been submitted by the California Institute of Technology;

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 070-10 entitled "Atmospheric Tracer Experiments Aimed at Characterizing Upslope-Downslope Flow", submitted by the California Institute of Technology for a total amount not to exceed $46,321.

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 070-10 entitled "Atmospheric Tracer Experiments Aimed at Characterizing Upslope-Downslope Flow", submitted by the California Institute of Technology for a total amount not to exceed $46,321.

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 $46,321.

I hereby certify that the above is a true and correct copy of Resolution 85-24, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-6-3(b)7
DATE: April 26, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 070-10 entitled "Atmospheric Tracer Experiments Aimed at Characterizing Upslope-Downslope Flows".

RECOMMENDATION: Adopt Resolution 85-24 approving Proposal No. 070-10 for funding in an amount not to exceed $46,321.

SUMMARY:

The objective of this research proposal is to quantitatively characterize the transport and dispersion of pollutants associated with upslope and downslope flows along the western slopes of the Sierra Nevada. This will be accomplished by tracking a plume of tracer material from the San Joaquin Valley to Emerald Lake.

The contractor will conduct four full scale tracer releases during the summer of 1985. The first two releases will be from the vicinity of Three Rivers. The release points for tests 3 and 4 will be decided following analysis of the initial results and consultation with the ARB. The initial tracer releases will follow the upslope flow during the day, transition and downslope flow during the night, and subsequent upslope flow the following day. The plan for releases 3 and 4 will likely follow this same schedule, but may be altered depending on the results obtained from the initial releases and other factors.

BUDGET SUMMARY

California Institute of Technology, Pasadena

"Atmospheric Tracer Experiments Aimed

at Characterizing Upslope-Downslope Flows"

BUDGET ITEMS:

Salaries	$17,000	
Benefits	2,655	
Supplies*	8,000	
Other Costs	0	
Travel	8,620	
Equipment	2,000	
TOTAL, Direct Costs		$ 38,275
TOTAL, Indirect Costs		16,046
	TOTAL PROJECT COST	$ 54,321

* The expenditure of $8,000 would be required to purchase tracer gas, SF_6. The ARB (and not the contractor) would purchase the SF_6 gas directly to avoid overhead charges of $4,240. The actual amount of the contract with Caltech will be $46,321 ($54,321 - $8000).

State of California
AIR RESOURCES BOARD

Resolution 85-25
April 26, 1985

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

WHEREAS, an unsolicited research proposal, Number 071-10, entitled "Transport of Atmospheric Aerosols Above the Sierra Nevada Slopes", has been submitted by the University of California, Davis;

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 071-10 entitled "Transport of Atmospheric Aerosols Above the Sierra Nevada Slopes", submitted by the University of California, Davis for a total amount not to exceed $43,777.

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 071-10 entitled "Transport of Atmospheric Aerosols Above the Sierra Nevada Slopes", submitted by the University of California, Davis for a total amount not to exceed $43,777.

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 $43,777.

I hereby certify that the above is a true and correct copy of Resolution 85-25, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-6-3(b)8
DATE: April 26, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 071-10 entitled "Transport of Atmospheric Aerosols Above the Sierra Nevada Slopes".

RECOMMENDATION: Adopt Resolution 85-25 approving Proposal No. 071-10 for funding in an amount not to exceed $43,777.

SUMMARY:

The vertical structure of the atmospheric boundary layer is believed to influence strongly the upslope transport of pollutants into the Emerald Lake Basin. A recent study in the Sacramento Region revealed the existence of an elevated transport layer for water vapor. If the same phenomenon exists in the foothills of the Sierra, it could constitute an efficient mechanism for delivering air pollution, including acidic species, to high elevations in relatively undiluted form. The work proposed here would provide a test of this hypothesis and aquantification of pollutant concentrations in Emerald Lake Basin.

The objective of this proposal is to characterize the transport of aerosols in upslope flow from the San Joaquin Valley to high elevations in the Sierra Nevada.

The contractor will perform intensive measurements of boundary layer meteorology and vertical aerosol profiles during two 10-day periods in July and August 1985. In each period, pilot balloons will be released four times each day at Ash Mountain, Giant Forest, and Emerald Lake. Atmospheric stability will be measured at each location as well. At Giant Forest, a tethered balloon will be used to make detailed boundary layer measurements of temperature, humidity, and winds. A second tethered balloon will be used to collect aerosol samples in two size ranges at four levels above the surface. A time lapse camera will visually record the flow of aerosols at Giant Forest.

An instrumented aircraft will be used to provide additional vertical profiles of temperature, humidity, ozone, aerosols in five size ranges, and atmospheric turbulence. The aircraft will be operated on two 2-day periods within the 10-day periods of boundary layer studies. The 2-day periods will be selected to coincide with the tracer releases proposed in Item 7 (Caltech Study).

BUDGET SUMMARY

University of California, Davis

"Transport of Atmospheric Aerosols Above the Sierra Nevada Slopes"

BUDGET ITEMS:

Salaries*	$ 0	
Benefits*	0	
Supplies	4,060	
Other Costs**	13,200	
Travel	13,256	
Equipment	1,500	
TOTAL, Direct Costs		$ 32,016
TOTAL, Indirect Costs		11,761
TOTAL PROJECT COST		$ 43,777

* The principal investigators (Drs. Leonard Myrup and Robert Flocchini) would each provide 1.2 months of effort with no cost to ARB as their salaries are covered by U. C. Davis. Based on their salaries, this constitutes a U. C. Contribution of $9,260.

** Includes $4,800 for PIXE analysis of samples and $6,400 for aircraft operation.

State of California
AIR RESOURCES BOARD

Resolution 85-26
April 26, 1985

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 067-10, entitled "Calibration of Diatom-pH-Alkalinity Methodology for the Interpretation of the Sedimetary Record in Emerald Lake, Integrated Watershed Study", has been submitted by the University of California, Santa Barbara;

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 067-10 entitled "Calibration of Diatom-pH-Alkalinity Methodology for the Interpretation of the Sedimentary Record in Emerald Lake, Integrated Watershed Study", submitted by the University of California, Santa Barbara, for a total amount not to exceed $35,902.

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 067-10 entitled "Calibration of Diatom-pH-Alkalinity Methodology for the Interpretation of the Sedimentary Record in Emerald Lake, Integrated Watershed Study", submitted by the University of California, Santa Barbara, for a total amount not to exceed $35,902.

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 $35,902.

I hereby certify that the above is a true and correct copy of Resolution 85-26, as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

ITEM NO.: 85-6-3(b)9
DATE: April 26, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 067-10 entitled "Calibration of Diatom-pH-Alkalinity Methodology for the Interpretation of the Sedimentary Record in Emerald Lake, Integrated Watershed Study".

RECOMMENDATION: Adopt Resolution 85-26 approving Proposal No. 067-10 for funding in an amount not to exceed $35,902.

SUMMARY: As part of the Integrated Watershed Study (IWS) at Emerald Lake Basin, Sequoia National Park, the Air Resources Board has funded a study to investigate aquatic chemistry and biology of Emerald Lake and associated streams. One component of this ongoing project is a sediment core study. This study includes the collection of sediment cores from Emerald Lake and the reconstruction of the relative chemical history of the lake by analyzing core sections for diatom (algal cells having siliceous skeletons) remains and assaying ^{210}Pb to date the specimens. The diatom population data collected from the sediment cores can be used as indicators of historical lake pH and, possibly, alkalinity. These data are important in the determination of historical trends in lake pH and alkalinity. Changes in lakewater chemistry due to acidic inputs may be identified using this technique. This work is in progress, under the direction of Dr. Robert Holmes, University of California, Santa Barbara.

The relationship of lakewater chemistry and diatom population assemblages is region specific. Researchers in Canada, Scandinavia and the northeastern United States have developed "reference" sets or "calibration" collections of diatoms from recent sediments that can be correlated with current lake pH in their specific geographic areas. No such reference set relating diatom species and abundance with lakewater pH currently exists for the Sierra Nevada.

This proposal recommends a one-year, 30-lake survey in the alpine and subalpine regions of the Sierra Nevada to fill this reference data gap. The objective of this study is to develop a reference set of indicator diatom assemblages based on samples of water and

recent sediments collected from lakes known to have a range of pH values (pH 5.7-9.4).

This study will include one field season for sample collection. The following tasks will be carried out as part of this proposal:

1) thirty lakes, with a range of pH and alkalinity values, will be selected from among lakes whose water chemistry has already been characterized by J. Melack (Univeristy of California, Santa Barbara);

2) water samples and surface sediment samples will be collected, preserved and analyzed at UCSB and the Sierra Nevada Aquatic Research Laboratory (SNARL). Analyses of these samples will include major anions, cations and diatom species and numbers; and

3) a regression equation will be developed to relate lake pH and alkalinity with diatom assemblages in Sierra lakes. This relationship will be used to interpret data collected as part of the Emerald Lake core study and to assign numerical lake pH values to sequential core sections analyzed for Emerald Lake.

BUDGET SUMMARY

University of California, Santa Barbara

"Calibration of Diatom-pH-Alkalinity Methodology for the Interpretation of the Sedimentary Record in Emerald Lake, Integrated Watershed Study"

BUDGET ITEMS:

Salaries	$18,812		
Benefits	739		
Supplies	2,708		
Other Costs	1,555		
Travel	4,300		
TOTAL, Direct Costs			$ 28,114
TOTAL, Indirect Costs			7,788
		TOTAL PROJECT COST	$ 35,902

State of California
AIR RESOURCES BOARD

Resolution 85-27

April 25, 1985

Agenda Item No.: 85-5-1

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 Section 43000 of the Health and Safety Code, the Legislature has declared that the emission of air pollutants from motor vehicles is the primary cause of air pollution in the state and, in Sections 39002 and 39003 of the Health and Safety Code, has charged the Air Resources Board with the responsibility for systematically attacking the serious air pollution problem caused by motor vehicles;

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;

WHEREAS, pursuant to Section 43204 of the Health and Safety Code, motor vehicles and motor vehicle engines must be warranted by their manufacturers to be designed, built and equipped to conform, at the time of sale, with applicable emission standards, and free from defects which cause such vehicles or engines to fail to conform with applicable regulations during their useful lives;

WHEREAS, Section 43100 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, the Board has adopted "California Exhaust Emission Standards and Test Procedures for 1981 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" (certification test procedures), incorporated by reference in Section 1960.1, Title 13, California Administrative Code;

WHEREAS, the certification test procedures currently permit maintenance of the exhaust gas oxygen sensor during certification testing, but no earlier than 30,000 miles, provided that where sensor maintenance is prescribed between 30,000 and 50,000 miles an audible or visible signal alerts the vehicle operator to the need for maintenance;

WHEREAS, the staff has proposed that the certification test procedures incorporated by Section 1960.1, Title 13, California Administrative Code, be amended to require that oxygen sensors be maintenance free for 50,000 miles, provided that maintenance may be performed between 30,000 and 50,000 miles, if the manufacturer provides free replacement of the oxygen sensor at the first

maintenance interval as determined during certification testing, equips the vehicle with a maintenance indicator, and provides warranty coverage for the oxygen sensor for five years or 50,000 miles, whichever first occurs;

WHEREAS, the staff has further proposed the adoption of Section 1968, Title 13, California Administrative Code, which would require that passenger cars, light-duty trucks and medium-duty motor vehicles equipped with three-way catalyst systems and feedback control be equipped with a means of informing vehicle owners of malfunctions of emission-related components, EGR valves and fuel metering devices, and an on-board means of identifying the likely area responsible for the malfunction, and has proposed that the certification test procedures incorporated by Section 1960.1(h), Title 13, California Administrative Code, be amended to specify that certification applications for vehicles subject to proposed Section 1968 must include a description of the proposed system;

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 California Environmental Quality Act (CEQA) 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, the Board finds that:

The oxygen sensor is critical to the proper functioning of the emission control systems of vehicles equipped with three-way catalyst systems and feedback control;

Extending the minimum maintenance interval for oxygen sensors will result in a reduction of emissions of nitrogen oxides, carbon monoxide, and hydrocarbons;

A net savings for replacement costs of oxygen sensors over a vehicle's lifetime would result from extending the minimum maintenance interval for oxygen sensors as a result of less frequent sensor replacements;

Oxygen sensors not requiring maintenance for 50,000 miles are technologically feasible and already in use on the majority of passenger cars, light-duty trucks and medium duty vehicles;

WHEREAS, the Board further finds that:

In-use emission testing of consumer-owned passenger cars, light-duty trucks and medium-duty vehicles has shown emissions from these vehicles in actual use to exceed the certification standards during their useful lives as defined in Section 43204 of the Health and Safety Code, as well as after that period;

Malfunctions of emission-related components, EGR valves and fuel metering devices in vehicles equipped with three-way catalyst emission control systems and feedback control contribute significantly to the excess emissions found in these vehicles;

Emission-related malfunctions in these vehicles are often difficult to diagnose, and, as they frequently have no effect on driveability or fuel economy, often go undetected;

Requiring that vehicles equipped with three-way catalysts and feedback control be equipped with a means of informing vehicle operators of malfunctions of emissions-related components, EGR valves and fuel metering devices, and with an on-board self diagnostic system will ensure that vehicle operators are aware of the need for repairs, including warranty repairs, and promote proper maintenance, thereby contributing to reductions of excess emissions;

Installation of a malfunction and diagnostic system will facilitate the identification and proper repair of malfunctioning equipment under the biennial smog check program;

The proposed malfunction and diagnostic system will result in a substantial decrease of hydrocarbon, carbon monoxide, and nitrogen oxide emissions; and

The staff proposal is a necessary and technologically feasible means of implementing the Board's emission standards, is cost-effective and economically feasible, and provides adequate lead time for manufacturers to comply with its provisions; and

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

NOW, THEREFORE BE IT RESOLVED that the Board hereby approves the amendments to Section 1960.1(h), Title 13, California Administrative Code, and the incorporated "California Exhaust Emission Standards and Test Procedures for 1981 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," as set forth in Attachment A hereto, and the adoption of Section 1968, Title 13, California Administrative Code, as set forth in Attachment B hereto.

BE IT FURTHER RESOLVED THAT the Board directs the Executive Officer to adopt the amendments as set forth in Attachment A, and Section 1968, Title 13, California Administrative Code, as set forth in Attachment B, after making them available to the public 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 may be appropriate in light of the comments received, and shall present the regulations to the Board for further consideration if he determines that this is warranted.

BE IT FURTHER RESOLVED that the Board hereby determines that the amendments and adoption 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, and will not cause the California requirements to be inconsistent with 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 regulations to the Environmental Protection Agency with a request for a waiver or for confirmation that the amendments are within the scope of an existing waiver, as appropriate, pursuant to Section 209(b)(1) of the Clean Air Act.

I hereby certify that the above is a true and correct copy of Resolution 85-27, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ATTACHMENT A

Amend Section 1960.1(h), Title 13, California Administrative Code, to read as follows:

(h) The test procedures for determining compliance with these standards are set forth in "California Exhaust Emission Standards and Test Procedures for 1981 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," adopted by the ~~State Board~~ state board on November 23, 1976, as last amended ~~January 5, 1984~~ 1985.

NOTE: Authority cited: Sections 39600, ~~and~~ 39601, 43013, and 43104, Health and Safety Code. Reference: Sections 39002, 39003, 43000, 43013, 43100, 43101, 43102, 43104, ~~and~~ 43106, and 43204, Health and Safety Code.

d. In paragraph 86.079-21 (Application for Certification), amend subparagraph (b)(5) to read:

(5) A statement of maintenance and procedures consistent with the restrictions imposed under subparagraph 86.078-25(a)(1), necessary to assure that the vehicles (or engines) covered by a certificate of conformity in operation in normal use conform to the regulations, and a description of the program for training of personnel for such maintenance, and the equipment required.

e. In paragraph 86.078-25 (Maintenance):

1. Amend subparagraph (a)(1) to read as follows:

(1) Scheduled maintenance on the engine, emission control system, and fuel system of durability vehicles shall, unless otherwise provided pursuant to paragraph (a)(5)(iii), be restricted as set forth in the following provisions.

(i) (A) for gasoline-fueled vehicles, maintenance shall be restricted to the inspection, replacement, cleaning, adjustment, and/or service of the following items at intervals no more frequent than indicated:

(1) Drive belts on engine accessories (tension adjustment only); (30,000 miles).

(2) Valve lash (15,000 miles).

(3) Spark plugs (30,000 miles).

(4) Air filter (30,000 miles).

(5) Exhaust gas sensor (30,000 miles): Provided that, for 1987 and prior model years, an audible and/or visible signal approved by the Executive Officer alerts the vehicle operator to the need for sensor maintenance at the mileage point; and provided that, for 1988 and subsequent model year vehicles;

(a) the manufacturer shall equip the vehicle with a maintenance indicator consisting of a light or flag, which shall be preset to activate automatically by illuminating in the case of a light or by covering the odometer in the case of a flag the first time the minimum maintenance interval established during certification testing is reached and which shall remain activated until reset. After resetting, the maintenance indicator shall activate automatically when the minimum maintenance interval, when added to the vehicle mileage at the time of resetting, is

again reached and shall again remain activated until reset. When the maintenance indicator consists of a light, it shall also activate automatically in the engine-run key position before engine cranking to indicate that it is functioning. The maintenance indicator shall be located on the instrument panel and shall, when activated, display the words "oxygen sensor" or may display such other words determined by the Executive Officer to be likely to cause the vehicle owner to seek oxygen sensor replacement. The maintenance indicator shall be separate from the malfunction indicator light required by Section 1968, Title 13, California Administrative Code;

(b) the manufacturer shall provide free replacement of the oxygen sensor, including both parts and labor, and shall reset the maintenance indicator without any charge, the first time the maintenance interval established during certification testing is reached for vehicles certified with scheduled sensor maintenance before 50,000 miles. If the oxygen sensor is replaced pursuant to the warranty provisions of Section 2037, Title 13, California Administrative Code, before the first maintenance interval is reached, the manufacturer shall also replace the oxygen sensor and reset the maintenance indicator at the mileage point determined by adding the maintenance interval to the vehicle's mileage at the time of the warranty replacement. If the calculated mileage point for a second oxygen sensor replacement would exceed 50,000 miles, no free second replacement shall be required;

(c) The maintenance indicator shall be resettable. The maintenance instructions required by paragraph 3.f. of these procedures shall provide instructions for the resetting of the maintenance indicator, and shall specify that the maintenance indicator shall be reset each time the oxygen sensor is replaced; and

(d) Notwithstanding the provisions of Section 2037(c), Title 13, California Administrative Code, the oxygen sensor, including any replacement required pursuant to this section, shall be warranted for the useful life of the vehicle or engine. If such oxygen sensor fails during the useful life period, it shall be replaced by the manufacturer in accordance with Section 2037(d), Title 13, California Administrative Code.

(6) Choke (cleaning or lubrication only); (30,000 miles).

h. Certification, if granted, is effective only for the vehicle/engine family described in the original manufacturer's certification application. Modifications by a secondary manufacturer to vehicles/engines shall be deemed not to increase emissions above the standards under which those vehicles/engines were certified and to be within the original certification if such modifications do not: (1) increase vehicle weight more than 10 percent above the curb weight, increase frontal area more than 10 percent, or result in a combination increase of weight plus frontal area of more than 14 percent; or (2) include changes in axle ratio, tire size, or tire type resulting in changes in the drive train ratio of more than 5 percent; or (3) include any modification to the emission control system. No originally certified vehicle/engine which is modified by a secondary manufacturer in a manner described in items (1) through (3) of the preceding sentence may be sold to an ultimate purchaser, offered or delivered for sale to an ultimate purchaser, or registered in California unless the modified vehicle/engine is certified by the state board in accordance with applicable test procedures to meet emission standards for the model year for which the vehicle/engine was originally certified.

For the purposes of this subsection, "secondary manufacturer" means any person, other than the original manufacturer, who modifies a new motor vehicle prior to sale to the ultimate purchaser.

i. For all vehicles subject to the provisions of Section 1968, Title 13, California Administrative Code, the manufacturer shall submit with its application for certification a description of the malfunction and diagnostic system to be installed on the vehicles. The vehicles shall not be certified unless the Executive Officer finds that the malfunction and diagnostic system complies with the requirements of Section 1968, Title 13, California Administrative Code.

6. Optional 100,000 Mile Certification Procedure

The alternate emission standards shown in paragraph (4) preceding shall apply to any engine family which meets all of the following additional requirements:

a. Each exhaust emission durability data vehicle shall be driven, with all emission control systems installed and operating, for 100,000 miles or such lesser distance as the Executive Officer may agree to as meeting the objectives of this procedure. Emission tests performed on emission-data vehicles and durability-data vehicles (for determination of the deterioration factors) shall be non-regeneration emission tests for diesel-powered passenger cars, light-duty trucks and medium-duty vehicles equipped with periodically regenerating trap oxidizer systems. Compliance with the emission standards shall be established as follows:

All references in these test procedures to "useful life", 5 years, and 50,000 miles shall mean "total life", 10 years, and 100,000 miles, respectively, except in subparagraph (ii).

b. Only the following scheduled maintenance shall be allowed under subparagraph 86.078-25(a)(1)(i).

25(a)(1)(i)(A) Option 1. For 1981 and later model gasoline or diesel-fueled vehicles, maintenance shall be restricted to the inspection, replacement, cleaning, adjustment, and/or service of the following items at intervals no more frequent than indicated.

(1) Drive belt tension on engine accessories (30,000 miles).
(2) Valve lash (15,000 miles).
(3) Spark plugs (30,000 miles).
(4) Air filter (30,000 miles).
(5) Exhaust gas sensor (30,000 miles): Provided that, for 1987 and prior model years, an audible and/or visible signal approved by the Executive Officer alerts the vehicle operator to the need for sensor maintenance at the mileage point; and (a) the manufacturer shall equip the vehicle with a maintenance indicator consisting of a light or flag, which shall be preset to activate automatically by illuminating in the case of a light or by covering the odometer in the case of a flag the first time the minimum maintenance interval established during certification testing is reached and which shall remain activated until reset. After resetting, the maintenance indicator shall activate automatically when the minimum maintenance interval, when added to the vehicle mileage at the time of resetting, is again reached and shall again remain activated until reset. When the maintenance indicator consists of a light, it shall also activate automatically in the engine-run key position before engine cranking to indicate that it is functioning. The maintenance indicator shall be located on the instrument panel and shall, when activated, display the words "oxygen sensor" or may display such other words determined by the Executive Officer to be likely to cause the vehicle owner to seek oxygen sensor replacement. The maintenance indicator shall be separate from the malfunction indicator light required by Section 1968, Title 13, California Administrative Code;

(b) the manufacturer shall provide free replacement of the oxygen sensor, including both parts and labor, and shall reset the maintenance indicator without any charge, the first time the maintenance interval established during certification testing is reached for vehicles certified with scheduled sensor maintenance before 50,000 miles. If the oxygen sensor is replaced pursuant to the warranty provisions of Section 2037, Title 13, California Administrative Code, before the first maintenance interval is reached, the manufacturer shall also replace the oxygen sensor and reset the maintenance indicator at the mileage point determined by

adding the maintenance interval to the vehicle's mileage at the time of the warranty replacement. If the calculated mileage point for a second oxygen sensor replacement would exceed 50,000 miles, no free second replacement shall be required;

(c) The maintenance indicator shall be resettable. The maintenance instructions required by paragraph 3.f. of these procedures shall provide instructions for the resetting of the maintenance indicator, and shall specify that the maintenance indicator shall be reset each time the oxygen sensor is replaced; and

(d) Notwithstanding the provisions of Section 2037(c), Title 13, California Administrative Code, the oxygen sensor, including any replacement required pursuant to this section, shall be warranted for the useful life of the vehicle or engine. If such oxygen sensor fails during the useful life period, it shall be replaced by the manufacturer in accordance with Section 2037(d), Title 13, California Administrative Code.

(6) Choke, cleaning or lubrication only (30,000 miles).
(7) Idle speed (30,000 miles).
(8) Fuel Filter (30,000 miles).
(9) Injection timing (30,000 miles).

25(a)(1)(i)(B) Option 2. For 1981 and later model gasoline or diesel-fueled vehicles, maintenance shall be restricted to the inspection, replacement, cleaning, adjustment, and/or service of the following items at intervals no more frequent than indicated:

(1) Drive belt tension on engine accessories (30,000 miles).
(2) Valve lash (15,000 miles).
(3) Spark plugs (30,000 miles).
(4) Air filter (30,000 miles).
(5) Fuel filter (30,000 miles).
(6) Idle speed (30,000 miles).
(7) Injection timing (30,000 miles).

c. In addition, adjustment of the engine idle speed (curb idle and fast idle), valve lash, and engine bolt torque may be performed once during the first 5000 miles of scheduled driving, provided the manufacturer makes a satisfactory showing that the maintenance will be performed on vehicles in use.

d. The manufacturer agrees to apply to vehicles certified under this paragraph the provision of Section 43204 of the California Health and Safety Code for a period of ten years or 100,000 miles, whichever first occurs.

ATTACHMENT B

Adopt Section 1968, Title 13, California Administrative Code, to read as follows:

1968. Malfunction and Diagnostic System for 1988 and Subsequent Model Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles with Three-Way Catalyst Systems and Feedback Control.

(a) All 1988 and subsequent model year passenger cars, light-duty trucks, and medium-duty vehicles equipped with a three-way catalyst system and feedback control shall be equipped with a means of informing the vehicle operator of the malfunction of computer-sensed emission-related components, and of the on-board computer processor, and of the malfunction of the emission-related functioning of the fuel metering device ~~of~~ and EGR valve on vehicles so equipped, and which provides for on-board diagnosis of the likely area of the malfunction without the aid of any external device.
The system shall include a means of informing the vehicle operator, upon initiation of engine starting, that it is functioning properly.
No malfunction and diagnostic system shall be required for malfunctions which would significantly impair vehicle driveability or prevent engine starting.

(b) This section ~~may~~ shall be implemented as specified in this subsection or by any means determined by the executive officer to meet the requirements of this section:

The vehicles shall be equipped with a malfunction indicator light and an on-board self-diagnostic system. The on-board computer processor shall interrogate input parameters from computer-sensed emission-related components and shall also interrogate the functioning of the fuel metering device and of the EGR valve on

vehicles so equipped. Upon detection of a malfunction of any such component, device, or valve, the computer processor shall cause the malfunction indicator light to illuminate. An on-board computer processor malfunction shall also cause the malfunction indicator light to illuminate. In the case of any such component, device or valve whose malfunction would significantly impair vehicle driveability or prevent engine starting, no malfunction indication or diagnostic code shall be required. The indicator light shall also illuminate in the engine-run key position before engine cranking to indicate that the malfunction indicator light is functioning. The self-diagnostic system shall provide an on-board means of identifying, without the aid of any external device, the likely area responsible for the detected malfunction when the vehicle is serviced. The malfunction indicator light shall be located on the instrument panel and shall when illuminated, display the phrase "Check Engine" or "Service Engine Soon" or may display such other phrase determined by the executive officer to be likely to cause a vehicle owner to seek corrective action.

(c) For purposes of this section:

(1) A "computer-sensed emissions-related component of the three-way catalyst emission control system" means a component which provides emission control system input to ~~or receives output from~~ the on-board computer processor.

(2) "Malfunction" means the partial or total failure ~~or diminished response~~ of one or more computer-sensed emission-related components or the on-board computer processor, or of the emission-related functioning of a fuel

metering device or EGR valve to a degree which would likely cause the emissions of an average certification vehicle with the failure or ~~diminished response~~ failures, individually or in combination, to exceed the emissions standards applicable pursuant to Subchapter 1 (commencing with Section 1900), Chapter 3 of Title 13.

(d) The executive officer shall grant an extension for compliance with the requirements of this section with respect to a specific vehicle model or engine family if a manufacturer demonstrates that it cannot modify a present electronic control system by the 1988 model year because major design system changes not consistent with the manufacturer's projected changeover schedule would be needed to comply with the provisions of this regulation. The period of extension shall not exceed that necessary to enable modification of the electronic system in accordance with the manufacturer's projected changeover schedule or three years, whichever first occurs. Any manufacturer requesting an extension shall, no later than July 1, 1986, submit to the executive officer of the state board an application setting forth the required demonstration and specifying the period for which the extension is requested.

Note: Authority cited: Sections 39600, 39601, and 43013, Health and Safety Code. Reference: Sections 39002, 39003, 43000, 43013, 43100, 43101, 43102, 43104, 43105, and 43204, Health and Safety Code.

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Adoption of Regulations Requiring Malfunction and Diagnostic Systems and Amendments Extending the Maintenance Interval for Oxygen Sensors for 1988 and Subsequent Model Year Gasoline-Powered Vehicles

Agenda Item No.: 85-5-1

Public Hearing Date: April 25, 1985

Response Date: May 30, 1985

Issuing Authority: Air Resources Board

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

Response: N/A

Certified: _____
Board Secretary

Date: 09-27-85

State of California

Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : August 5, 1985

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

From : Harold Holmes
Board Secretary
Air Resources Board

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

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

FILED AND POSTED BY
OFFICE OF THE SECRETARY
AUG 05 1985
Resources Agency of California

State of California
AIR RESOURCES BOARD

Resolution 85-29

April 25, 1985

Agenda Item No.: 85-5-1

WHEREAS, Health and Safety Code 39602 states that the Air Resources Board (ARB or Board) is designated as the air pollution control agency for all purposes set forth in federal law and is responsible for preparation of the State Implementation Plan (SIP) and, to this end, shall coordinate the activities of all districts necessary to comply with the Clean Air Act;

WHEREAS, pursuant to Section 39003 of the Health and Safety Code, the Board is the state agency charged with coordinating efforts to attain and maintain ambient air quality standards;

WHEREAS, Health and Safety Code Sections 40001, 40402, 40460, 40462, 41601, and 42301 require that reasonable provision be made to attain and subsequently maintain the national ambient air quality standards;

WHEREAS, Clean Air Act Sections 107, 110 and 172 require that states demonstrate attainment of the national ambient air quality standards by specified dates, and maintenance of the standards thereafter;

WHEREAS, the South Coast Air Quality Management District has requested that portions of the South Coast Air Basin be redesignated from nonattainment to attainment for the national ambient air quality standard for nitrogen dioxide;

WHEREAS, several cities in the eastern part of the Basin have written to the Air Resources Board to express their support for the District's request for redesignation of Riverside and San Bernardino Counties from nonattainment to attainment for the nitrogen dioxide standard;

WHEREAS, on September 26, 1984, the Board discussed the District's request and directed the staff to evaluate forthcoming information and report back to it;

WHEREAS, the California Environmental Quality Act and Board regulations require that no project having significant adverse environmental impacts be approved unless all available, feasible alternatives and mitigation measures are incorporated;

WHEREAS, the Board, at a public meeting held on April 25, 1985, reviewed and considered comments and evidence relating to the District's redesignation request;

WHEREAS, the Board finds that:

EPA policy does not allow redesignation of the South Coast Air Basin to occur at this time because there is not an approved federal SIP control strategy for nitrogen dioxide in effect;

EPA policy allows consideration of redesignation upon submittal to EPA of a SIP revision which meets federal requirements and such submittal is currently scheduled for approximately August 31, 1985;

The Executive Officer of the District, acting for the Chairman of the District Board in the latter's absence, has stated in his testimony and in his April 24 letter to the Board, attached, that redesignation of the three counties will not affect the current regional approach for controlling oxides of nitrogen in the South Coast Air Basin, and that any future revisions to the oxides of nitrogen control strategy will fully consider the effect of the change on attainment and maintenance of the federal nitrogen dioxide standard and all other federal and state standards throughout the Basin;

Riverside, San Bernardino, and Orange Counties have not exceeded the nitrogen dioxide standard since 1979;

Redesignation of Riverside, San Bernardino, and Orange Counties from nonattainment to attainment for nitrogen dioxide will not result in any changes in control requirements applicable to sources in those counties and therefore will not have any adverse impact on the environment. If and when any control requirements are proposed to be changed, any adverse environmental impacts from the proposed changes will be considered at that time; and

Continued control of oxides of nitrogen emissions in the South Coast Air Basin at current or more stringent levels is needed to prevent adverse air quality impacts on concentrations of nitrogen dioxide, particulate matter, ozone, and visibility reducing particles in the South Coast Air Basin and to prevent increases in acid deposition.

NOW, THEREFORE, BE IT RESOLVED that the Board intends to request of EPA redesignation of Riverside, San Bernardino, and Orange Counties from nonattainment to attainment for the national nitrogen dioxide standard upon the receipt of a resolution from the District Board affirming the commitment made by the District Executive Officer in his letter of April 24 and statements, and upon submittal to EPA of an approvable nitrogen dioxide control strategy.

BE IT FURTHER RESOLVED that the Executive Officer is directed to forward this resolution to the Environmental Protection Agency Administrator with a request that the Administrator take appropriate action based on the resolution upon the Executive Officer's satisfaction that the conditions stated above are met.

I hereby certify that the above is a true and correct copy of Resolution 85-29, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

South Coast
AIR QUALITY MANAGEMENT DISTRICT
9150 FLAIR DRIVE, EL MONTE, CA 91731 (818) 572-6200

April 24, 1985

Mr. Gordon Duffy
Chairman, Air Resources Board
P. O. Box 2815
Sacramento, CA 95812

Dear Mr. Duffy:

The District and the ARB staff have discussed the redesignation of Orange, San Bernardino and Riverside Counties in light of recent information that has become available on EPA's policy on redesignation.

Both the District and ARB now understand that EPA will not consider a request for redesignation until California has submitted amendments to the State Implementation Plan which demonstrate attainment and maintenance of the federal NO_2 standard throughout the South Coast Air Basin.

The District and ARB are currently in the process of developing such amendments and are scheduled to submit these amendments to the EPA by August 31, 1985. The District recommends that a request for redesignation accompany those SIP amendments.

In making this recommendation, the District agrees to the following:

1. The SIP control strategy for NO_2 in the South Coast Air Basin, including the proposed amendments, will continue to rely on the regional management of NOX emissions.

2. Subject to amendment pursuant to Paragraph 3, the SIP control strategy for NO_2 in the South Coast Air Basin, including proposed amendments, will continue to include all NOX control measures recently adopted by the District (Rules 1109, 1110.1, 1111, 1112, 1117, 1121 and Regulation XIII).

3. In considering future amendments to District regulations which affect the level of NOX allowed within the South Coast Air Basin, the District shall consider the effect of these amendments on attainment and maintenance of the federal NO_2 standard. These amendments will be submitted to the ARB for inclusion in the SIP.

4. Any area in the District designated "attainment" for any federal pollutant retains the responsibility to attain other federal and state ambient air quality standards, and comply with all other federal and state statutory requirements regarding control of air contaminants.

While I have not been able to present this proposed agreement to the Board as a whole, I have the concurrence of Board members from the three counties directly affected by it. On that basis I feel confident that you can consider this to be approved by the South Coast District Board.

Sincerely,

J. A. Stuart
Executive Officer

JAS:nl

State of California
AIR RESOURCES BOARD

Resolution 85-30

June 28, 1985

Agenda Item: 85-10-2

WHEREAS, the Air Resources Board (the "Board") has established state ambient air quality standards for sulfates, suspended particulate matter (PM_{10}), sulfur dioxide, and visibility-reducing particles and has also established an air quality criterion for sulfate/ozone episodes;

WHEREAS, the Environmental Protection Agency (EPA) has established national ambient air quality standards (NAAQS) for total suspended particulate matter and has proposed a NAAQS for suspended particulate matter (PM_{10});

WHEREAS, the federal Clean Air Act (42 USC Section 7401 et seq.; see Sections 7410 and 7502) requires the state to attain and maintain the NAAQS for total suspended particulate matter as expeditiously as practicable and no later than December 31, 1982;

WHEREAS, Health and Safety Code Sections 39600, 39601, 43013, 43101 and Western Oil and Gas Ass'n. v. Orange County APCD, 14 Cal.3d 411 (1975), authorize 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, Sections 2252(d) and following were adopted by the Board in 1981 and prohibit, effective 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 (the "control area") any 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 control area by small refiners, reporting requirements in Sections 2252(h) and (i), and provisions for variances in Section 2252(j);

WHEREAS, the Board's staff has investigated the impacts of limiting and/or ultimately eliminating the small refiner exemption in Title 13, California Administrative Code, Section 2252(h) as directed by the Board under Resolution 84-53, and has prepared two reports on this subject which include proposed amendments to Section 2252 for the Board's consideration;

WHEREAS, the proposed amendments prepared by the Board's staff would also clarify the small refiner exemption provisions, control the sulfur content of motor vehicle diesel fuel dispensed by bulk purchaser-consumers, and clarify or modify various provisions including record-keeping and reporting requirements, variance standards and procedures, and identification of violations;

WHEREAS, Title 13, California Administrative Code, Sections 2252(a)-(c) prohibit after January 1, 1982 the sale, offer for sale, or delivery for sale at retail in California of any unleaded gasoline having a sulfur content greater than 300 parts per million, subject to the provisions for variances in Section 2252(j);

WHEREAS, the proposed amendments prepared by the Board's staff additionally would modify the identification of violations in Section 2252(a) and revise the applicable test method for determining the sulfur content of unleaded gasoline;

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, the Board has considered the impacts of the amendments on the state's economy, including the impacts on small refiners;

WHEREAS, the Board has held a duly noticed public hearing at which it considered the reports prepared and submitted to it by the staff and has heard and considered the comments presented by representatives of the districts, affected industries, and other interested persons and agencies; and

WHEREAS, the Board finds that:

Sulfur dioxide emissions from motor vehicles contribute to ambient concentrations of sulfates, total suspended particulate matter, suspended particulate matter (PM_{10}), sulfur dioxide, and visibility reducing particles;

NAAQS for total suspended particulate matter are frequently violated in the South Coast Air Basin and Ventura County;

State ambient standards for sulfates, suspended particulate matter (PM_{10}) and visibility reducing particles are frequently violated in the South Coast Air Basin;

The volume of motor vehicle diesel fuel currently exempted under Section 2252(h) has the potential to result in sulfur dioxide emissions nearly twice as high as was estimated under worst-case conditions when the sulfur content of motor vehicle diesel fuel limits were adopted;

A reduction in the small refiner exempt volume would reduce the maximum allowable sulfur dioxide emissions below the level allowed under the existing regulation;

Elimination of the small refiner exemption would result in significant reductions in sulfur dioxide emissions and thereby would have positive air quality impacts by reducing ambient concentrations of sulfates, total suspended particulate matter, suspended particulate matter (PM_{10}), and sulfur dioxide in the control area;

It is technologically feasible for small refiners to produce diesel fuel for use in motor vehicles in the control area under Section 2252(d) with a reduced and/or eliminated small refiner exemption;

The cost-effectiveness ratios of reducing sulfur dioxide emissions and suspended particulate matter concentrations in the control area through the desulfurization of motor vehicle diesel fuel by small refiners are in the range of the cost-effectiveness ratios of other control measures adopted to reduce those pollutants;

The economic impacts of the amendments on small refiners are warranted in light of the need to protect the public health and specifically to reduce sulfur-related emissions in the South Coast Air Basin;

The amendments to the small refiner exemption provisions set forth in Attachment A are necessary and appropriate to attain and maintain in the control area separately and independently the state and national ambient air quality standards referred to above;

The amendments set forth in Attachment A which clarify and refine the various provisions of Section 2252 are necessary and appropriate to make the terms of the regulation more precise, control more completely the sulfur content of diesel fuel sold for use in motor vehicles in the control area, enhance enforceability of the sulfur content limits, and eliminate unnecessary routine reports; and

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

NOW, THEREFORE BE IT RESOLVED, that the Board approves the amendments to Title 13, California Administrative Code, Section 2252, as set forth in Attachment A, with the modifications approved by the Board.

BE IT FURTHER RESOLVED, that the Board directs the Executive Officer to incorporate into Attachment A the modifications approved by the Board and to adopt the amendments set forth in Attachment A as so modified 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.

I hereby certify that the above is a true and correct copy of Resolution 85-30, as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

ATTACHMENT A

June 18, 1985

Proposed Amendments to Section 2252,

Title 13, California Administrative Code,

Including Modifications to Original Staff Proposal*

Amend Section 2252, Title 13, California Administrative Code, as follows:

2252. Sulfur Content.

(a) No person shall sell, offer for sale, or ~~deliver for sale at retail~~ supply in California, as a fuel for motor vehicles, any unleaded gasoline which has a sulfur content ~~greater than 400 parts per million by weight after November 13, 1978 or~~ greater than 300 parts per million by weight ~~after January 1, 1982~~.

(b) The maximum sulfur content limitations specified in the foregoing sub~~division~~section (a) shall be determined by ASTM Test Method D 2622-~~77~~82, or any other test method determined by the executive officer to give equivalent results.

(c) For the purposes of this section, the term "unleaded gasoline" shall mean gasoline with a lead content no greater than 0.05 gram per gallon as determined by ASTM Test Method D3237-~~73~~79.

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* This text indicates in underline and strikeout form the amendments contained in the original staff proposal released March 11, 1985. Modifications to that proposal are indicated by double underlines for additions and slashes for deletions.

(d)(1) ~~Effective-January-1,-1985,~~ No person shall, in the south coast control area, sell, ~~produce-for-sale,~~ offer for sale, or ~~deliver-for-sale-in-the-South-Coast-Air-Basin-or-Ventura-County~~ transfer any diesel fuel, ~~except-that~~ which at the time of such transaction constitutes diesel fuel for use in motor vehicles in the south coast control area, and which is not specifically exempted by the ~~Executive-Officer~~ executive officer pursuant to ~~subdivision~~section (h), ~~for-use-in-motor-vehicles-which~~ unless the diesel fuel has a sulfur content ~~greater-than~~ not exceeding 500 parts per million ~~(0.05 percent)~~ by weight.

(2) No person shall, in the south coast control area, sell, offer for sale, or transfer any diesel fuel which at the time of such transaction constitutes diesel fuel for use in motor vehicles in the south coast control area, and which is exempted by subsection (h) from the provisions of subsection (d)(1), unless the diesel fuel has a sulfur content not exceeding 5,000 parts per million by weight.

(3) No bulk purchaser-consumer shall, in the south coast control area, dispense into fuel tanks of motor vehicles owned or operated by the bulk purchaser-consumer any diesel fuel purchased or otherwise obtained by the bulk purchaser-consumer, except diesel fuel specifically exempted by the executive officer pursuant to subsection (h), which has a sulfur content greater than 500 parts per million by weight.

(4) Nothing in this subsection (d) shall prohibit a person from blending diesel fuel for use in motor vehicles in the south coast control area which is exempt from subsection (d)(1) pursuant to subsection (h) and which has a sulfur content not exceeding 5,000 parts per million with diesel fuel for use in motor vehicles in the south coast control area which is subject to

subsection (d)(1) and has a sulfur content not exceeding 500 parts per million, and selling, offering for sale, transferring or dispensing the resulting blend.

(5) The provisions of subsections (d)(1) ~~and (2)~~ shall not apply to a sale, offer for sale, or transfer of diesel fuel to a ~~producer~~ refiner where the ~~producer~~ refiner further processes the diesel fuel at the refiner's refinery prior to any subsequent sale, offer for sale, or transfer of the diesel fuel.

(6) For the purposes of this subsection (d), each sale of diesel fuel at retail in the south coast control area for use in a motor vehicle, and each dispensing of diesel fuel in the south coast control area into a motor vehicle by a bulk purchaser-consumer, shall also be deemed a sale by any person who previously sold such diesel fuel in violation of subsections (d)(1) or (d)(2).

(e) The sulfur content limitation specified in subsection (d) shall be determined by ASTM Test Method D 2622-~~(7782)~~, or any other test method determined by the executive officer to give equivalent results.

(f) For the purposes of this section, ~~the term~~

(1) "Diesel fuel" ~~shall~~ means any ~~petroleum distillate as defined by ASTM Test Method D 975 (77), excluding No. 4-D~~ fuel that is commonly or commercially known, sold or represented as diesel fuel No. 1-D or No. 2-D, pursuant to the specifications in ASTM Standard Specification for Diesel Fuel Oils D 975-81.

(2) "Motor vehicle" has the same meaning as defined in Section 415 of the Vehicle Code.

(3) "South coast control area" means Ventura County and the South Coast Air Basin, as defined in Title ~~13~~ 17, California Administrative Code, Section 60104, as it existed on January 1, 1985.

(4) "Diesel fuel for use in motor vehicles in the south coast control area" means any diesel fuel (i) which is not conspicuously identified as a fuel which may not lawfully be dispensed into motor vehicle fuel tanks in the south coast control area; or (ii) which the person selling, offering for sale, transferring, or dispensing the diesel fuel knows will be dispensed into motor vehicle fuel tanks in the south coast control area; or (iii) which, in the case of a sale or transfer, the person selling or transferring the diesel fuel in the exercise of reasonable prudence should know will be dispensed into motor vehicle fuel tanks in the south coast control area, and that is not the subject of a declaration under penalty of perjury by the purchaser or transferee stating that s/he will not sell, offer for sale, or transfer the fuel for dispensing, or dispense the fuel, into motor vehicle fuel tanks in the south coast control area.

(5) "Refiner" means any person who owns, leases, operates, controls or supervises a refinery.

(6) "Refinery" means a facility that produces liquid fuels by distilling petroleum, and all bulk storage and bulk distribution facilities jointly owned or leased with the facility that produces liquid fuels by distilling petroleum.

(7) "Bulk purchaser-consumer" means a person that purchases or otherwise obtains diesel fuel in bulk and then dispenses it into the fuel tanks of motor vehicles owned or operated by the person.

(8) "Produce" means to convert liquid compounds which are not diesel fuel into diesel fuel; provided that when a person blends volumes of blendstocks which are not diesel fuel with volumes of diesel fuel acquired from another person, and the resulting blend is diesel fuel, the person

conducting such blending has produced the entire volume of the resulting blend and the person who initially converted non-diesel compounds into the acquired diesel fuel has also produced the volume of acquired diesel fuel. ~~The blending of volumes of~~ When a person blends diesel fuel with other volumes of diesel fuel, without the addition of blendstocks which are not diesel fuel, ~~is not production of~~ the person does not produce diesel fuel.

(9) "Producer" means any person who produces in the south coast control area diesel fuel for use in motor vehicles in the south coast control area.

(10) "Transfer" means to relinquish possession to another person, and includes a relinquishment of possession as part of an exchange.

(11) "Calendar quarter" means each of the following three-month periods: January-March, April-June, July-September, and October-December.

(12) "Stream day" means 24 consecutive hours of actual operation of a refinery.

(13) "Baseline production" means for each small refiner the highest annual volume of diesel fuel produced at the small refiner's refinery(ies) in the south coast control area in 1978, 1979 and 1980 and reasonably likely dispensed into motor vehicle fuel tanks, as determined by the executive officer as of December 1, 1985.

(14) "Annual base exempt amount" for a calendar year means, for each small refiner covered by an exemption issued by the executive officer and in effect on December 1 of the previous year, that proportion of 6,132,000 barrels that the small refiner's baseline production bears to the total baseline production of all small refiners who have exemptions issued by the executive officer and in effect on December 1 of the previous year.

(g) For the purposes of this section, the term "small refiner" shall mean any refiner who owns or operates a refinery (or refineries) located in the ~~South Coast Air Basin and/or Ventura County~~ south coast control area that:

(1) Has ~~with~~ and at all times had since January 1, 1978, a total combined crude oil capacity of not more than 50,000 barrels per stream day; and

(2) Was used at some time during 1978, 1979, or ~~and~~ 1980, to produce diesel fuel which was reasonably likely dispensed into motor vehicle fuel tanks; and

(3) Is not currently owned or controlled by any refiner that owns or controls ~~and who does not own or operate~~ refineries in the United States with a total combined crude oil capacity of more than 137,500 barrels per stream day; and

(4) Was the subject of an application for a small refiner exemption filed pursuant to subsection (h) before June 28, 1985.

(h)(1) The provisions of subsection (d)(1) shall not apply to ~~an~~ the amount of diesel fuel that is produced by a small refiner ~~as defined in subsection (g)~~ at the small refiner's refinery in the ~~South Coast Air Basin and/or Ventura County~~ south coast control area and that is first consecutively transferred from the small refiner's refinery in each calendar year for use in motor vehicles in the south coast control area, equal to ~~120 percent~~ ~~[Option I: 36 percent; Option II: 44 percent; Option III: 84 percent] of the~~ ~~highest annual volume of diesel fuel produced by the small refiner in the South Coast Air Basin and/or Ventura County of the three calendar years immediately preceding the date of adoption of subsection (d)~~ ~~SOUTH COAST CONTROL AREA IN 1978, 1979, AND 1980 AND REASONABLY LIKELY DISPENSED INTO~~

motor vehicle fuel tanks. the small refiner's annual base exempt amount with adjustments made in accordance with this section. In no event shall a small refiner's exemption for a calendar year exceed 120 percent of the small refiner's baseline production. Diesel fuel which is designated by the small refiner as not exempt from the provisions of subsection (d)(1), and which is reported to the executive officer or his/her designee pursuant to a protocol entered into between the small refiner and the executive officer or his/her designee, shall not be counted against the exempt amount and shall not be subject to the exemption. A small refiner that blends a gasoline for use in motor vehicles in the South Coast Control Area and the small refiner did not produce and which is not diesel fuel to produce diesel fuel from subsection (d)(1) shall be deemed to have produced the entire resulting blend. This exemption shall not apply to any fuel not produced in the ~~South Coast Air Basin or Ventura County~~ south coast control area. This exemption shall not apply to any diesel fuel transferred from a small refiner's refinery(s) in any calendar quarter in which less than 25 percent of the diesel fuel transferred from the small refiner's refinery(s) in the south coast control area was produced by distillation of crude oil at the small refiner's refinery(s).

(2) When the executive officer determines that a small refiner did not in a calendar quarter transfer from its refinery(s) in the south coast control area any diesel fuel which was covered by an exemption issued to the small refiner under this subsection (h), the small refiner's annual base exempt amount for that calendar year shall be reduced by the portion of the small refiner's remaining unused annual base exempt amount for the calendar

year that the small refiner would have transferred in the calendar quarter had the small refiner evenly distributed transfers of the entire unused annual base exempt amount over that calendar quarter and any remaining calendar quarters in the calendar year; provided that in no case may a reduction for any quarter exceed 25 percent of the small refiner's full annual base exempt amount. If within 15 days after the close of a calendar quarter a small refiner submits documentation which demonstrates to the satisfaction of the executive officer that the small refiner did not transfer in the calendar quarter any diesel fuel which would be covered by an exemption under subsection (h)(1) due to an irresistible, superhuman cause, the small refiner's annual base exempt amount shall not be reduced on account of inactivity during that quarter. The executive officer shall make determinations pursuant to this subsection (h)(2) within 45 days after the end of each calendar quarter. The executive officer's determination regarding the small refiner's transfer in a calendar quarter shall be based on the reports required pursuant to subsection (h)(5) which are filed within the applicable time limits by the small refiner, and on any investigation deemed appropriate by the executive officer.

(3) Whenever a small refiner's annual base exempt amount is reduced pursuant to subsection (h)(2) on account of inactivity during a calendar quarter, the executive officer shall reallocate the amount reduced to the other small refiners who transferred in the calendar quarter diesel fuel which was covered by an exemption under subsection (h)(1). The portion of the amount reduced which is reallocated to each other small refiner shall be based on the proportion which each other small refiner's baseline production bears to the total baseline production of all small refiners qualified to

receive the reallocation. The executive officer shall make such reallocations within 45 days after the end of such calendar quarter. Reallocations resulting from reductions applied on the basis of a small refiner's inactivity in the first, second, or third calendar quarters may only be used in that same calendar year by the small refiners receiving the reallocations. Reallocations resulting from reductions applied on the basis of a small refiner's inactivity in the fourth calendar quarter of a year may only be used in the following calendar year by the small refiners receiving the reallocation. No amounts reallocated pursuant to this subsection (h)(3) shall be considered in the calculation of reductions pursuant to subsection (h)(2).

~~(2)~~ (4) To qualify for ~~this~~ exemption under this subsection (h), a refiner shall submit to the ~~Executive Officer of the Air Resources Board~~ executive officer an Application for Exemption under penalty of perjury, on a form provided by the executive officer, for each of the small refiner's refineries in the south coast control area which shall specify the quantity and ASTM grade of diesel fuel produced at each refinery in the ~~South Coast Air Basin or Ventura County~~ south coast control area during each of the three calendar years 1978, 1979, and 1980 ~~immediately preceding the date of adoption of subsection (d)~~ and reasonably likely dispensed into motor vehicle fuel tanks, ~~data on~~ the crude oil capacity ~~and ownership for the refineries which it owns and operates in the South Coast Air Basin and/or Ventura County and in the United States~~ of the refinery at all times since January 1, 1978, the crude oil capacity of all refineries in the United States which are owned or controlled by, or under common ownership or control with, the small refiner, and data demonstrating that the refinery has the capacity to produce liquid

fuels by distilling petroleum. Within 90 days of receipt of the application, the ~~Executive Officer~~ executive officer ~~of the Air Resources Board~~ shall grant or deny the exemption, in writing. The exemption shall be granted if the ~~Executive Officer~~ executive officer determines that the applicant has demonstrated that s/he meets the provisions of this subsection and subsection (g) ~~and shall be rescinded when such provisions are no longer met~~, and shall identify the ~~annual amount of diesel fuel covered by the exemption~~ small refiner's baseline production. ~~The executive officer shall modify the exemption if s/he is satisfied by new evidence that the small refiner is entitled to an exemption for an amount of diesel fuel other than the amount stated in the issued exemption.~~ The exemption shall immediately cease to apply at any time the refiner ceases to meet the definition of small refiner in subsection (g).

~~(3)~~ (5) In addition to the ~~reporting~~ requirements of subsection (i) below, ~~beginning on January 1, 1985,~~ each small refiner who is ~~granted~~ covered by an exemption in effect on December 1 of any year shall ~~report on a quarterly basis~~ submit to the ~~Executive Officer of the Air Resources Board~~ executive officer reports containing the ~~following~~ information ~~which~~ set forth below for the following year. The reports shall be excecuted in California under penalty of perjury, and must be received within the time indicated below:

(i) The quantity, ~~and~~ ASTM grade, sulfur content and batch identification of all diesel fuel, produced by the small refiner in the ~~South Coast Air Basin and Ventura County~~ south coast control area, ~~during that calendar quarter.~~ that is transferred from the small refiner's refinery(s) in each month for sale in the south coast control area for use in motor vehicles

in the south coast control area, within 15 days after the end of the month; ~~Such reports shall be provided within 45 days of the close of each quarter. Each such refiner shall also be required to report to the Executive Officer.~~

(ii) For each calendar quarter, ~~the percentage~~ a statement whether 25 percent or more of the diesel fuel transferred from the small refiner's refinery(s) in the south coast control area ~~that~~ was produced by distillation of crude oil at the small refiner's refinery(s), within ~~30~~ 15 days after the close of such quarter;

(iii) The date, if any, on which the small refiner completes transfer from its small refinery(s) in the south coast control area in a calendar year of the maximum amount of diesel fuel for use in motor vehicles which is exempt from subsection (d)(1) pursuant to subsection (h), within five days after such date;

(iv) within ~~90~~ 30 days after ~~of~~ project completion, any refinery addition or modification which would affect the ~~crude oil capacity for refineries owned and operated in the South Coast Air Basin, Ventura County and the United States~~ qualification of the refiner as a small refiner pursuant to subsection (g); and

(v) any change of ownership of the small refiner or the small refiner's refinery, within 30 days after such change of ownership.

~~(4)~~ (6) Whenever a small refiner fails to provide records identified in subsection (h)~~(3)~~(5)(i) or (ii) in accordance with the requirements of those subsections, the diesel fuel for use in motor vehicles in the south coast control area transferred by the small refiner from the small refiner's refinery in the time period of the required records shall be presumed to have been sold by the small refiner in violation of subsection (d)(1).

(i)(1) Each producer ~~refiner~~ shall ~~perform sampling~~ sample and ~~testing~~ test for sulfur content each final blend of ~~the~~ diesel fuel for use in motor vehicles in the south coast control area produced ~~stored in all refinery tank(s) owned or operated~~ by the producer in the ~~South Coast Air Basin and Ventura County~~ south coast control area ~~as set forth in this subsection~~, in accordance with an applicable test method identified in subsection (e). If a producer ~~refiner~~ blends diesel fuel components directly to pipelines, tankships, railway tankcars or trucks and trailers, the loading(s) shall be sampled and tested for sulfur content by the refiner or authorized contractor. ~~All sampling and testing shall be performed a minimum of four times per month at least six days apart and the results shall be reported individually (and, for information purposes only, as a diesel fuel production weighted average sulfur content) to the Executive Officer of the Air Resources Board within 45 days of the close of each quarter.~~ The producer shall maintain, for two years from the date of each sampling, records showing the sample date, product sampled, container or other vessel sampled, and the sulfur content. In the event a ~~refiner~~ producer ~~in the South Coast Air Basin or Ventura County produces~~ sells, offers for sale, or transfers diesel fuel in the south coast control area which is not ~~specifically~~ exempt under subsection (h) from the provisions of subsection (d)(1) ~~with~~ and which has a sulfur content exceeding the standard set forth ~~that allowed~~ in subsection (d)(1), such ~~refiner~~ producer shall maintain, for two years from the date of any sale or transfer of the fuel, records ~~acceptable to the Executive Officer of the Air Resources Board which show~~ demonstrating that the diesel fuel ~~is being produced for transhipment out of the South Coast Air Basin or Ventura County or sold for non vehicular use~~ was not diesel fuel for use in motor vehicles in

the south coast control area when it was sold or transferred by the producer. ~~Failure to provide such documentation upon request shall be deemed a violation of subsection (d).~~ All diesel fuel produced in the south coast control area by the producer and not tested as diesel fuel for use in motor vehicles by the producer pursuant to this subsection shall be deemed to have a sulfur content exceeding 500 parts per million or 5,000 parts per million if it was subject to a small refiner exemption pursuant to subsection (h), unless the producer provides to the executive officer upon request test results demonstrating that the diesel fuel has a sulfur content not exceeding 500 parts per million or 5,000 parts per million respectively.

(2) Each person importing ~~diesel fuel for sale~~ into the ~~South Coast Air Basin or Ventura County~~ south coast control area any diesel fuel for use in motor vehicles in the south coast control area, by tankship, pipeline, railway tankcars, ~~or~~ trucks and trailers, or other means, shall sample and test for sulfur content each final blend of such diesel fuel. ~~The results of such tests shall be reported on a quarterly basis to the Executive Officer of the Air Resources Board within 45 days of the close of each quarter.~~ The importer shall maintain, for two years from the date of each sampling, records showing the sample date, product sampled, container or other vessel sampled, and the sulfur content.

(3) A producer or importer shall provide to the executive officer any records required to be maintained by the producer or importer pursuant to this subsection (i) within 20 days of any written request received from the executive officer or his/her designee before expiration of the required period of maintenance. Whenever a producer or importer fails to provide records regarding a final blend of diesel fuel for use in motor vehicles in the south

coast control area in accordance with the requirements of this subsection, the final blend of diesel fuel shall be presumed to have been sold by the producer in violation of subsection (d)(1).

~~(3)~~ (4) The ~~Executive Officer of the Air Resources Board~~ executive officer may perform any sampling and testing deemed necessary to determine compliance by any person with the requirements of subsection (d) and may require that special samples be drawn and tested at any time.

(j) The executive officer or his/her designee may enter into a protocol with any producer, importer, or person who sells, offers for sale, or transfers diesel fuel to a producer for the purpose of specifying alternative sampling, testing, recordkeeping, or reporting requirements which shall satisfy the provisions of subsections (i)(1), (i)(2), or (h)~~(3)~~(5). The executive officer or his/her designee may only enter into such a protocol if s/he reasonably determines that application of the regulatory requirements under the protocol will not have a significant adverse effect on the state board's ability to enforce the provisions of subsection (d).

(k) The provisions of subsection (g) and (h) as they existed immediately prior to the amendments adopted on [date of adoption] shall continue to be effective through December 31, 1985. Within 20 days after the amendments to subsections (g) and (h) adopted on [date of adoption] are filed with the Secretary of State, any person who had ~~received~~ before June 28, 1985, applied for a small refiner exemption ~~which was in effect as of [date of adoption]~~ under subsection (h) shall ~~either submit~~ mail or hand deliver to the executive officer either an Application for Exemption pursuant to subsection (h)(2) as it was amended on [date of adoption], or ~~notify the executive officer~~ a notification that the small refiner has determined that it will not

qualify for a small refiner exemption under the amendments adopted on [date of adoption]. No small refiner shall be eligible for an exemption under the provisions of subsections (g) and (h) as they were amended on [date of adoption] unless the small refiner has mailed or hand delivered an Application for Exemption within the time limits set forth in this subsection (k).

(l) Any variance from the requirements of subsection (a) or (d) issued by the executive officer before the effective date of subsection (m) shall not be affected by those amendments.

~~(j)(1) Any person who cannot comply with the requirements set forth in subdivision (a) or (d) of this section because of unreasonable economic hardship, unavailability of equipment or lack of technological feasibility may apply to the Executive Officer of the Air Resources Board for a variance. The application shall set forth:~~

~~(A) the specific grounds upon which the variance is sought;~~

~~(B) the proposed date(s) by which compliance with the sulfur content limitations in subdivision (a) or (d) will be achieved; and~~

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

~~(2) 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 subdivision (a) or (d) of this section 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.~~

~~(3)-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.~~

~~(4)-No-variance-shall-be-granted-unless-all-of-the-following-findings are-made:~~

~~(A)-that-the-applicant-for-the-variance-is,-or-will-be,-in-violation of-the-requirements-established-by-subdivision-(a)-or-(d)-of-this-regulation;~~

~~(B)-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-(i)-an-arbitrary or-unreasonable-taking-of-property,-or-(ii)-the-practical-closing-and elimination-of-a-lawful-business;-and~~

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

~~(5)-Any-variance-order-shall-include-the-date(s)-by-which-compliance with-the-sulfur-content-limitation-in-subdivision-(a)-or-(d)-will-be-achieved and-any-other-condition(s)-including,-where-appropriate,-increments-of progress,-that-the-Executive-Officer-of-the-Air-Resources-Board,-as-a-result-of the-testimony-received-at-the-hearing,-finds-necessary.~~

~~(6)-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-subdivision-(a)-or-(d) of-this-section,-the-Executive-Officer-may-hold-a-hearing-without-complying with-the-provisions-of-subdivision-(j)(2)-or-subdivision-(j)(3)-above.--No variance-granted-under-the-provisions-of-this-paragraph-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 subdivision,-and-shall-provide-advance-telephone-notice-to-any-such-person.~~

~~(7)-Upon-the-application-of-any-person,-the-Executive-Officer-of-the Air-Resources-Board-may-review-and-for-good-cause-modify-or-revoke-a-variance from-the-requirements-of-subdivision-(a)-or-(d)-after-holding-a-hearing-in accordance-with-the-provisions-of-this-subdivision.~~

(m)(1) Any person who cannot comply with the requirements set forth in subsections (a) or (d)(1) because of extraordinary reasons beyond the person's reasonable control may apply to the executive officer for a variance. The application shall set forth:

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

(B) the proposed date(s) by which compliance with the provisions of subsections (a) or (d)(1) will be achieved; and

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

(2) Upon receipt of an application for a variance containing the information required in subsection (m)(1), 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 subsections (a) or (d)(1) 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 20 days prior to the hearing. Notice of the hearing shall also be submitted for publication in the California Administrative Notice Register and sent to every person who requests such notice, not less than 20 days prior to the hearing.

(3) At least 20 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.

(4) No variance shall be granted unless all of the following findings are made:

(A) that, because of reasons beyond the reasonable control of the applicant, requiring compliance with subsections (a) or (d)(1) would result in an extraordinary economic hardship;

(B) that the public interest in mitigating the extraordinary hardship to the applicant by issuing the variance outweighs the public interest in avoiding any increased emissions of air contaminants which would result from issuing the variance.

(C) that the compliance plan proposed by the applicant can reasonably be implemented and will achieve compliance as expeditiously as possible.

(5) Any variance order shall specify a final compliance date by which the requirements in subsections (a) or (d)(1) will be achieved. Any variance order shall also contain a condition that specified increments of progress necessary to assure timely compliance be achieved, and such other conditions, including limitations on the sulfur content of unleaded gasoline or diesel fuel produced for use in motor vehicles, that the executive officer, as a result of the testimony received at the hearing, finds necessary to carry out the purposes of Division 26 of the Health and Safety Code.

(6) The executive officer may require, as a condition of granting a variance, that a cash bond, or a bond executed by two or more good and sufficient sureties or by a corporate surety, be posted by the party to whom

the variance was granted to assure performance of any construction, alteration, repair, or other work required by the terms and conditions of the variance. Such bond may provide that, if the party granted the variance fails to perform such work by the agreed date, the cash bond shall be forfeited to the state board, or the corporate surety or sureties shall have the option of promptly remedying the variance default or paying to the state board an amount, up to the amount specified in the bond, that is necessary to accomplish the work specified as a condition of the variance.

(7) No variance from the requirements set forth in subsection (d)(1) based on a plan for compliance which includes the installation of major additional equipment shall have a duration of more than three years.

(8) No variance which is issued due to conditions of breakdown, repair, or malfunction of equipment shall have a duration, including extensions, of more than six months.

(9) The executive officer may, after holding a hearing without complying with the provisions of subsections (m)(2) and (3), issue an emergency variance to a person from the requirements of subsections (a) or (d)(1) upon a showing of reasonably unforeseeable extraordinary hardship and good cause that a variance is necessary. In connection with the issuance of an emergency variance, the executive officer may waive the requirements of subsection (m)(6). No emergency variance may extend for a period of more than 45 days. If the applicant for an emergency variance does not demonstrate that he or she can comply with the provisions of subsections (a) or (d)(1) within such 45-day period, an emergency variance shall not be granted unless the applicant makes a prima facie demonstration that the findings set forth in subsection (m)(4) should be made. The executive officer shall maintain a list

of persons who have informed the executive officer in writing of their desire to be notified by telephone in advance of any hearing held pursuant to this paragraph (m)(9), and shall provide advance telephone notice to any such person.

(10) A variance shall cease to be effective upon failure of the party to whom the variance was granted substantially to comply with any condition.

(11) Upon the application of any person, the executive officer may review and for good cause modify or revoke a variance from the requirements of subsections (a) and (d)(1) after holding a hearing in accordance with the provisions of subsections (m)(2) and (3).

[Option/1]

(n) The provisions of subsection (h) shall not be effective after December 31, 1988. After December 31, 1988, diesel fuel produced by small refiners for sale in the south coast control area for use in motor vehicles shall not be exempt from the provisions of subsection (d)(1).

[Option/2]//[No/subsection/(n)]

NOTE: Authority cited: Sections 39600, 39601, 43013 and 43101, Health and Safety Code; and Western Oil and Gas Association v. Orange County Air Pollution Control District, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 39000-39003, 39500, 39515, 39516, 39606, 41511, 43000, 43013, 43016, and 43101, Health and Safety Code; and Western Oil and Gas Association v. Orange County Air Pollution Control District, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).

State of California

Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : August 5, 1985

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

From : Harold Holmes
Board Secretary
Air Resources Board

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

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

FILED AND POSTED BY
OFFICE OF THE SECRETARY
AUG 05 1985
Resources Agency of California

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Amendments to Regulation Limiting the Sulfur Content of Motor Vehicle Diesel Fuel in the South Coast Air Basin and Ventura County and Limiting the Sulfur Content of Unleaded Gasoline

Agenda Item Nos.: 85-6-2
85-10-2

Public Hearing Date: April 26, 1985
June 28, 1985

Response Date: October 2, 1985

Issuing Authority: Air Resources Board

Comment: Several comments were received identifying significant environmental issues pertaining to this item. These comments are summarized and responded to in the Final Statement of Reasons, Section III (Comments and Agency Responses), which is incorporated herein by reference.

Response: See above.

Certified: _____
Board Secretary

Date: 10-22-85

State of California
AIR RESOURCES BOARD

Resolution 85-31
May 23, 1985

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 solicited research proposal, Number 1297-113, entitled "Evaluation of Potential Toxic Air Contaminants", has been submitted by Science Applications International Corporation;

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

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

> Proposal Number 1297-113, entitled "Evaluation of Potential Toxic Air Contaminants", submitted by Science Applications International Corporation for a total amount not to exceed $124,290.

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 1297-113, entitled "Evaluation of Potential Toxic Air Contaminants", submitted by Science Applications International Corporation for a total amount not to exceed $124,290.

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 $124,290.

I certify that the above is a true and correct copy of Resolution 85-31 as passed by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 85-32
April 26, 1985

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 solicited research proposal, Number 1294-113, entitled "Particulate Trap Demonstration for Heavy-Duty Diesels", has been submitted by Southwest Research Institute;

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

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

> Proposal Number 1294-113, entitled "Particulate Trap Demonstration for Heavy-Duty Diesels", submitted by Southwest Research Institute for a total amount not to exceed $219,144.

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 1294-113, entitled "Particulate Trap Demonstration for Heavy-Duty Diesels", submitted by Southwest Research Institute for a total amount not to exceed $219,144.

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 $219,144.

I hereby certify that the above is a true and correct copy of Resolution 85-32, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-6-3(b)11
DATE: April 26, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 1294-113 entitled "Particulate Trap Demonstration for Heavy-Duty Diesels".

RECOMMENDATION: Adopt Resolution 85-32 approving Proposal No. 1294-113 for funding in an amount not to exceed $219,144.

SUMMARY:

Heavy-duty diesel vehicles (HDD) are a major source of air pollution in California. The Air Resources Board is pursuing stringent emission standards and, as part of its long-range research plan, is encouraging the adaptation and demonstration of devices to reduce particle emissions from diesels. The Southern California Rapid Transit District (RTD) and Johnson-Matthey, Inc., are currently evaluating a prototype wire mesh catalytic trap oxidizer to be installed on an RTD coach. To broaden our understanding of the capabililites, limitations and relative requirements of different control technologies, the ARB solicited additional participation in a similar demonstration project to design, produce, install, and evaluate self-regenerating traps on one or more test buses.

Two proposals were received in response to the ARB's Request for Proposals. The proposal submitted by SWRI was determined to be the higher rated proposal.

Under its proposal, SWRI would adapt and demonstrate ceramic trap oxidizer on a diesel-powered RTD bus. The technology proposed, a monolithic catalytic ceramic trap oxidizer, is considered to be the most feasible alternative approach to the wire mesh trap. The optional fleet demonstration task included in the RFP would not be undertaken at this time.

Adapting and installing the trap system would cost approximately $159,355. In addition, SWRI would assist the ARB during durability testing at a cost of $59,789. The total project cost is further itemized in the budget summary attached.

This planned study, together with the study of a wire mesh catalytic trap oxidizer that is already underway at Johnson Matthey, should greatly enhance the Board's understanding of the capabilities and limitations of diesel particulate trap technology.

State of California
AIR RESOURCES BOARD

Resolution 85-33
April 26, 1985

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 solicited research proposal, Number 1303-114, entitled "Effects of Airborne Particulate Matter", has been submitted by the University of California, Davis;

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

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

> Proposal Number 1303-114, entitled "Effects of Airborne Particulate Matter", submitted by the University of California, Davis for a total amount not to exceed $269,823.

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 1303-114, entitled "Effects of Airborne Particulate Matter", submitted by the University of California, Davis for a total amount not to exceed $269,823.

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 $269,823.

I hereby certify that the above is a true and correct copy of Resolution 85-33, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-6-3(b)12
DATE: April 26, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 1303-114 entitled "Effects of Airborne Particulate Matter."

RECOMMENDATION: Adopt Resolution 85-33 approving Proposal No. 1303-114 for funding in an amount not to exceed $269,823.

SUMMARY:

Much of evidence used for setting the ambient air quality standard that limits community exposure to respirable particulate matter (PM_{10}) for California was obtained from epidemiology studies conducted in London in the 1960's. Direct application of this and other European health effects information to California is difficult because the London atmosphere was dominated by carbon-based particles, SO_2 and cold temperatures. California air, however, has high concentrations of photochemical aerosols, oxidants, and warmer temperatures.

An RFP for work to remedy this difficulty was issued earlier this year. The objectives of this RFP were to: 1) provide more useful interpretation of London data for upcoming reviews of our PM_{10} standard; and 2) initiate research on health effects of California-specific particles.

Four proposals were received in response to the RFP. The Research Screening Committee has recommended for funding a proposal from the University of California, Davis. This project will study groups of healthy rats and rats with an emphysema-like condition exposed to simulated California or London atmospheres. The California-type exposure atmosphere will include a mixture containing nitrates, sulfates, carbon and clay with and without ozone. The London-type atmosphere will be composed of coal flyash, carbon and ammonium sulfate particles with and without SO_2. The animals will be exposed for three days (acute) or 30 days (subchronic). Following exposure, the lungs of the animals will be tested for: inflammation, adverse cellular changes and alterations in their ability to clear themselves of particles. Various blood and protein changes which could be used as markers of exposure in humans will also be measured.

B U D G E T S U M M A R Y

University California, Davis

"Effects of Airborne Paticulate Matter"

BUDGET ITEMS:

Salaries	$181,857	
Equipment	2,550*	
Materials/Supplies	43,690	
Travel	-	
TOTAL, Direct Costs		$228,097
TOTAL, Indirect Costs**		$ 41,726
TOTAL PROJECT COSTS		$269,823

* Two particle-counter printers at $1,275.

** Includes material and labor overhead and general and administrative expenses.

State of California
AIR RESOURCES BOARD

Resolution 85-34
April 26, 1985

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 1300-113, entitled "Determination of the Effects of Photochemical Oxidants and/or SO_2 on Yield of Valencia Oranges", has been submitted by the University of California, Riverside;

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 1300-113, entitled "Determination of the Effects of Photochemical Oxidants and/or SO_2 on Yield of Valencia Oranges", submitted by the University of California, Riverside for a total amount not to exceed $125,850.

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 1300-113, entitled "Determination of the Effects of Photochemical Oxidants and/or SO_2 on Yield of Valencia Oranges", submitted by the University of California, Riverside for a total amount not to exceed $125,850.

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 $125,850.

I hereby certify that the above is a true and correct copy of Resolution 85-34, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-6-3(b)13
DATE: April 26, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 1300-113 entitled "Determination of the Effects of Photochemical Oxidants and/or SO_2 on Yield of Valencia Oranges".

RECOMMENDATION: Adopt Resolution 85-34 approving Proposal No. 1300-113 for funding in an amount not to exceed $125,850.

SUMMARY: This proposal seeks funding for the continuation of the study of the effects of ambient oxidants and sulfur dioxide on the yield of oranges, a study which was begun under an earlier ARB contract. This will be the third year of the planned three-year study. The project will continue to use five experimental treatments in which Valencia orange trees will be exposed to ambient air, filtered air and sulfur dioxide in different combinations. The investigator will measure the effects of the air pollutant treatments on the trees including yield, growth, and several physiological variables such as photosynthesis and gas exchange by leaf surfaces.

The investigators will collect and analyze data for two harvests, the first in 1985 and the second in 1986. The results will permit the investigators to evaluate the possible carryover of pollution effects from one year to the next.

Oranges are among California's most important fruit crops. This is the first study of the effects of air pollution on oranges to be carried out using open top field chambers. It will provide valuable information on the potential for damage to this important fruit crop by air pollution. This will be especially useful to the Board's program in crop loss assessment.

BUDGET SUMMARY

University of California, Riverside

"Determination of the Effects of Photochemical Oxidants and/or SO_2 on Yield of Valencia Oranges"

BUDGET ITEMS:

Salaries	$51,202	
Benefits	9,361	
Equipment	9,241*	
Supplies	17,450	
Other Costs	3,535	
Travel	1,448	
TOTAL, Direct Costs		$ 92,237
TOTAL, Indirect Costs		33,613
TOTAL PROJECT COST		$125,850

* Major Equipment Detail:

Fence	$4,556
Apple IIe Computer	$1,293
Data Logger	$3,392

State of California
AIR RESOURCES BOARD

Resolution 85-35
April 26, 1985

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 1311-115, entitled "Evaluation of the Health Effects of Air Pollution in Asthmatics by a Novel Application of Analysis Methods", has been submitted by the University of California, Los Angeles;

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

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

> Proposal Number 1311-115, entitled "Evaluation of the Health Effects of Air Pollution in Asthmatics by a Novel Application of Analysis Methods", submitted by the University of California, Los Angeles for a total amount not to exceed $39,260.

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 1311-115, entitled "Evaluation of the Health Effects of Air Pollution in Asthmatics by a Novel Application of Analysis Methods", submitted by the University of California, Los Angeles for a total amount not to exceed $39,260.

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 $39,260.

I hereby certify that the above is a true and correct copy of Resolution 85-35, as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

ITEM NO.: 85-6-3(b)14
DATE: April 26, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 1311-115 entitled "Evaluation of the Health Effects of Air Pollution in Asthmatics by a Novel Application of Analysis Methods".

RECOMMENDATION: Adopt Resolution 85-35 approving Proposal No. 1311-115 for funding in an amount not to exceed $39,260.

SUMMARY: This proposal is for further statistical analysis of a large and comprehensive set of daily data on pollutant concentrations, meteorology, and asthmatic response collected in Glendora, a high-oxidant area of Los Angeles County. These data are potentially more informative than other similar epidemiological data sets because the sample size is larger, the period of collection longer, and the information on asthmatic response and confounding variables more complete. Description and analysis by standard statistical methods have yielded encouraging results. The complexity of the data set and of the relationships being studied require the application of statistical methods not previously used for this sort of data.

The proposed analysis will potentially yield a clearer understanding of the relationship between concentrations of pollutants in the complex mixtures characteristic of urban atmospheres and asthmatic responses. This information will be useful to the Board in future assessments of effects of both gaseous and particulate pollutants.

State of California
AIR RESOURCES BOARD

Resolution 85-36
May 23, 1985

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 72-11, entitled "Short-Term Trends and Spatial Variability in Precipitation Chemistry in the South Coast Air Basin: Application of Novel Tracers for the Study of Atmospheric Chemical and Physical Transformation Processess", has been submitted by the California Institute of Technology;

WHEREAS, the Research Division 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 72-11 entitled "Short-Term Trends and Spatial Variability in Precipitation Chemistry in the South Coast Air Basin: Application of Novel Tracers for the Study of Atmospheric Chemical and Physical Transformation Processess", submitted by the California Institute of Technology for a total amount not to exceed $470,415.

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 72-11 entitled "Short-Term Trends and Spatial Variability in Precipitation Chemistry in the South Coast Air Basin: Application of Novel Tracers for the Study of Atmospheric Chemical and Physical Transformation Processess", submitted by the California Institute of Technology for a total amount not to exceed $470,515.

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 $470,515.

I hereby certify that the above is a true and correct copy of Resolution 85-36, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-7-3(b)1
DATE: May 23, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 072-11 entitled "Short-Term Trends and Spatial Variability in Precipitation Chemistry in the South Coast Air Basin: Application of Novel Tracers for the Study of Atmospheric Chemical and Physical Transformation Process", Principal Investigators: Drs. Michael R. Hoffmann and Fredrick H. Shair

RECOMMENDATION: Adopt Resolution 85-36 approving Proposal No. 072-11 for funding in an amount not to exceed $470,415.

SUMMARY: The principal objectives of the proposed research will be to study the chemistry, physics, transport, and meteorology of selected wet deposition events characterized phenomenologically as winter stable and unstable storm events or summer stratus rain events.

The Kapiloff Acid Deposition Act requires the California Air Resources Board to identify and determine (1) the relative contribution of various sources of acid deposition precursor emissions, (2) the chemical, physical and meteorological mechanisms by which acid deposition is formed and transported within California, and (3) the extent of acid deposition in various geographic regions of the State. Furthermore, Senate Bill 55 requires the ARB to give priority in its research and monitoring programs to the South Coast Air Basin (SCAB).

Available monitoring data show that precipitation in the Los Angeles area is as acidic as precipitation in the northeastern United States. However, in contrast to the Northeast where storm systems transport acidic precursors and oxidation products long distances before depositing them in precipitation, unpolluted storm systems traversing the SCAB rapidly accumulate acidic pollutants and precursors to form highly acidic precipitation. Furthermore, while the NOx/SO_2 emissions ratio in the eastern United States is approximately the same as the nitric acid/sulfuric acid ratio in the precipitation, the corresponding emissions ratio in the SCAB is three time the ratio of nitric and sulfuric acids in the Basin's precipitation. An understanding of the underlying cause of these differences is required, if the Board and the South Coast Air Quality Management District are to accurately project the consequences of potential control strategies.

The two-year study proposed by Caltech includes the chemical characterization of wet deposition in samples to be collected with automated fraction collectors; the chemical characterization of pre- and post-event fine aerosol samples; and the use of both (inert) insoluble and soluble tracers to characterize large scale transport, mixing and scavenging of water soluble gases (for example, sulfur dioxide and nitric acid).

The spatial and temporal variation of major chemical components in the gas phase, aerosol phase, and in precipitation would be obtained at fourteen sites within the SCAB for three characteristically different meteorological events per wet season. Type I and II are winter events, with Type I being characterized by stable conditions and southeast surface winds ahead of the front. Type II events have unstable conditions and southwest surface winds ahead of the front. Type III is a summer event involving drizzle from thick stratus clouds. A total of six precipitation events (two of each type) would be studied over a two-year period.

The evaluation of novel tracer techniques for characterization of mixing, transport, deposition and scavenging would be a major objective of the proposed study. The tracers proposed to be employed initially on an experimental basis, during the first year, include hexafluoroacetone, trifluorosulfonic acid, perfluoropropenal and Flutec PP2 and PP3. The first three tracers are water soluble and are intended to mimic the scavenging of highly soluble gases by atmospheric water droplets. Flutec PP2 and PP3 and moderately volatile perfluorocarbon mixtures, which can be detected at substantially lower concentrations than the more commonly used SF_6, would be tested as alternatives to SF_6. Several test releases of small quantities of these tracers would be made in the first year during precipitating stratus conditions.

If these releases prove to be successful, large scale releases over the SCAB would be made in the second year during each of the three types of precipitation events. One SF_6 release is proposed in the first year to evaluate this technique during a cyclonic storm.

Models of the chemistry and physics with mass tranpsort of SCAB rainfall would be developed for each basic type of precipitation event in the final task.

BUDGET SUMMARY

California Institute of Technology, Pasadena

"Short-Term Trends and Spatial Variablity in Precipitation Chemistry in the South Coast Air Basin: Application of Novel Tracers for the Study of Atmospheric Chemical and Physical Transformation Processes"

BUDGET ITEMS:

Salaries	$146,292	
Benefits	43,157	
Supplies (Tracer gases)[1]	37,020	
Other Supplies[2]	34,100	
Other Costs[3]	16,000	
Travel[4]	24,500	
Equipment[5]	29,400	
TOTAL, Direct Costs		$330,469
TOTAL, Indirect Costs		139,946
TOTAL PROJECT COST		$470,415

1. The expenditure of $37,020 would be required to purchase tracer gases (SF_6, Flutec PP2 and PP3, hexafluoroacetone, trifluorosulfonic acid, and perfluoropropenal). The ARB (and not the contractor) would purchase the gases directly to avoid overhead charges of $19,621. The actual amount of the contract with Caltech will be $433,395 ($470,415-$37,020).

2. Includes $25,000 for laboratory and shop supplies.

3. Meteorological consultant costs.

4. Includes $20,000 for field sampling (car rental and truck lease)

5. Includes material, motors, sensors, housing, and sample carousels for 14 automated aerosol collectors at $2,100/unit.

State of California
AIR RESOURCES BOARD

Resolution 85-37
May 23, 1985

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 77-11, entitled "Cloud and Precipitation Scavenging Processes in the South Coast Air Basin", has been submitted by the University of Washington;

WHEREAS, the Research Division 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 77-11 entitled "Cloud and Precipitation Scavenging Processes in the South Coast Air Basin", submitted by the University of Washington for a total amount not to exceed $141,743.

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 77-11 entitled "Cloud and Precipitation Scavenging Processes in the South Coast Air Basin", submitted by the University of Washington for a total amount not to exceed $141,743.

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 $141,743.

I hereby certify that the above is a true and correct copy of Resolution 85-37, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-7-3(b)2
DATE: May 23, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 077-11 entitled "Cloud and Precipitation Scavenging Processes in the South Coast Air Basin", Principal Investigators: Drs. Peter V. Hobbs and Dean A. Hegg.

RECOMMENDATION: Adopt Resolution 85-37 approving Proposal No. 077-11 for funding in an amount not to exceed $141,743.

SUMMARY: The major objective of this airborne field study is to determine the relative importance of various chemical and physical processes in clear, cloudy, and precipitating conditions in determining the ratio of sulfate and nitrate in wet deposition in the SCAB. Another objective is to determine the in-cloud scavenging coefficients of sulfate, nitrate, nitrogen oxides (NOx), nitric acid (HNO_3) and peroxyacetylnitrate (PAN) and any in-cloud production of sulfate and nitrate.

The Kapiloff Acid Deposition Act of 1982 requires the California Air Resources Board to identify and determine (1) the relative contribution of various sources of acid deposition precursor emissions, (2) the chemical, physical and meteorological mechanisms by which acid deposition is formed and transported within California, and (3) the extent of acid deposition in various geographic regions of the State. Furthermore, Senate Bill 55 requires the ARB to give priority in its research and monitoring programs to the South Coast Air Basin (SCAB).

A field study would be conducted in early spring 1986 in precipitating cumulus conditions. Gaseous and particulate species would be measured in the boundary layer entering the cloud base (region of updraft air can be identified using the measurement of vertical motion available aboard the aircraft), in cloud water, and in precipitation just below the cloud base. The nitrate/sulfate ratio in these measurements would be compared with the known NOx/SO_2 ratio in the emissions and in the boundary layer entering the cloud.

Measurements would also be made in non-precipitating clouds to compare homogeneous and heterogeneous processes in the formation of sulfate and nitrate, in widespread rain at several different levels below the cloud base in order to determine whether chemical modifications occur in the precipitation as it falls. This would also be done under clear conditions to determine whether differences in sulfur and nitrogen deposition can be attributed to vertical gradients of gases and particles.

Measurements of physical properties of cloud would include: liquid water content, size spectrum of cloud and precipitation particles and two-dimensional imagery of cloud particles. Aerosol measurements include size spectrum of aerosol including interstitial particles, the mass and number of aerosols, and light scattering coefficients. Size segregated particles would also be collected for chemical analyses. Chemical measurements would include: SO_2, nitrate, chloride, sodium, potassium and ammonium. Fast response detectors for NO_2, PAN and HNO_3 developed by Professor Donald Stedman of the University of Denver would be installed in the aircraft and operated by Professor Donald Stedman's research group.

The study proposed by the University of Washington of cloud and precipitation scavenging processes would complement the study proposed by the California Institute of Technology (Item 1) of the spatial and temporal variation of precipitation chemistry and atmospheric mixing and transport during well defined meteorological conditions.

The total cost of the research program proposed is $313,071. This cost would be shared between the Air Resources Board ($141,743 or 45%), the National Science Foundation ($159,706 or 51%) and the University of Washington ($11,622 or 4%). The NSF grant was approved on April 1, 1985.

BUDGET SUMMARY

University of Washington, Seattle

"Cloud and Precipitation Scavenging Processes in the South Coast Air Basin"

BUDGET ITEMS:

Salaries	$24,099	
Benefits	4,821	
Supplies[1]	35,699	
Other Costs[2]	29,499	
Travel[3]	17,951	
Equipment	0	
TOTAL, Direct Costs		$112,069
TOTAL, Indirect Costs		29,674
TOTAL PROJECT COST		$141,743[4]

1. Includes $32,199 for aircraft maintenance and airport fees.

2. Includes $21,999 for subcontract with University of Denver (Stedman) for high resolution, high sensitivity measurements of nitrogen species.

3. Includes travel costs of $13,125 for the three-week field project.

4. The total cost of the research program proposed is $313,071. This cost would be shared between the ARB ($141,743 or 45%), the National Science Foundation ($159,706 or 51%) and the University of Washington ($11,622 or 4%).

State of California
AIR RESOURCES BOARD

Resolution 85-38
May 23, 1985

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 78-11, entitled "Acquisition of Acid Vapor and Aerosol Concentration Data for use in Dry Deposition Studies in the South Coast Air Basin", has been submitted by the California Institute of Technology;

WHEREAS, the Research Division 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 78-11 entitled "Acquisition of Acid Vapor and Aerosol Concentration Data for Use in Dry Deposition Studies in the South Coast Air Basin", submitted by the California Institute of Technology for a total amount not to exceed $293,107.

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 78-11 entitled "Acquisition of Acid Vapor and Aerosol Concentration Data for Use in Dry Deposition Studies in the South Coast Air Basin", submitted by the California Institute of Technology for a total amount not to exceed $293,107.

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 $293,107.

I hereby certify that the above is a true and correct copy of Resolution 85-38, as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

ITEM NO.: 85-7-3(b)3
DATE: May 23, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 78-11 entitled "Acquisition of Acid Vapor and Aerosol Concentration Data for use in Dry Deposition Studies in the South Coast Air Basin", Principal Investigator: Dr. Glen R. Cass.

RECOMMENDATION: Adopt Resolution 85-38 approving Proposal No. 78-11 for funding in an amount not to exceed $293,107.

SUMMARY: The major objective of this field study is to measure the spatial and temporal concentration distribution of gas phase acids, weak organic acids, and related particulate phase species in the South Coast Air Basin.

The Kapiloff Acid Deposition Act of 1982 (California Health and Safety Code, Section 39010.5, 39010.6, 39900 et seq.) requires the California Air Resources Board to design and operate a comprehensive research program to determine the nature, extent and potential effects of acid deposition in California. Furthermore, Senate Bill 55 requires the Air Resources Board to give priority in its research and monitoring programs to the South Coast Air Basin. A monitoring program to measure wet deposition throughout California has been established. However, some scientists estimate that dry deposition in California may be 5-15 times more important than wet deposition. In the South Coast Air Basin, with its dry climate and numerous sources of acid precursors, dry acid deposition is expected to be much more important than wet deposition. Despite these concerns, data documenting the nature and extent of dry acid deposition are scarce.

The California Institute of Technology would set up a network of air monitoring stations at nine sites in the South Coast Air Basin. Seven sites would be co-located with the South Coast Air Quality Management District's PM_{10} monitoring network. This SCAQMD network is being funded by the EPA for $138,342. The other two sites would be added to the AQMD network. At each site, samples would be collected every 6 days. The concentrations of several acids and organic acid gases would be measured, as well as the concentrations of particles in three size ranges. The particles would be analyzed for total mass and all cations, anions and organic ions of interest. Carbon and trace elements would be analyzed for two particle size ranges.

Two sampling trains would be employed. Method I would be used to sample fine particles (less than 2 microns) and nitric acid by the denuder difference method. An AIHL-designed cyclone would be used to eliminate particles larger than 2 microns. After the cyclone, the air stream would be split into six parts. The denuder difference method uses three of the streams. The other three would be used to collect particles on three different filters. Each filter has been chosen to provide the optimal substrate for a particular type of analysis. A Teflon filter would be analyzed by ion chromatography for ions mentioned above. A quartz filter would collect particles for analysis of elemental and organic carbon. A second Teflon filter would be analyzed for mass and for trace elements. Method II would be used primarily to collect samples of gases. Particles would be collected on Teflon prefilters on each of three sampling trains, but no size selection would be employed. One sampling train would use a nylon filter downstream of the Teflon filter to sample nitric acid. A second train would sample ammonia on oxalic acid-impregnated filters. The prefilter would be weighed for TSP. A third train would be used for ion analysis of TSP and would capture acidic gases on lithium hydroxide-impregnated filters.

Since the sampling sites would be co-located with the PM_{10} network of the SCAQMD, these data would also be available to augment the dry deposition monitoring. At seven sites, the PM_{10} samples would be analyzed using EPA funding for elemental and organic carbon, mass, trace elements, and ionic species for particles less than 10 microns. The ARB would fund these analyses for the other two sites.

B U D G E T S U M M A R Y

California Institute of Technology

"Acquisition of Acid Vapor and Aerosol Concentration Data for use in Dry Deposition Studies in the South Coast Air Basin"

BUDGET ITEMS:

Salaries	$83,091	
Benefits	24,511	
Supplies[1]	48,248	
Other Costs[2]	43,310	
Travel[3]	6,550	
TOTAL, Direct Costs		$ 205,710
TOTAL, Indirect Costs		87,397
TOTAL PROJECT COST[4]		$293,107

1. Includes $12,842 for purchasing filters, $7,900 for laboratory supplies, $16,466 for parts to build four samplers at two sites, $6,430 for computing costs and $4,000 for office expense.

2. Includes $40,810 subcontract with Oregon Graduate Center to perform analysis for elemental and total carbon, and trace elements.

3. Includes $4,550 for automobile mileage for travel to nine sites.

4. The total research program cost of $431,449 includes $293,107 (68%) for this project and $138,342 (32%) for EPA funded SCAQMD PM_{10} network.

State of California
AIR RESOURCES BOARD

Resolution 85-39
May 23, 1985

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 82-11, entitled "Quality Assurance and Measurement Uncertainty Quantification in the South Coast Air Basin Dry Acid Deposition Studies", has been submitted by the Desert Research Institute;

WHEREAS, the Research Division 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 82-11 entitled "Quality Assurance and Measurement Uncertainty Quantification in the South Coast Air Basin Dry Acid Deposition Studies", submitted by the Desert Research Institute for a total amount not to exceed $52,500.

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 82-11 entitled "Quality Assurance and Measurement Uncertainty Quantification in the South Coast Air Basin Dry Acid Deposition Studies", submitted by the Desert Research Institute for a total amount not to exceed $52,500.

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 $52,500.

I hereby certify that the above is a true and correct copy of Resolution 85-39, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-7-3(b)4
DATE: May 23, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 82-11 entitled "Quality Assurance and Measurement Uncertainty Quantification in the South Coast Air Basin Dry Acid Deposition Studies", Principal Investigator: Dr. John G. Watson.

RECOMMENDATION: Adopt Resolution 85-39 approving Proposal No. 82-11 for funding in an amount not to exceed $52,500.

SUMMARY: The Major objective of this field study is to measure dry deposition fluxes of gases, aerosols, and acids at one site in the South Coast Air Basin.

The Kapiloff Acid Deposition Act of 1982 (California Health and Safety Code, Section 39010.5, 39010.6, 39900 et seq.) requires the California Air Resources Board to design and operate a comprehensive research program to determine the nature, extent and potential effects of acid deposition in California. Furthermore, Senate Bill 55 requires the Air Resources Board to give priority in its research and monitoring programs to the South Coast Air Basin. A monitoring program to measure wet deposition throughout California has been established. However, some scientists estimate that dry deposition in California may be 5-15 times more important than wet deposition. In the South Coast Air Basin, with its dry climate and numerous sources of acid precursors, dry acid deposition is expected to be much more important than wet deposition. Despite these concerns, data documenting the nature and extent of dry acid deposition are scarce.

The Desert Research Institute would measure the flux of nitric acid and other acidic species using a micrometeorological technique. The proposal is to perform a three-week intensive study of acid deposition fluxes at a single site using the gradient method. Dr. J. A. Businger, a noted expert on surface layer properties and pioneer of original research on flux-gradient relationships, would serve as a consultant to the project. Deposition velocities would be measured for SO_2, NO, NO_2, nitric acid, and sulfate aerosol for both daytime and nighttime conditions. Heat and momentum fluxes would also be

measured. Three weeks of data would be collected to provide adequate time to obtain valid and useful data.

As approved by the Scientific Advisory Committee, Task C, the direct measurement of deposition velocities, was approved as described above.

This research will provide valuable direct measurements of dry deposition flux of acidic pollutants in the South Coast Air Basin. These results will provide a direct link between measurement of acidic pollutant concentrations and deposition fluxes.

BUDGET SUMMARY

Desert Research Institute

"Quality Assurance and Measurement Uncertainty Quantification in South Coast Air Basin Dry Acid Deposition Studies"

BUDGET ITEMS:

Salaries	$13,145	
Benefits	3,615	
Supplies	1,450	
Consultant/ (J. A. Businger)	2,400	
Other Costs*	7,500	
Travel	3,140	
TOTAL, Direct Costs		$31,250
TOTAL, Indirect Costs		21,250
TOTAL PROJECT COST		$52,500

* Includes $5100 for equipment lease (one data logger, six gas analyzers, and gill anemometers and thermistor) and $2000 for chemical analysis.

State of California
AIR RESOURCES BOARD

Resolution 85-40
May 23, 1985

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 79-11, entitled "Mathematical Modeling of the Formation and Dynamics of Acidic Aerosols", has been submitted by the California Institute of Technology;

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 79-11 entitled "Mathematical Modeling of the Formation and Dynamics of Acidic Aerosols", submitted by the California Institute of Technology for a total amount not to exceed $164,050.

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 79-11 entitled "Mathematical Modeling of the Formation and Dynamics of Acidic Aerosols", submitted by the California Institute of Technology for a total amount not to exceed $164,050.

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 $164,050.

I hereby certify that the above is a true and correct copy of Resolution 85-40, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-7-3(b)5
DATE: May 23, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 079-11 entitled "Mathematical Modeling of the Formation and Dynamics of Acidic Aerosols", Principal Investigator: Dr. John H. Seinfeld.

RECOMMENDATION: Adopt Resolution 85-40 approving Proposal No. 079-11 for funding in an amount not to exceed $164,050.

SUMMARY: Atmospheric aerosols are a critical component in determining the chemistry and acidity of wet and dry deposition (including acid fog events) because the formation of acidic species (sulfates and nitrates) depends on aerosol chemistry and thermodynamics. For example, acid fog measurements have shown a strong correlation between the acidity of aerosols that serve as fog condensation nuclei and the acidity of the fog water itself. The major objective of this two-year study, proposed by Dr. John Seinfeld of Caltech, is the development of a state-of-the-science description of particulate acidic aerosol chemistry and thermodynamics. An aerosol model, capable of predicting the size distribution and chemical composition of atmospheric aerosols from gas-phase concentrations and readily available atmospheric properties (temperature, relative humidity, ammonia concentration, etc.), would be developed. It will then be thoroughly tested, using a Lagrangian trajectory simulation, on several well-defined situations to gain an understanding of its sensitivity to key meteorological and chemical variables.

The contractor would accomplish the objectives of this study by carrying out five tasks. In Task 1, generalized rate equations would be developed to represent the generation of condensible organic species from atmospheric organics. Task 2 would assess the importance of homogeneous nucleation as a source of new aerosol particles. Tasks 3 and 4 are considered major efforts and would extend thermodynamic treatment of aerosols in models developed earlier by the proponent's group to include significant organic and inorganic species. The treatment of thermodynamics of solutions of sulfate, nitrate and ammonium ions would be extended to include

other inorganic salts and/or organic constituents. The thermodynamics would then be coupled with size evolution (growth) to compute (from gas-phase concentrations) the size-resolved, acidic aerosol composition of a complete spectrum of components as a function of time and location in the atmosphere. The final Task 5 would involve testing and sensitivity analysis of the aerosol module using a Lagrangian trajectory model.

The proposed work meets the broader objectives of the Kapiloff Program. A size-resolved aerosol module incorporating the thermodynamics and chemistry of sulfate/nitrate/ammonium/organics would provide useful information in a number of areas of direct interest in acid deposition research including: 1) dry and wet deposition, 2) fine and inhalable aerosol concentration levels, 3) atmospheric visibility impairment and 4) evaluation of effective control strategies for acidic precursors.

BUDGET SUMMARY

California Institute of Technology

"Mathematical Modeling of the Formation and Dynamics of Acidic Aerosols"

BUDGET ITEMS:

Salaries	$57,700	
Benefits	17,022	
Supplies	4,000	
Other Costs*	28,500	
Travel	0	
Equipment	0	
TOTAL, Direct Costs		$107,222
TOTAL, Indirect Costs		56,828
TOTAL PROJECT COST		$164,050

* Includes $20,000 for computer costs, $6,000 for consultant, and $2,500 for publication costs.

State of California
AIR RESOURCES BOARD

Resolution 85-41
May 23, 1985

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

WHEREAS, a solicited research proposal, Number 80-11, entitled "Intermethod Comparison of Procedures for Nitric Acid and Ammonia", has been submitted by the California Public Health Foundation;

WHEREAS, the Research Division 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 80-11 entitled "Intermethod Comparison of Procedures for Nitric Acid and Ammonia", submitted by the California Public Health Foundation for a total amount not to exceed $42,604.

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 80-11 entitled "Intermethod Comparison of Procedures for Nitric Acid and Ammonia", submitted by the California Public Health Foundation, California for a total amount not to exceed $42,604.

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 $42,604.

I hereby certify that the above is a true and correct copy of Resolution 85-41, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-7-3(b)6
DATE: May 23, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 080-11 entitled "Intermethod Comparison of Procedures for Nitric Acid and Ammonia", Principal Investigator: Dr. Bruce R. Appel.

RECOMMENDATION: Adopt Resolution 85-41 approving Proposal No. 080-11 for funding in an amount not to exceed $42,604.

SUMMARY: The primary objective of this project is to participate in an ARB-sponsored methods comparison study for airborne gas and particle phase nitrogenous species in the South Coast Air Basin. Twelve groups, sponsored by private and government agencies, have been contacted concerning participation in this seven to ten day study which will be conducted in late summer 1985. The purpose of the methods comparison study is to determine measurement methods for species such as nitric acid, ammonia and particulate nitrate, which can be used in a multi-station monitoring mode in the two-year Southern California air quality field study, whose validity, accuracy and precision are known.

The contractor will measure, concurrently with other investigators, nitric acid and ammonia, in order to assess measurement accuracy. The semi-continuous tungstic acid technique (TAT) and the denuder difference method will be used for nitric acid, and dual filter techniques and denuder tubes will be employed for collection of ammonia. The contractor will also measure NOx using chemiluminescence, and fine particle nitrate using nylon filters. These different analytical methods for airborne nitrogenous species will be compared with other direct optical techniques in the methods comparison study.

BUDGET SUMMARY

California Public Health Foundation

"Intermethod Comparison of Procedures

for Nitric Acid and Ammonia"

BUDGET ITEMS:

Salaries	$21,390	
Benefits	5,348	
Supplies*	6,835	
Other Costs	0	
Travel	2,320	
TOTAL, Direct Costs		$35,893
TOTAL, Indirect Costs		6,711
TOTAL PROJECT COST		$42,604**

* The expenditure of $6,835 for supplies includes $5,000 required to purchase liquid nitrogen, calibration gas cylinders and other supplies to be used by the investigators in the methods comparison study. The ARB (and not the contractor) would purchase these materials to avoid overhead charges.

** The actual amount of the contract with the California Public Health Foundation will be $37,604 ($42,604-$5,000).

State of California
AIR RESOURCES BOARD

Resolution 85-42
May 23, 1985

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 85-11, entitled "Intercomparison Study of Nitric Acid and Nitrogen Dioxide using Tunable Diode Laser Absorption Spectrometry", has been submitted by Unisearch Associates, Inc.;

WHEREAS, the Research Division 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 85-11 entitled "Intercomparison Study of Nitric Acid and Nitrogen Dioxide using Tunable Diode Laser Absorption Spectrometry", submitted by Unisearch Associates, Inc. for a total amount not to exceed $43,392.

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 85-11 entitled "Intercomparison Study of Nitric Acid and Nitrogen Dioxide using Tunable Diode Laser Absorption Spectrometry", submitted by Unisearch Associates, Inc. for a total amount not to exceed $43,392.

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 $43,392.

I hereby certify that the above is true and correct copy of Resolution 85-42, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-7-3(b)7
DATE: May 23, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 085-11 entitled "Intercomparison Study of Nitric Acid and Nitrogen Dioxide using Tunable Diode Laser Absorption Spectrometry", Principal Investigator: Dr. Harold I. Schiff.

RECOMMENDATION: Adopt Resolution 85-42 approving Proposal No. 085-11 for funding in an amount not to exceed $43,392.

SUMMARY: The primary objective of this project is to participate in an ARB-sponsored methods comparison study for airborne gas and particle phase nitrogenous species in the South Coast Air Basin. Twelve groups, sponsored by private and government agencies, have been contacted concerning participation in this seven to ten day study which will be conducted in late summer 1985. The purpose of the methods comparison study is to determine measurement methods for species such as nitric acid, ammonia and particulate nitrate, which can be used in a multi-station monitoring mode in the two-year Southern California air quality field study, whose validity, accuracy and precision are known.

The contractor will make measurements of nitric acid and other gas phase nitrogenous species with a tunable diode laser absorption spectrometer system mounted in a mobile laboratory. The method is based on a very high resolution absorption spectrometry and will be used as a standard method against other, less direct, analytical measurement techniques.

BUDGET SUMMARY

Unisearch Associates, Inc.

"Intercomparison Study of HNO_3 and NO_2 using Tunable Diode Laser Absorption Spectrometry"

BUDGET ITEMS:

Salaries	$12,176	
Benefits and Overhead	9,741	
Supplies	0	
Other Costs	500	
Travel*	12,030	
Equipment	5,000	
TOTAL, Direct Costs		$39,447
TOTAL, Indirect Costs		3,945
TOTAL PROJECT COST		$43,392

* Includes $7950 for round trip transportation of mobile laboratory from Canada

State of California
AIR RESOURCES BOARD

Resolution 85-43
May 23, 1985

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 solicited research proposal, Number 1330-116, entitled "Development of an Analyzer for Exhaust From Methanol/Hydrocarbon-Fueled Motor Vehicles", has been submitted by Global Geochemistry Corporation;

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

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

> Proposal Number 1330-116, entitled "Development of an Analyzer for Exhaust From Methanol/Hydrocarbon-Fueled Motor Vehicles", submitted by Global Geochemistry Corporation for a total amount not to exceed $69,557.

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 1330-116, entitled "Development of an Analyzer for Exhaust From Methanol/Hydrocarbon-Fueled Motor Vehicles", submitted by Global Geochemistry Corporation for a total amount not to exceed $69,557.

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 $69,557.

I certify that the above is a true and correct copy of Resolution 85-43 as passed by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 85-44
May 23, 1985

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 solicited research proposal, Number 1321-116, entitled "Development of Inspection and Maintenance Procedures for Diesel-Powered Heavy-Duty Vehicles", has been submitted by Radian Corporation;

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

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

> Proposal Number 1321-116, entitled "Development of Inspection and Maintenance Procedures for Diesel-Powered Heavy-Duty Vehicles", submitted by Radian Corporation for a total amount not to exceed $99,798.

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 1321-116, entitled "Development of Inspection and Maintenance Procedures for Diesel-Powered Heavy-Duty Vehicles", submitted by Radian Corporation for a total amount not to exceed $99,798.

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 $99,798.

I certify that the above is a true and correct copy of Resolution 85-44 as passed by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 85-45
May 23, 1985

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 solicited research proposal, Number 1326-115, entitled "Survey of Heavy-Duty Diesel Engine Rebuilding, Reconditioning, and Remanufacturing Practices", has been submitted by Sierra Research;

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

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

> Proposal Number 1326-115, entitled "Survey of Heavy-Duty Diesel Engine Rebuilding, Reconditioning, and Remanufacturing Practices", submitted by Sierra Research for a total amount not to exceed $49,790.

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 1326-115, entitled "Survey of Heavy-Duty Diesel Engine Rebuilding, Reconditioning, and Remanufacturing Practices", submitted by Sierra Research for a total amount not to exceed $49,790.

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 $49,790.

I certify that the above is a true and correct copy of Resolution 85-45 as passed by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 85-46
May 23, 1985

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 solicited research proposal, Number 1329-116, entitled "Assessment of Fugitive Emissions of Photochemically Reactive Organic Compounds from Petroleum Refinery Operation", has been submitted by Radian Corporation;

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

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

> Proposal Number 1329-116, entitled "Assessment of Fugitive Emissions of Photochemically Reactive Organic Compounds From Petroleum Refinery Operations", submitted by Radian Corporation for a total amount not to exceed $149,969.

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 1329-116, entitled "Assessment of Fugitive Emissions of Photochemically Reactive Organic Compounds From Petroleum Refinery Operations", submitted by Radian Corporation for a total amount not to exceed $149,969.

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 $149,969.

I certify that the above is a true and correct copy of Resolution 85-46 as passed by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 85-47
May 23, 1985

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 solicited research proposal, Number 1332-116, entitled "Study of Vinyl Chloride Formation", has been submitted by Battelle Pacific Northwest Laboratories;

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

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

> Proposal Number 1332-116, entitled "Study of Vinyl Chloride Formation", submitted by Battelle Pacific Northwest Laboratories for a total amount not to exceed $179,999.

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 1332-116, entitled "Study of Vinyl Chloride Formation", submitted by Battelle Pacific Northwest Laboratories for a total amount not to exceed $179,999.

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 $179,999.

I certify that the above is a true and correct copy of Resolution 85-47 as passed by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 85-48
May 23, 1985

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 solicited research proposal, Number 1313-116, entitled "Development of Methods for Estimating PM_{10} Concentrations from Emissions in California", has been submitted by the Desert Research Institute, University of Nevada System;

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

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

> Proposal Number 1313-116, entitled "Development of Methods for Estimating PM_{10} Concentrations from Emissions in California", submitted by the Desert Research Institute, University of Nevada System for a total amount not to exceed $78,873.

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 1313-116, entitled "Development of Methods for Estimating PM_{10} Concentrations from Emissions in California", submitted by the Desert Research Institute, University of Nevada System for a total amount not to exceed $78,873.

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 $78,873.

I certify that the above is a true and correct copy of Resolution 85-48 as passed by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 85-49
May 23, 1985

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 1301-113, entitled "Interaction of O_3 with Salinity on Vegetation", has been submitted by the University of California, Riverside;

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

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

> Proposal Number 1301-113, entitled "Interaction of O_3 With Salinity on Vegetation", submitted by the University of California, Riverside for a total amount not to exceed $59,911.

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 1301-113, entitled "Interaction of O_3 With Salinity on Vegetation", submitted by the University of California, Riverside for a total amount not to exceed $59,911.

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 $59,911.

I certify that the above is a true and correct copy of Resolution 85-49 as passed by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 85-50
May 23, 1985

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 unsolicited research proposal, Number 1308-115, entitled "Maintain and Operate California Air Resources Board Field Fumigation Facility for Experimental Use", has been submitted by the University of California, Riverside;

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

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

> Proposal Number 1308-115, entitled "Maintain and Operate California Air Resources Board Field Fumigation Facility for Experimental Use", submitted by the University of California, Riverside for a total amount not to exceed $41,030.

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 1308-115, entitled "Maintain and Operate California Air Resources Board Field Fumigation Facility for Experimental Use", submitted by the University of California, Riverside for a total amount not to exceed $41,030.

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 $41,030.

I certify that the above is a true and correct copy of Resolution 85-50 as passed by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 85-51
May 23, 1985

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 1336-116 , entitled "Southern California Regional Air Pollution Study", has been submitted by the Air and Industrial Hygiene Laboratory, California Department of Health Services;

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

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

> Proposal Number 1336-116, entitled "Southern California Regional Air Pollution Study", submitted by the Air and Industrial Hygiene Laboratory, California Department of Health Services for a total amount not to exceed $149,993.

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 1336-116, entitled "Southern California Regional Air Pollution Study", submitted by the Air and Industrial Hygiene Laboratory, California Department of Health Services for a total amount not to exceed $149,993.

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 $149,993.

I certify that the above is a true and correct copy of Resolution 85-51 as passed by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 85-52
May 23, 1985

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 1337-116, entitled "Research and Development of Methods for the Engineering Evaluation and Control of Toxic Airborne Effluents", has been submitted by the University of California, Davis;

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

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

> Proposal Number 1337-116, entitled "Research and Development of Methods for the Engineering Evaluation and Control of Toxic Airborne Effluents", submitted by the University of California, Davis for a total amount not to exceed $82,951.

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 1337-116, entitled "Research and Development of Methods for the Engineering Evaluation and Control of Toxic Airborne Effluents", submitted by the University of California, Davis for a total amount not to exceed $82,951.

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 $82,951.

I certify that the above is a true and correct copy of Resolution 85-52 as passed by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 85-53
May 23, 1985

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 1338-116, entitled "Effects of Ambient Air Pollution on the Lung and Immune System", has been submitted by the Professional Staff Association, Los Angeles County/University of Southern California Medical Center;

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

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

> Proposal Number 1338-116, entitled "Effects of Ambient Air Pollution on the Lung and Immune System", submitted by the Professional Staff Association, Los Angeles County/University of Southern California Medical Center for a total amount not to exceed $117,935.

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 1338-116, entitled "Effects of Ambient Air Pollution on the Lung and Immune System", submitted by the Professional Staff Association, Los Angeles County/University of Southern California Medical Center for a total amount not to exceed $117,935.

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 $117,935.

I certify that the above is a true and correct copy of Resolution 85-53 as passed by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 85-54
May 23, 1985

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 proposed program plan, Number 1309-116, entitled "Crop Loss From Air Pollutants Assessment Program", has been submitted by the University of California, Riverside;

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

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

> Proposal Number 1309-116, entitled "Crop Loss From Air Pollutants Assessment Program", submitted by the University of California, Riverside for a total amount not to exceed $97,972.

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 1309-116, entitled "Crop Loss From Air Pollutants Assessment Program", submitted by the University of California, Riverside for a total amount not to exceed $97,972.

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 $97,972.

I certify that the above is a true and correct copy of Resolution 85-54 as passed by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 85-55

May 24, 1985

Agenda Item No: 85-8-3

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 Section 43000 of the Health and Safety Code, the Legislature has declared that the emission of air pollutants from motor vehicles is the primary cause of air pollution in the state and, in Sections 39002 and 39003 of the Health and Safety Code, has charged the Air Resources Board with the responsibility for systematically attacking the serious air pollution problem caused by motor vehicles;

WHEREAS, Section 43107 of the Health and Safety Code authorizes the Board to adopt emission standards for new 1977 and later model year motorcycles sold in California;

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;

WHEREAS, the Board has adopted "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Liquefied Petroleum Gas- or Gasoline-Powered Motor Vehicles" (Evaporative Test Procedures), incorporated by reference in Section 1976, Title 13, California Administrative Code;

WHEREAS, in Section 1958, Title 13, California Administrative Code, the Board has adopted exhaust emission standards and test procedures for motorcycles;

WHEREAS, the Evaporative Test Procedures specify an evaporative emissions standard of 2.0 grams per test for 1986 and subsequent model year Class III motorcycles;

WHEREAS, on October 26, 1984, the Harley-Davidson Motor Co. petitioned the Board to amend Section 1976 and the Evaporative Test Procedures to continue the currently applicable 6.0 grams per test evaporative emission standard through the 1988 model year for small volume manufacturers of Class III motorcycles;

WHEREAS, at its public meeting on February 21, 1985, the Board decided to consider further the Harley-Davidson petition and directed the staff to prepare a regulatory proposal addressing Harley-Davidson's concerns;

WHEREAS, the Board directed the staff to review and, if necessary, propose amendments to the evaporative emission test procedures to enable small volume manufacturers to certify more easily Class III motorcycles for sale in California;

WHEREAS, the staff has proposed amendments to Section 1976, Title 13, California Administrative Code, and the incorporated Evaporative Test Procedures, which would continue for model years 1986 through 1988 the 6.0 grams per test evaporative emission standard for Class III motorcycle manufacturers selling less than 5,000 new motorcycles per year in California, specify optional test procedures for manufacturers of Class III motorcycles selling less than 500 units per year in California, and establish reporting requirements for small volume manufacturers certifying to the 6.0 grams per test standard;

WHEREAS, the California Environmental Quality Act and Board regulations require that no project having significant adverse enviromental impacts be adopted as originally proposed if feasible alternatives or mitigation measures are available to reduce or 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 I, Division 3, Title 2 of the Government Code;

WHEREAS, the Board finds that:

Some small volume manufacturers of Class III motorcycles are expected to require up to three additional years of lead time to develop or buy the technology necessary to meet a 2.0 grams per test evaporative emission standard;

The technology exists and is available for small volume manufacturers to meet the current Class III motorcycle 6.0 grams per test evaporative emission standard;

The proposed optional test procedures would reduce certification costs for manufacturers selling less than 500 units annually in California, who would otherwise face financial hardship in attempting to certify their motorcycles for sale in California;

An adverse environmental impact of 0.01 tons per day of hydrocarbons will result from this proposal, due to the certification of motorcycles which could not be certified under the existing standard;

Limitation of the 6.0 grams per test standard to small volume manufacturers and to a three-year period, and limitation of the reduced testing requirements to manufacturers selling less than 500 units per year in California will mitigate the adverse environmental impacts of the proposed amendments; and

The adverse air pollution impact of the propsed amendments cannot be further mitigated, in light of the potentially serious economic effects which would be imposed upon the affected manufacturers and dealers.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves the proposed amendments to Section 1976, Title 13, California Administrative Code and the incorporated Evaporative Test Procedures, as set forth in Attachments A and B hereto.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to adopt the amendments, as set forth in Attachments A and B, after making them available to the public 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 may be appropriate in light of the comments received, and shall present the regulations to the Board for further consideration if he determines that this is warranted.

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 regulations 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 hereby certify that the above is a true and correct copy of Resolution 85-55, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ATTACHMENT A

Amend Section 1976, Title 13, California Administrative Code to read as follows:

1976. Standards and Test Procedures for Fuel Evaporative Emissions from Liquefied Petroleum Gas or Gasoline-Powered Vehicles.

(a) Fuel evaporative emissions from 1970 through 1977 model passenger cars and light-duty trucks are set forth in Title 40, Code of Federal Regulations, Part 85, Subparts A and C, as it existed on June 20, 1973. These standards are enforced in California pursuant to Section 43008 of the Health and Safety Code.

(b) Evaporative emissions for gasoline-powered or 1983 and subsequent liquefied petroleum-gas-powered motor vehicles shall not exceed:

Vehicle Type	Model Year	Hydrocarbons (grams per test)
Passenger Cars Light-Duty Trucks Medium-Duty Vehicles Heavy-Duty Vehicles	1978 and 1979	6.0
Passenger Cars Light-Duty Trucks Medium-Duty Vehicles Heavy-Duty Vehicles	1980 and subsequent	2.0
~~Motorcycles~~ ~~Class I and II (50-279cc)~~ ~~Class III (280 cc and larger)~~	~~1983 and 1984~~ ~~1985 and subsequent~~ ~~1984 and 1985~~ ~~1986 and subsequent~~	~~6.0~~ ~~2.0~~ ~~6.0~~ ~~2.0~~
Motorcycles Class I and II (50-279cc) Class III (280 cc and larger)	1983 and 1984 1985 and subsequent 1984 and 1985 1986 and subsequent	6.0 2.0 6.0 2.0
Class III (280cc and larger) (Optional Standard for Small Volume Manufacturers)	1986-1988	6.0

The standards set forth above shall apply only to those liquefied petroleum gas or gasoline-powered motor vehicles which are subject to exhaust emission standards under this article. For purposes of this section, a small volume manufacturer means a manufacturer which sells less than 5,000 new motorcycles per year in California.

(c) The procedure for determining compliance with these standards is set forth in "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Liquefied Petroleum Gas- or Gasoline-Powered Motor Vehicles," adopted by the State Board on April 16, 1975, as last amended ~~March 9, 1983~~ _____.

(d) Small volume motorcycle manufacturers electing to certify 1986, 1987, or 1988 model-year Class III motorcycles in accordance with the optional 6.0 gram per test evaporative emission standard shall submit, with the certification application, a list of the motorcycle models for which it intends to seek California certification and estimated sales data for such models. In addition, each such manufacturer shall, on or before July 1 of each year in which it certifies motorcycles under the optional standard, submit a report describing its efforts and progress toward meeting the more stringent evaporative emission standards. The report shall also contain a description of the manufacturer's current hydrocarbon evaporative emission control development status, along with supporting test data, and shall summarize future planned development work.

NOTE: Authority cited: Sections 39600, 39601, 43013, 43101, 43104, and 43107, Health and Safety Code. Reference: Sections 39003, 39500, and 43000, Health and Safety Code.

ATTACHMENT B

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 EVAPORATIVE EMISSION STANDARDS AND TEST PROCEDURES FOR 1978 AND SUBSEQUENT MODEL LIQUEFIED PETROLEUM GAS- OR GASOLINE-POWERED MOTOR VEHICLES

ADOPTED: April 16, 1975
AMENDED: May 14, 1975
AMENDED: March 31, 1976
AMENDED: October 5, 1976
AMENDED: November 23, 1976
AMENDED: June 8, 1977
AMENDED: December 19, 1977
AMENDED: October 12, 1979
AMENDED: April 23, 1980
AMENDED: June 26, 1980
AMENDED: June 8, 1981
AMENDED: March 9, 1983
AMENDED: _____

CALIFORNIA EVAPORATIVE EMISSION STANDARDS AND TEST PROCEDURES FOR 1978 AND SUBSEQUENT MODEL LIQUEFIED PETROLEUM GAS- OR GASOLINE-POWERED MOTOR VEHICLES

The provisions of Title 40, Code of Federal Regulations (CFR), Part 86, Subparts A and B, as they pertain to evaporative emission standards and test procedures and as they existed on January 28, 1979 are hereby adopted as the California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Liquefied Petroleum Gas- or Gasoline-Powered Motor Vehicles, with the following exceptions and additions:

1. These standards and test procedures are applicable to all new 1978 and subsequent model gasoline-powered or 1983 and subsequent model liquefied petroleum gas (LPG)-powered passenger cars, light-duty trucks, medium-duty vehicles, heavy-duty vehicles, and motorcycles which are subject to registration and first sold and registered in this state. These standards and test procedures do not apply to motor vehicles which are exempt from exhaust emission certification. The evaporative emission standards for the following class of vehicles are:

Class of Vehicle	Model Year	Hydrocarbons (grams per test)
Passenger Car Light-Duty Trucks Medium-Duty Vehicles Heavy-Duty Vehicles	1978 and 1979	6.0
Passenger Cars Light-Duty Trucks Medium-Duty Vehicles Heavy-Duty Vehicles	1980 and subsequent	2.0
Motorcycles		
Class I and Class II (50-279 cc)	1983 - 1984 1985 and subsequent	6.0 2.0
Class III (280 cc and greater)	1984 - 1985 1986 and subsequent	6.0 2.0
Class III (280cc and greater) (Optional Standard for Small Volume Manufacturers)	1986 - 1988	6.0

2. The definitions in Section 1900, Title 13, California Administrative Code, and in the applicable model year California exhaust emission standards and test procedures, are hereby incorporated into this test procedure by reference.

3. Approval of medium-duty vehicles shall be based on the same standards and test procedures as light-duty trucks. In selecting medium-duty test vehicles, the Executive Officer shall consider the availability of test data from comparably equipped light-duty vehicles and the size of medium-duty vehicles as it relates to the practicability of evaporative emission testing.

4. For all motor vehicles, except motorcycles:

Demonstration of system durability and determination of an evaporative emission deterioration factor (DF) for each evaporative emission engine family shall be based on tests of representative vehicles and/or systems. For purposes of evaporative emission durability testing, a representative vehicle is one which, with the possible exception of the engine and drive train, was built at least three months prior to the commencement of evaporative emission testing, or is one which the manufacturer demonstrates has stabilized non-fuel-related evaporative emissions.

a. For 1978 model evaporative emission engine families which require durability testing for exhaust emissions certification, either

i. Evaporative emission testing shall be conducted on all durability vehicles at the 5,000, 10,000, 20,000, 30,000, 40,000 and 50,000 mile test points. Testing may be performed at more frequent intervals with advance written approval from the Executive Officer. The results of all valid evaporative emission tests within each evaporative emission engine family shall be plotted as a function of mileage, and a least-squares-fit straight line shall be drawn through the data. The evaporative emission DF is defined as the interpolated 50,000 mile value on that line minus the interpolated 4,000 mile value on that line, but in no case shall the factor be less than zero. The interpolated 4,000 and 50,000 mile points on this line must be within the standards of Paragraph 1 or the data will not be acceptable for use in the calculation of a DF, unless no applicable data point exceeded the standard.

OR

ii. The manufacturer shall propose in his preliminary application for approval a method for durability testing and for determination of a DF for each evaporative emission engine family. The 4,000 and 50,000 mile test points (or their equivalent) used in determining the DF must be within the standards of Paragraph 1 or data will not be acceptable for use in the calculation of a DF. The Executive Officer shall review the method, and shall approve it if it meets the following requirements:

A. The method must cycle and test the complete evaporative emission control system for the equivalent of at least 50,000 miles of typical customer use.

B. The method must reflect the flow of liquid and gaseous fuel through the evaporative emission control system, and the exposure (both peak and cyclical) to heat, vibration, and ozone expected through 50,000 miles of typical customer use.

C. The method must have the specifications for acceptable system performance, including maximum allowable leakage after 50,000 miles of typical customer use.

No evaporative emission control system durability testing shall be required for 1978 model year vehicles which do not require exhaust emission control system durability testing, unless the Executive Officer determines that durability performance is likely to be significantly inferior to 1977 model year systems.

b. For 1979 and later model evaporative emission engine families, both (4)(a)(i) and (4)(a)(ii) shall apply to all families selected for exhaust emission durability testing, and (4)(a)(ii) shall apply to those evaporative emission engine families which are not subject to testing for exhaust emission durability. The DF's determined under (4)(a)(i), if any, shall be averaged with the DF's determined under (4)(a)(ii) to determine a single evaporative emission deterioration factor for each evaporative emission engine family.

c. For 1983 and subsequent model year LPG-fueled motor vehicles, the introduction of 40% by volume of chilled fuel and the heating of the fuel tank under the diurnal part of the evaporative test procedures shall be eliminated.

5. Approval of heavy-duty vehicles, excluding medium-duty vehicles, shall be based on an engineering evaluation of the system and data submitted by the applicant. Such evaluation may include successful public usage on light-duty or medium-duty vehicles, adequate capacity of storage containers, routing of lines to prevent siphoning, and other emissions-related factors deemed appropriate by the Executive Officer.

6. For the 1980 model year, the measured evaporative emissions from all test vehicles, except vehicles tested pursuant to paragraph (4) above and motorcycles, shall be corrected for background emissions by subtracting 1.0 grams per test. This correction for background emissions may be extended to include the 1981 model year, on a case-by-case basis, if the Executive Officer finds that a manufacturer has had insufficient lead-time to comply with the April 23, 1980, amendment to this procedure.

7. For the purposes of these test procedures, the following references in 40 CFR, Part 86, Subpart B, to light-duty vehicle evaporative testing shall also apply to motorcycles: 86.117-78, and 86.121-78. In addition, 40 CFR, Part 86, Subparts E, F, and other cited sections of Subpart B are incorporated into this test procedure by reference.

8. Certification of a motorcycle evaporative emission control system requires that the manufacturer demonstrate the durability of each evaporative emission control system family.

   a. The motorcycle manufacturer can satisfy the vehicle durability testing requirement by performing an evaporative emission test at each scheduled exhaust emission test (86.427-78) during the motorcycle exhaust emissions certification test (86.424-78) for each evaporative emission family. The minimum mileage accumulated shall be the total distance (one-half the useful life distance), although the manufacturer may choose to extend the durability test to the useful life distance (86.436-78). The displacement classes and test distances are shown below:

~~a.~~ ~~i.~~

Displacement Class	Engine Displacement Range (CC)	Total Test Distance (km)	Useful Life Distance (km)
I	50-169	6,000	12,000
II	170-279	9,000	18,000
III	280 and greater	15,000	30,000

   i. ~~ii.~~ All durability vehicles shall be built at least one month before the evaporative emissions test, or the manufacturer must demonstrate that the non-fuel related evaporative emissions have stabilized.

   ii. ~~iii.~~ Testing at more frequent intervals than the scheduled exhaust emissions tests may be performed only when authorized in writing by the Executive Officer.

   iii. ~~iv.~~ The DF shall be determined by calculating a least-squares linear regression of the evaporative emissions data with respect to mileage. The DF is defined as the extrapolated (from the regression) value at the useful life distance minus the interpolated value at the total test distance, where these distances are taken from the table in Paragraph (8)(a).

   iv. ~~v.~~ The extrapolated useful life and total test distance emissions shall be less than the applicable evaporative emission standards of Section 1 or the data will not be acceptable for use in the calculation of a DF and demonstration of compliance.

v. ~~vi.~~ Motorcycle manufacturers may use the ARB Component Bench Test Procedures or propose in their application a method for durability bench testing and determination of a DF for each evaporative emission engine family. The Executive Officer shall review the method, and shall approve it if it is similar to the requirements specified in Paragraph (4)(a)(ii). Any reference to 4,000 miles and 50,000 miles in Paragraph (4)(a)(ii) shall mean total test distance and useful life distance, respectively, as defined in Paragraph (8)(a)~~(i)~~ for the appropriate engine displacement class.

vi. ~~vii.~~ The DF determined under Paragraph (8)(a)~~(iv)~~ (iii) shall be averaged with the DF determined under Paragraph (8)(a)~~(v)~~ (v) to determine a single evaporative emission DF for each evaporative emission engine family. For those motorcycles which do not require exhaust emission control system durability testing, the evaporative emission control system DF shall be determined under (8)(a)~~(vi)~~ (v) only. Compliance with the standard shall be demonstrated by performing an evaporative emission test on a stabilized motorcycle. The motorcycle shall have accumulated at least the minimum test distance. The extrapolated useful life distance emissions after applying the bench test-derived DF shall be less than the applicable evaporative emission standards of Section 1.

vii. (A) Manufacturers of Class III motorcycles may elect to use an assigned evaporative emission control system DF, provided they meet the following requirements:

- Annual California motorcycle sales do not exceed 500 units, and
- The evaporative emission control system has been previously certified to meet the emission standards specified in these procedures or the manufacturer provides test data from previous federal certification demonstrating that the system complies with the durability requirements set forth in this section.

(B) Manufacturers of Class III motorcycles using an assigned evaporative emission control system DF pursuant to Subparagraph (8)(a)(vii)(A) may submit a written request for a waiver of evaporative emission testing. The waiver shall be granted if the Executive Officer determines that the motorcycles will comply with the evaporative emission standard. The determination shall be based on the performance of the evaporative emission control system on other motorcycles, the capacity of vapor storage containers, the routing of lines to prevent siphoning, and other emission-related factors determined by the Executive Officer to be relevant to evaluation of the waiver request.

(C) Nothing in this Paragraph shall be construed as an exemption from the exhaust emission standards and test procedures applicable pursuant to Section 1958, Title 13, California Administrative Code, or Subparagraph (8)(c)(ii) of these procedures.

viii. The emission label (86.413-78) shall identify the evaporative emission family.

ix. Preconditioning shall be performed in accordance with 86.532-78. The provisions of 86.132-78 which prohibit abnormal system loading during fueling and setting the dynamometer horsepower using a test vehicle shall be observed. Additional preconditioning (86.132-78, 3) may be allowed by the Executive Officer under unusual circumstances.

b. Instrumentation

The instrumentation necessary to perform the motorcycle evaporative emission test is described in 40 CFR, Section 86.107-78, with the following changes:

i. Revise Section (a)(4) to read: Tank fuel heating system. The tank fuel heating system shall consist of two separate heat sources with two temperature controllers. A typical heat source is a pair of heating strips. Other sources may be used as required by circumstances and the Executive Officer may allow manufacturers to provide the heating apparatus for compliance testing. The temperature controllers may be manual, such as variable transformers, or they may be automated. Since vapor and fuel temperature are to be controlled independently, an automatic controller is recommended for the fuel. The heating system must not cause hot spots on the tank wetted surface which could cause local overheating of the fuel or vapor. Heating strips for the fuel, if used, should be located as low as practicable on the tank and should cover at least 10 percent of the wetted surface. The centerline of the fuel heating strips, if used, shall be below 30 percent of the fuel depth as measured from the bottom of the fuel tank and approximately parallel to the fuel level in the tank. The centerline of the vapor heating strips, if used, should be located at the approximate height of the center of the vapor volume. The temperature controller must be capable of controlling the fuel and vapor temperatures to the diurnal heating profile within the specified tolerance.

ii. Revise Section (a)(5) (Temperature Recording System) to read: In addition to the specifications in this section, the vapor temperature in the fuel tank shall be measured. When the fuel or vapor temperature sensors cannot be located in the fuel tank to measure the temperature of the prescribed test fuel or

vapor at the approximate mid-volume, sensors shall be located at the approximate mid-volume of each fuel or vapor containing cavity. The average of the readings from these sensors shall constitute the fuel or vapor temperature. The fuel and vapor temperature sensors shall be located at least one inch away from any heated tank surface. The Executive Officer may approve alternate sensor locations where the specifications above cannot be met or where tank symmetry provides redundant measurements.

iii. Calibration shall be performed in accordance with 86.516-78, Section b, c(1) and c(3).

c. Test Procedure

i. The motorcycle exhaust emission test sequence is described in 40 CFR 86.530-78 through 86.540-78. The Sealed Housing Evaporative Determination (SHED) test shall be accomplished by performing the diurnal portion of the SHED test (86.133-78 except Sections a(1); K; and p; and neglecting references to windows and luggage compartments) after preconditioning and soak but prior to the "cold" start test. The fuel will be cooled to below 30°C after the diurnal test. The "cold" and "hot" start exhaust emission tests shall then be run. The motorcycle will then be returned for the hot soak portion of the SHED test. This general sequence is shown in Figure B78-10, under 86.130-78. The specified time limits shall be followed with the exception of soak times which are specified in 86.532-78 for motorcycles.

Running loss tests, when necessary, will be performed in accordance with 86.134-78, except references to 86.135-78 through 86.137-78 shall mean 86.535-78 through 86.537-78.

ii. Manufacturers of Class III motorcycles with annual California sales of less than 500 units using an assigned evaporative emission control system DF pursuant to Paragraph (8)(a)(vii) shall measure and report to the Executive Officer exhaust emissions from the CVS test between the diurnal and the hot soak tests even if the test is being conducted for evaporative emissions only. The exhaust emission levels projected for the motorcycle's useful life utilizing the exhaust emission deterioration factor determined during previous federal or California certification testing shall not exceed the standards set forth in Section 1958, Title 13, California Administrative Code.

iii. ~~ii.~~ The fuel and vapor temperatures for the diurnal portion of the evaporative emission test shall conform to the following functions within ± 1.7°C with the tank filled to 50 percent ± 2.5 of its actual capacity, and with the motorcycle resting on

its center kickstand (or a similar support) in the vertical position.

$$T_f = (1/3)\ t + 15.5°C$$

$$T_v = (1/3)\ t + 21.0°C$$

Where: T_f = fuel temperature, °C

T_v = vapor temperature, °C

t = time since the start of the diurnal temperature rise, minutes.

The test duration shall be 60 + 2 minutes, giving a fuel and vapor temperature rise of 20°C. The final fuel temperature shall be 35.5°C + .5°C.
An initial vapor temperature up to 5°C above 21°C may be used. For this condition, the vapor shall not be heated at the beginning of the diurnal test. When the fuel temperature has been raised to 5.5°C below the vapor temperature by following the T_f function, the remainder of the vapor heating profile shall be followed.

iv. ~~iii.~~ An alternate temperature rise for the diurnal test may be approved by the Executive Officer. If a manufacturer has information which shows that a particular fuel tank design will change the temperature rise significantly from the function above, the manufacturer may present the information to the Exeuctive Officer for evaluation and consideration.

v. ~~iv.~~ The hot soak evaporative emission test shall be performed immediately following the "hot" start exhaust emission test. This test is described in 86.138-78, except for item (d) which is revised to require that the motorcycle be pushed with the engine off rather than driven at minimum throttle from the dynamometer to the SHED.

vi. ~~v.~~ Calculations shall be performed in accordance with 86.143-78, except the standard volume for a motorcycle shall be 5 $ft.^3$ instead of 50 ft^3.

d. Motorcycle manufacturers with annual sales of less than 2,000 units for the three displacement classes in California are not required to submit the information specified by these test procedures to the Executive Officer. However, all information required by these test procedures must be retained on file and be made available upon request to the Executive Officer for inspection. These manufacturers shall submit the following information for evaporative emission certification:

i. A brief description of the vehicles to be covered by the Executive Order. (The manufacturer's sales data book or advertising, including specifications, will satisfy this requirement for most manufacturers.)

ii. A statement signed by an authorized representative of the manufacturer stating "The vehicles described herein have been tested in accordance with the provisions of the 'California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Liquefied Petroleum Gas - or Gasoline-Powered Motor Vehicles,' and on the basis of those tests, are in conformance with the aforementioned standards and test procedures."

9. The evaporative emissions for LPG systems shall be calculated in accordance with 86.143-78 except that a H/C ratio of 2.658 shall be used for both the diurnal and hot soak emissions.

Definitions:

Motorcycle Evaporative Emission Family: The group of motorcycle models which meet the criteria of EPA's MSAPC Advisory Circular No. 59, Section D.

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Amendments to the Class III Motorcycle Evaporative Emission Standards and Test Procedures

Agenda Item No.: 85-8-3

Public Hearing Date: May 24, 1985

Response Date: August 16, 1985

Issuing Authority: Air Resources Board

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

Response: N/A

Certified: _____
Board Secretary

Date: 11-13-85

State of California

Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : September 24, 1985

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

From : Harold Holmes
Board Secretary
Air Resources Board

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

Attachments
85-55
85-61(SEI)
85-62

FILED AND POSTED BY
OFFICE OF THE SECRETARY
SEP 24 1985
Resources Agency of California

State of California
AIR RESOURCES BOARD

Resolution 85-56

May 24, 1985

WHEREAS, Gordon Duffy has served with great distinction as the Chairman of the Air Resources Board (the "Board") from January 1983 through May 1985;

WHEREAS, as a former State Assemblyman for many years and a former Mayor and Councilman of the City of Hanford, he demonstrated a firm commitment to protect the public health and recognized the importance of local concerns;

WHEREAS, under his strong leadership, and encouraged by his dedication to the cause of clean and healthful air, the Board has launched an important new program to control emissions of toxic air contaminants, obtained added protection from emissions on the Outer Continental Shelf, and enhanced the effectiveness of California's pre-eminent vehicle pollution control program;

WHEREAS, his ready availability to discuss issues with representatives of all segments of the public and government has promoted among industry, environmental groups, and the public generally a cooperative spirit and has resulted in wide acceptance of the Board's actions;

WHEREAS, his willingness to hear all sides of an issue, his balanced judgment and his ability to make difficult decisions have enabled the Board to provide greater flexibility and ease regulatory burdens while at the same time assuring full protection for air quality;

WHEREAS, his personal warmth, his wit, his quick grasp of issues, and his dedication to serving the public have won for him the affection and esteem of his fellow Board members, the staff, and members of the public; and

WHEREAS, he is leaving a long and distinguished career in public service to pursue new challenges in the private sector.

NOW THEREFORE BE IT RESOLVED that the Air Resources Board extends its deepest appreciation to Gordon Duffy for his invaluable contribution to achieving California's clean air goals and wishes him success in his new venture.

Tirso del Junco, M.D., Member

J. Gordon Kennedy, Member

Roberta H. Hughan, Member

Harriett M. Wieder, Member

Betty S. Ichikawa, Member

Andrew Wortman, Ph.D., Member

State of California
AIR RESOURCES BOARD

Resolution 85-57
June 28, 1985

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 solicited research proposal, Number 1318-116(s), entitled "A Proposal to Conduct Tracer and Flow Visualization Experiments to Develop a Relationship Between Overwater Dispersion Parameters and Meteorological Data", has been submitted by Environmental Research and Technology, Inc.;

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

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

> Proposal Number 1318-116(s), entitled "A Proposal to Conduct Tracer and Flow Visualization Experiments to Develop a Relationship Between Overwater Dispersion Parameters and Meteorological Data", submitted by Environmental Research and Technology, Inc. for a total amount not to exceed $199,738.

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 1318-116(s), entitled "A Proposal to Conduct Tracer and Flow Visualization Experiments to Develop a Relationship Between Overwater Dispersion Parameters and Meteorological Data", submitted by Environmental Research and Technology, Inc. for a total amount not to exceed $199,738.

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 $199,738.

I certify that the above is a true and correct copy of Resolution 85-57 as passed by the Air Resources Board.

Harold Holmes, Board Secretary

P R O P O S E D

ITEM NO.:
DATE: June 28, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 1318-166(s) entitled "A Proposal to Conduct Tracer and Flow Visualization Experiments to Develop a Relationship Between Overwater Dispersion Parameters and Meteorological Data".

RECOMMENDATION: Adopt Resolution 85-57 approving Proposal No. 1318-116(s) for funding in an amount not to exceed $199,738.

SUMMARY: The development of oil resources along the California coast will increase emissions of sulfur oxides (SOx), nitrogen oxides (NOx) and hydrocarbons, especially in the region from Port Hueneme in Ventura County to Point Sal in Santa Barbara County.

During certain weather conditions the offshore emissions will produce concentrations of SO_2 and NO_2 at onshore receptors. Mathematical models have traditionally been used to simulate the dispersion of the emissions and to predict the magnitude of the subsequent ground-level concentrations. Predicted concentrations can then be compared to air quality standards, e.g., the California one-hour standard for SO_2 of 0.25 ppm.

The purpose of this study is to satisfy immediate need for improved Gaussian dispersion coefficients and nondimensional coefficients for describing overwater transport during meteorological conditions that are representative of "worst case" conditions, i.e., conditions that result in limited dispersion in the horizontal and vertical dimensions. The coefficients will be used in existing dispersion models.

This study will be the first phase of a two-phase project, the second phase to be funded during FY 85-86 upon successful completion of Phase I.

Phase I will consist of the following tasks: (1) program management; (2) meteorological forecasting and analyses; (3) ten tracer studies and meteorological measurements; (4) preliminary processing of the data to include quality assurance, time averaged values for sigma Y and sigma Z, tabulation of all tracer and

meteorological data, and meteorological analysis of each test day.

Phase II of the project will consist of the following tasks: (1) ten tracer studies and meteorological measurement during weather regimes selected as a result of Phase I; (2) preliminary analysis of data accumulated in Phase II, Task 1. (see Phase I, Task 4); (3) final analysis of all data from Tasks I and II to develop the parameters required for improved plume modeling as identified by the original RFP; and (4) final report.

The Research Screening Committee recommended funding the proposal from Environmental Research and Technology, Inc. Mr. Daniel Godden and Dr. Steven Hanna will serve as co-principal investigators.

BUDGET SUMMARY

Environmental Research and Technology, Inc.

"A Proposal to Conduct Tracer and Flow Visualization Experiments to Develop a Relationship Between Overwater Dispersion Parameters and Meteorological Data"

BUDGET ITEMS:

Salaries	$21,535	
Subcontracted Items	87,452*	
Equipment	5,950	
Transportation/ Per Diem	5,347	
Other Costs	44,312	
TOTAL, Direct Costs		$164,596
TOTAL, Indirect Costs		35,142
TOTAL PROJECT COST		$199,738

*

Tracer Technology	$ 74,176
Tethersonde	5,880
Communication Services	1,936
Pacific Weather Analysis	2,400
Technician	3,060

State of California
AIR RESOURCES BOARD

Resolution 85-58
June 28, 1985

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 1340-117, entitled "ARB Nitrogen Species Methods Comparison Study--Program Manager", has been submitted by the University of California, Los Angeles;

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

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

> Proposal Number 1340-117, entitled "ARB Nitrogen Species Methods Comparison Study--Program Manager", submitted by the University of California, Los Angeles for a total amount not to exceed $39,108.

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 1340-117, entitled "ARB Nitrogen Species Methods Comparison Study--Program Manager", submitted by the University of California, Los Angeles for a total amount not to exceed $39,108.

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 $39,108.

I certify that the above is a true and correct copy of Resolution 85-58 as passed by the Air Resources Board.

Harold Holmes, Board Secretary

P R O P O S E D

ITEM NO.:
DATE: June 28, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 1340-117 entitled "ARB Nitrogen Species Methods Comparison Study -- Program Manager".

RECOMMENDATION: Adopt Resolution 85-58 approving Proposal No. 1340-117 for funding in an amount not to exceed $39,108.

SUMMARY: The Air Resources Board is sponsoring a multi-year, integrated air quality study in the South Coast Air Basin, which is scheduled to begin in July 1986. The overall objective of that program is to develop a comprehensive meteorological and aerometric data base for improved air quality simulation models for PM_{10} and oxidants in the South Coast Air Basin. An important component of the field study will be the accurate measurement of nitrogenous species in a multi-station network mode. Therefore, it is necessary to perform a nitrogen species methods comparison study in Los Angeles, the major objective of which will be to determine measurement methods for species such as nitric acid, ammonia and particulate nitrate, which can be used in a multi-station monitoring mode in Los Angeles, whose validity, accuracy and precision are known.

This proposal is to coordinate and assist the Research Division of the ARB in a field intercomparison of measurement methods for nitrogenous compounds in the South Coast Air Basin. More than 12 groups, including researchers from the Canadian Atmospheric Environment Service and U.S. Environmental Protection Agency, will be participating in a 7-10 day field sampling study in early September 1985. The major emphasis of the study will be to validate simple and inexpensive methods for sampling nitric acid.

The proposed effort consists of four tasks: 1) experimental design, site preparation and protocol development; 2) study management; 3) data retrieval; and 4) data analysis and report preparation. The contractor will work under the direct supervision of the Research Division staff in coordinating this major methods comparison study.

State of California
AIR RESOURCES BOARD

Resolution 85-59
July 26, 1985

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

WHEREAS, an unsolicited research proposal, Number 91-12, entitled "Absolute Measurements of Nitric Acid by Kilometer Pathlength FT-IR Spectroscopy and Their Intercomparison with Other Measurement Methods", has been submitted by the Statewide Air Pollution Research Center, U.C. Riverside;

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

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

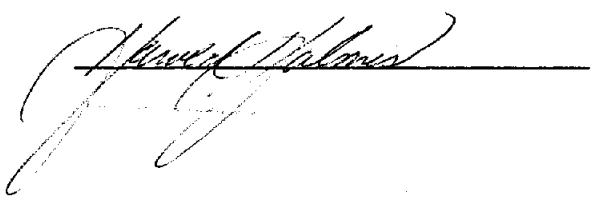
> Proposal Number 91-12, entitled "Absolute Measurements of Nitric Acid by Kilometer Pathlength FT-IR Spectroscopy and Their Intercomparison with Other Measurement Methods", submitted by the Statewide Air Pollution Research Center, U.C. Riverside for a total amount not to exceed $16,375.

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 91-12, entitled "Absolute Measurements of Nitric Acid by Kilometer Pathlength FT-IR Spectroscopy and Their Intercomparison with Other Measurement Methods", submitted by the Statewide Air Pollution Research Center, U.C. Riverside for a total amount not to exceed $16,375.

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 $16,375.

I hereby certify that the above is a true and correct copy of Resolution 85-59 as adopted by the Air Resources Board.



ITEM NO.: 85-11-4(b)1
DATE: July 26, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 91-12 entitled "Absolute Measurements of Nitric Acid by Kilometer Pathlength FT-IR Spectroscopy and Their Intercomparison with Other Measurement Methods," Principal Investigators: Drs. Arthur M. Winer and Ernesto C. Tuazon.

RECOMMENDATION: Adopt Resolution 85-59 approving Proposal No. 91-12 for funding in an amount not to exceed $16,375.

SUMMARY: The Air Resources Board will conduct a study to compare methods of measuring nitrogen species at a central South Coast Air Basin location in September 1985. The major objective of this study is to validate measurement methods for nitric acid and species such as ammonia and particulate nitrate, which can be used in a multi-station monitoring mode in the upcoming Southern California air quality study.

The proponent would make ambient measurements of nitric acid, ammonia, and other gaseous species using a Fourier Transform-Infrared (FT-IR) spectrometer, which will serve as a reference method against which the results from other less direct methods will be compared. Seven days of monitoring are proposed, two of which will be for twenty-four hour periods. Measurements will be obtained from 0600 to 2200 hours on each of the remaining five days. Analysis of the data will be completed within three months after the end of the field study.

BUDGET SUMMARY

Statewide Air Pollution Research Center
University of California, Riverside

"Absolute Measurements of Nitric Acid by Kilometer Pathlength FT-IR Spectroscopy and Their Intercomparison with other Measurement Methods"

BUDGET ITEMS:

Salaries	$6,106	
Benefits	1,595	
Supplies	2,750	
Travel	1,204	
TOTAL, Direct Costs		$11,655
TOTAL, Indirect Costs		4,720
TOTAL PROJECT COST		$16,375

State of California
AIR RESOURCES BOARD

Resolution 85-60
July 26, 1985

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

WHEREAS, an unsolicited research proposal, Number 092-12, entitled "Dry Acid Deposition: Monitoring Technique for Nitric Acid and Particulate Nitrate - Size Distribution of Acidic Particles", has been submitted by Air and Industrial Hygiene Laboratory, California Department of Health Services, Berkeley;

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

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

> Proposal Number 092-12 entitled "Dry Acid Deposition: Monitoring Technique for Nitric Acid and Particulate Nitrate - Size Distribution of Acidic Particles", submitted by Air and Industrial Hygiene Laboratory, California Department of Health Services, Berkeley for a total amount not to exceed $86,863.

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 092-12 entitled "Dry Acid Deposition: Monitoring Technique for Nitric Acid and Particulate Nitrate - Size Distribution of Acidic Particles", submitted by Air and Industrial Hygiene Laboratory, California Department of Health Services, Berkeley for a total amount not to exceed $86,863.

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 $86,863.

I hereby certify that the above is a true and correct copy of Resolution 85-60 as adopted by the Air Resources Board.

ITEM NO.: 85-11-4(b)2
DATE: July 26, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 092-12 entitled "Dry Acid Deposition: Monitoring Technique for Nitric Acid and Particulate Nitrate - Size Distribution of Acidic Particles", Principal Investigator: Dr. Walter John.

RECOMMENDATION: Adopt Resolution 85-60 approving Proposal No. 092-12 for funding in an amount not to exceed $86,863.

SUMMARY:

It has been estimated that dry deposition fluxes in the South Coast Air Basin may be as much as ten times larger than wet deposition fluxes. More precise assessment of acid deposition in California will require the routine monitoring of dry, as well as wet, deposition. It is generally acknowledged that present capabilities to monitor dry deposition in a practical and routine, yet accurate, manner are inadequate. The approach proposed in this research, provided it can be validated, offers promise for a reliable and accurate method for the sampling of dry acid deposition.

The principal objective of the proposed research is to develop and validate a new but rigorous technique to sample dry acids on a routine basis. The sampling approach would use dichotomous samplers (such as those now used on a small scale by the ARB in the PM_{10} network), cyclone samplers, and bubblers to sample nitric acid, fine and coarse particulate nitrate, sulfate, strong acid, ammonium ion and sulfur dioxide.

The approach would be used under field conditions during the upcoming "Intercomparison Studies of Measurement Methods" in September 1985 as well as under controlled conditions in the laboratory. The contractor will also make detailed measurements of the particle size distribution and particle acidity by size during the intercomparison study.

The proposed sampling approach, once it is validated, could prove to be much more suitable for routine monitoring than the current denuder difference methods, which are labor-intensive and time consuming to operate.

BUDGET SUMMARY

Air and Industrial Hygiene Laboratory
California Department of Health Services, Berkeley

"Dry Acid Deposition: Monitoring Technique for Nitric Acid and Particulate Nitrate - Size Distribution of Acidic Particles"

BUDGET ITEMS:

Salaries	$ 43,125	
Benefits	13,962	
Supplies	3,500	
Travel	2,776	
Equipment	0	
Other Costs	3,845	
TOTAL, Direct Costs		$ 67,208
TOTAL, Indirect Costs		19,655
TOTAL PROJECT COST		$ 86,863

State of California
AIR RESOURCES BOARD

Resolution 85-61

July 25, 1985

Agenda Item No.: 85-11-2

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 43101 and 43102 of the Health and Safety Code authorize the Board to adopt and implement emission standards for new motor vehicles and pursuant to these provisions no new motor vehicle shall be certified by the Board unless the vehicle meets the emission standards;

WHEREAS, in 1981 the Legislature amended Section 43102 of the Health and Safety Code to require the Board to adopt certification and enforcement regulations which will allow a manufacturer to certify in California federally certified light-duty motor vehicles which would otherwise be unavailable in this state, provided that their emissions are offset by the manufacturer's California-certified motor vehicles whose emissions are below the California standards;

WHEREAS, the Board in 1982 responded to the legislation by adopting "Guidelines for Certification of 1983 Model Year Federally Certified Light-Duty Motor Vehicles for Sale in California" (the "Guidelines"), and adopted Section 1960.5 and amended Section 2061, Title 13, California Administrative Code, which incorporate the Guidelines;

WHEREAS, in 1983 the Board adopted amendments extending the original Guidelines through the 1987 model year;

WHEREAS, the Board held a public meeting on July 26, 1984 to review the status of the program for certifying federally certified vehicles for sale in California and to assess its environmental impact;

WHEREAS, at the July 26, 1984 public meeting the Board directed the staff to review and, if necessary, propose amendments to the Guidelines which would prevent manufacturers from carrying over year-end emissions deficits, caused by overestimating sales of California vehicles, for successive model years;

WHEREAS, the staff has prepared proposed amendments to the Guidelines and to Sections 1960.5 and 2061, Title 13, California Administrative Code, in order to prevent carry-over of emissions deficits for two or more years;

WHEREAS, the amendments proposed by staff would prohibit a manufacturer from selling in California federal vehicles in a particular vehicle category when the manufacturer has a year-end emissions deficit for the vehicle category, caused by misjudging sales of California vehicles, for two consecutive model years; would require that the deficit be cleared in the 12-month period and identify applicable penalties for deficits which are not cleared in the period; and would make other related 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 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:

It is necessary and appropriate to amend the Guidelines and associated regulations in order to assure that manufacturers refrain from excessive carry-over of emissions deficits for successive model years;

Adoption of the amendments set forth in Attachments A, B, and C will deter manufacturers from overwithdrawal of emissions credits in successive model years and will concurrently provide adequate flexibility for manufacturers to adjust their sales projections to changing market conditions; and

Adoption of the amendments set forth in Attachments A, B, and C will result in no significant adverse environmental impacts.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves the amendments to Section 1960.5, Title 13, California Administrative Code, as set forth in Attachment A; Section 2061, Title 13, California Administrative Code, as set forth in Attachment B; and "Guidelines for Certification of 1983 Model Year Federally Certified Light-Duty Motor Vehicles for Sale in California," as set forth in Attachment C.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to adopt the amendments set forth in Attachments A, B and C 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 finds that the regulations as amended herein, individually and in the aggregate with other California motor vehicle emission regulations, are at least as protective of public health and welfare as comparable federal regulations and are consistent with Section 202(a) of the federal Clean Air Act.

BE IT FURTHER RESOLVED that, to the extent a waiver is necessary, the Executive Officer shall forward the adopted and amended regulations to the Environmental Protection Agency with a request for a waiver of federal preemption or 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 hereby certify that the above is a true and correct copy of Resolution 85-61, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ATTACHMENT A

Amend Section 1960.5, Title 13, California Administrative Code, to read as follows:

1960.5. Certification of 1983 through 1987 Model Year Federally Certified Light-Duty Motor Vehicles for Sale in California.

(a) The exhaust emissions from new 1983 through 1987 model year federally certified passenger cars and light-duty trucks, subject to registration and sold and registered in this state pursuant to Section 43102(b) of the California Health and Safety Code, shall not exceed the applicable federal emissions standards as determined under applicable federal test procedures.

(b) With respect to any new vehicle required to comply with the standards set forth in paragraph (a), the manufacturer's written maintenance instructions for in-use vehicles shall not require scheduled maintenance more frequently than or beyond the scope of maintenance permitted under the test procedures referenced in paragraph (a). Any failure to perform scheduled maintenance shall not excuse an emissions violation unless the failure is related to or causes the violation.

(c) The standards and procedures for certifying in California 1983 through 1987 model year federally certified light-duty motor vehicles are set forth 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 ~~December 15, 1983~~ _____.

NOTE: Authority cited: Sections 39601, 43100 and 43102, Health and Safety Code. Reference: Section 43102, Health and Safety Code.

ATTACHMENT B

Amend Section 2061, Title 13, California Administrative Code, 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 amended August 21, 1984, 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 ~~December 15, 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.

ATTACHMENT C

State of California
AIR RESOURCES BOARD

GUIDELINES FOR CERTIFICATION OF 1983 THROUGH 1987 MODEL YEAR FEDERALLY CERTIFIED LIGHT-DUTY MOTOR VEHICLES FOR SALE IN CALIFORNIA

Adopted: July 20, 1982
Amended: September 16, 1983
Amended: December 15, 1983
Amended: _____

NOTE: These Guidelines are printed to identify in underline and strikeout form proposed changes from the Guidelines as amended December 15, 1983. Modifications to the original staff proposal accompanying the May 28, 1985 notice are shown by double underlines for additions and slashes for deletions. Headings are underlined in the existing Guidelines and are not new additions.

GUIDELINES FOR CERTIFICATION OF 1983 THROUGH 1987 MODEL YEAR FEDERALLY CERTIFIED LIGHT-DUTY MOTOR VEHICLES FOR SALE IN CALIFORNIA

I. APPLICABILITY

These guidelines adopted pursuant to Section 43102(b) of the California Health and Safety Code are applicable to 1983 through 1987 model year federally certified light-duty motor vehicles proposed for sale in California. These guidelines are not applicable to medium-duty trucks, motorcycles, heavy-duty engines, heavy-duty vehicles, emergency vehicles, or vehicles with engines having a displacement less than 50 cubic inches.

II. DEFINITIONS

For the purposes of these guidelines:

1. "Light-duty motor vehicle" means a vehicle having a manufacturer's maximum gross vehicle weight rating of under 6,001 pounds (California Health and Safety Code Section 39035).
2. "California vehicle" means a motor vehicle originally certified in California by an Executive Order.
3. "Equivalent inertia weight (EIW)" is defined under subparagraph 86.129-79(a), Title 40, Code of Federal Regulations.
4. "Federal vehicle" means a motor vehicle originally certified federally by a Certificate of Conformity.
5. "Model" means a unique combination of car line, basic engine, and transmission class, or as defined by a manufacturer with the approval of the Executive Officer.

6. "Car Line" means a name denoting a group of vehicles within a make or car division which has a degree of commonality in construction (e.g., body, chassis). Car line does not consider any level of decor or opulence and is not generally distinguished by characteristics as roof line, number of doors, seats, or windows, except for station wagons or light-duty trucks. Station wagons and light-duty trucks are considered to be different car lines than passenger cars.

7. "Basic Engine" means a unique combination of manufacturer, engine displacement, number of cylinders, fuel system (as distinguished by use of carburetor or fuel injection), and catalyst usage.

8. "Transmission Class" means a group of transmissions having the following common features: basic transmission type (manual, automatic, or semi-automatic), number of forward speeds (e.g., manual four-speed, three-speed automatic, two-speed semi-automatic).

III. CERTIFICATION OF FEDERAL VEHICLES

To receive certification for federal vehicle sales in California, a manufacturer shall:

A. Provide to the Executive Officer evidence of federal certification, and a statement that the model(s) for which certification is requested are not available in California.

B. Provide a warranty on emissions-related parts in accordance with Sections 2035 et seq., Title 13, California Administrative Code, as they apply to vehicles certified under the primary California standards. However, federal vehicles which are offset by California vehicles certified to a 100,000-mile optional standard shall provide a ten-year/ 100,000-mile warranty.

C. Provide: 1) certification emission levels of federal models intended for sale in California, 2) quarterly production reports, by model and engine family, of vehicles intended for sale or sold in California, and 3) other information which the Executive Officer deems necessary to calculate emissions offset credits, emission deficits, or air quality impacts.

D. Label each vehicle on the assembly-line with the statement "conforms to federal regulations and is certified for sale in California" to distinguish federal vehicles certified for sale in California from other federal and California vehicles.

IV. ASSEMBLY-LINE AND ENFORCEMENT TESTING

A. All federal vehicles certified and intended for sale in California shall comply with all provisions of the applicable California Assembly-Line Test Procedures, except that:

1. The Executive Officer, at his or her discretion, may accept quality audit emissions data from other sources in lieu of a 2 percent quality audit of federal vehicle production intended for sale in California.

2. Manufacturers which have projected sales of less than 1,000 federal vehicles per model year in California shall be exempt from the 2 percent quality audit requirement. However, such manufacturers shall submit to the Executive Officer any other similar data which may be available.

3. Data submitted in lieu of 2 percent quality audit data shall be accompanied either by a statement that the data were generated according to California Assembly-Line Test Procedures, or by a description of how the testing and analysis procedures used depart from California Assembly-Line Test Procedures.

4. The Executive Officer, at his or her discretion, may waive the requirement for 100 percent steady state emissions testing of federal vehicles intended for sale in California in cases where lack of test facilities or other factors would place undue burden on vehicle manufacturers.

B. All federal vehicles certified for sale in California shall be subject to the compliance testing requirements of Title 13, California Administrative Code.

V. OFFSETTING PROCEDURE

A. Emissions offsetting shall be limited as follows:

1. By manufacturer. A manufacturer shall not trade, sell, transfer, or in any other manner exchange emissions credits with another manufacturer, except that a manufacturer which supplies engines to a vehicle

manufacturer may also supply offsetting emission credits if the vehicle manufacturer's total production for California is less than 200 units per model year.

2. By vehicle category. Vehicle categories are: (a) passenger cars and (b) light-duty trucks (less than 6,001 pounds gross vehicle weight rating). Emission credits from vehicles in one category shall not offset vehicles in the other category.

3. By fuel type. Offsetting shall be conducted only among vehicles with like fuels (e.g., gasoline to gasoline, diesel to diesel, etc.).

4. By durability option. Federal vehicles which are offset by California vehicles certified to the optional 100,000-mile emissions standards must demonstrate 100,000-mile durability, or the equivalent, subject to the approval of the Executive Officer.

5. By model. No federally certified vehicle shall be certified or sold in California if a comparable California model of the same manufacturer is offered in the same model year.

6. By pollutant. Oxides of nitrogen (NOx) and particulates are the only pollutants which may be offset for passenger cars. Hydrocarbons, carbon monoxide, NOx, and particulates may be offset for light-duty trucks. Particulates may be offset for passenger cars and light-duty trucks only for the 1985 model year.

Evaporative hydrocarbons are not eligible for offsets. Total hydrocarbon data shall be compared directly to non-methane hydrocarbon data for purposes of calculating offsets.

B. Each manufacturer shall submit to the Executive Officer by October 1 of each year, or as soon thereafter as is practicable: (1) an estimate of the emissions credits which it will accrue based upon California certified emissions levels and projected sales of California vehicles; and (2) an estimate of the emissions credits which it will use based upon federal certification emissions levels and estimated sales of federal vehicles in California. These estimates may be changed at any time within the model year, subject to the approval of the Executive Officer. A change shall be deemed approved unless the Executive Officer disapproves the change in writing within 30 days of the Executive Officer's receipt of the change.

C. Within the bounds of Part A, emissions credits that can be accrued by a California certified vehicle shall be the difference between the applicable California standard and the certification emissions level.

$$\text{Estimated Credits} = \sum_{i=1}^{m} \text{Calsales}_i \, (\text{Calstd} - \text{Calcert}_i)$$

Where: m = Number of California engine families certified to a set of California standards (passenger cars, 0-3999 pounds EIW trucks, 4000-5999 pounds EIW trucks) for a given manufacturer.

Calsales = Manufacturer's projected sales by engine family.

Calstd = Applicable California standard.

Calcert = California engine family certification level listed on the Executive Order for the applicable engine family.

D. Within the bounds of Part A, the emissions required to offset a federal vehicle shall be the difference between the federal certification level and the sales-weighted mean certification level of all California engine families (Calmean) as of February 1 of the previous model year for passenger cars or the appropriate light-duty truck group as applicable. If a new standard is implemented, an estimated Calmean shall be determined at 80 percent of the new standard. The estimated Calmean shall be applicable, for the initial model year under the new standard only.

$$\text{Estimated Withdrawals} = \sum_{j=1}^{n} \text{Fedsales}_j \, (\text{Fedcert}_j - \text{Calmean})$$

Where:

n = Number of unavailable passenger car and light-duty trucks by model types.

Fedsales = Estimated sales of unavailable federal model types in California for a given model year.

Fedcert = Federal certification level of the engine family containing the unavailable model. Federal certification level shall be taken as the highest level, for each pollutant, of any emission data vehicle in an engine family.

Calmean = Sales weighted mean certification emission level of all California engine families (industry-wide) within the appropriate standards category.

E. The estimates referred to in Parts B, C, and D shall be ~~corrected-at-year-end~~ updated at the end of the model year production period to final estimates using vehicle production data and, to the extent available, assembly-line emissions data~~,-if-available~~. Within ~~45~~ 60 days after the end of the model year production period, the manufacturer shall submit final estimates for the model year.

F. For the purposes of withdrawals, the 0 to 3,999 lbs. and 4,000 to 5,999 lbs. EIW groups may be combined for light-duty trucks.

G. Manufacturers shall individually be limited to withdrawing the following percentages of accrued credits for offsetting federal vehicles:

Passenger Car NOx	-	8%	
Passenger Car Particulate	-	11%	(1985 model year only
Light-Duty Truck HC	-	74%	
Light-Duty Truck CO	-	17%	
Light-Duty Truck NOx	-	39%	
Light-Duty Truck Particulate	-	45%	(1985 model year only)

H. An emission deficit in the final estimate for a model year ~~caused by withholding sales of California vehicles~~ shall be carried over and offset in the next model year.

I. A manufacturer with an emission deficit, ~~caused by missing sales of California vehicles,~~ for the same vehicle category for two consecutive model years based on final estimates shall not receive certification under these guidelines for any federal vehicles within that vehicle category produced during a 12-month period commencing 15 days after receipt of written notification from the Executive Officer. The manufacturer shall during the 12-month period offset all emissions deficits accumulated for the vehicle category. The manufacturer shall not receive certification under these guidelines for any federal vehicles within the vehicle category produced after the end of the 12-month period but before all of the accumulated emissions deficits are offset. A manufacturer with an emission deficit existing for the vehicle category after the 12-month period shall be subject to a maximum civil penalty of $500 per vehicle pursuant to Section 43016 of the Health and Safety Code. The number of federal vehicles on which the penalty shall be calculated shall be computed as follows:

$$\text{No. of federal vehicles} = \frac{\text{Emission deficit after the suspension period}}{\text{Fed assy - Calmean}}$$

where Fed assy = federal assembly-line or certification emission level of the engine family containing the unavailable model taken as the mean of the engine family quality audit of the preceding model year.

Calmean - sales weighted mean certification emission level of all California engine families within the appropriate standards taken on the preceding model year.

~~I. Sales of federal vehicles in excess of a manufacturer's final estimate shall cause the manufacturer to be subject to a maximum civil penalty of $5,000 per vehicle pursuant to Section 43154 of the Health and Safety Code, regardless of whether or not a deficit was incurred.~~

J. A manufacturer shall be subject to a maximum civil penalty of $5,000 per vehicle pursuant to Section 43154 of the Health and Safety Code under either of the following situations:

a. Sales of federal vehicles in excess of a manufacturer's final estimate regardless of whether or not a deficit was incurred.

b. Sales of federal vehicles which under Section V.I. are not entitled to certification under these guidelines.

~~J.~~ K. Vehicles with engine family certification emission levels which are equal to or less than the appropriate 'Calmean' value are not eligible for offsetting.

State of California

Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : September 24, 1985

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

From : Harold Holmes
Board Secretary
Air Resources Board

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

Attachments
85-55
85-61(SEI)
85-62

FILED AND POSTED BY
OFFICE OF THE SECRETARY
SEP 24 1985
Resources Agency of California

STATE OF CALIFORNIA
Air Resources Board

Resolution 85-62

July 25, 1985

Agenda Item No.: 85-11-3

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 nonvehicular 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 and December 1984 in accordance with the Kapiloff Acid Deposition Act;

WHEREAS, in approving the reports to the Governor and the Legislature, the Scientific Advisory Committee on Acid Deposition, 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 84-38, dated June 21, 1984, the provisions of which are incorporated by reference herein, in which it approved a fee program for fiscal year 1984-85 and stated its intention to consider in 1985 the renewal and modification of the fee program;

WHEREAS, the Air Resources Board staff, in consultation with representatives of local air pollution control districts, has developed a proposed fee program for fiscal year 1985-86;

WHEREAS, in accordance with Health and Safety Code Section 39914, the proposed fee program has been designed to provide to the Air Pollution Control Fund net revenues in fiscal year 1985-86 in an amount which is the least of two million dollars ($2,000,000), or twenty-five one hundredths of one cent ($.0025) per

pound of sulfur or nitrogen oxides emitted from major sources, or the amount appropriated from state funds 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 are based on the most current data available for annual emissions of sulfur or nitrogen oxides from sources emitting 1,000 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 90608-90611, Title 17, California Administrative Code, as set forth in Attachment A.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to adopt the regulations set forth in Attachment A after making them available to the public 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 appropriate in light of the comments received, and shall present the regulations to the Board for further consideration if he determines that this is warranted.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to forward the adopted regulations 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 gives notice of its intention to review the status of the acid deposition research and monitoring program in 1986, and to reconsider at that time the renewal and modification, as necessary, of the

Attachment A

State of California

AIR RESOURCES BOARD

Changes and Errata to ARB staff report dated June 10, 1985, entitled: PUBLIC HEARING TO CONSIDER ADOPTION OF SECTIONS 90608-90611, TITLE 17, CALIFORNIA ADMINISTRATIVE CODE, REGARDING THE ACID DEPOSITION FEE PROGRAM.

July 25, 1985

NOTE: Following publication of the staff's report on June 10, several air pollution control districts submitted minor changes to their previous estimates of emissions which were presented on page 7 of the staff's report and in the proposed regulation. The revised final emission data are shown in the attached table. The staff proposed regulation has also been changed (attachment) to reflect the final emission data reported by the air pollution control districts.

State of California
AIR RESOURCES BOARD

CHANGES AND ERRATA TO

PUBLIC HEARING TO CONSIDER THE ADOPTION OF SECTIONS 90608-90611, TITLE 17, CALIFORNIA ADMINISTRATIVE CODE, REGARDING THE ACID DEPOSITION FEE PROGRAM

Scheduled for Consideration: July 25, 1985
Agenda Item No.:

TABLE 1

1984 SOx AND NOx EMISSIONS
FROM MAJOR SOURCES
FOR 1985-86
ACID DEPOSITION FEE PROGRAM*

DISTRICT	NO. OF SOURCES	EMISSIONS (TONS PER YEAR) SOx	NOx	TOTAL	PROPOSED FEES** ($)
Kern County	14 ~~16~~	18,318 ~~28,330~~	35,620 ~~36,770~~	53,938 ~~65,100~~	269,690 ~~325,500~~
South Coast	16 ~~15~~	10,271	35,941 ~~33,923~~	46,212 ~~44,194~~	231,060 ~~220,970~~
Bay Area	14 ~~12~~	14,099 ~~13,818~~	31,877 ~~27,877~~	45,976 ~~41,695~~	229,880 ~~208,475~~
San Bernardino	7	0	17,779 ~~17,574~~	17,779 ~~17,574~~	88,895 ~~87,870~~
San Luis Obispo	3	4,962 ~~5,918~~	5,868 ~~5,868~~	10,830 ~~11,786~~	54,150 ~~58,930~~
San Diego	2	2,338	3,948	6,286	31,430
Monterey	2	0	5,790	5,790	28,950
Ventura	3	0	4,105	4,105	20,525
Fresno	2	1,598	1,059	2,657	13,285
North Coast	1	1,783	0	1,783	8,915
Stanislaus	1	0	1,335	1,335	6,675
TOTAL	65 ~~64~~	53,369 ~~64,056~~	143,322 ~~138,249~~	196,691 ~~202,305~~	983,455 ~~1,011,525~~

* The original data shown herein reflected the staff's best estimates of emissions and fees as of April 1985, based on information received from local districts. Revisions reflect the incorporation of data reported as final by all districts as of July 15, 1985.

** The proposed fees are based on $5.00/ton of SOx and NOx, including District administrative costs.

ARB/RD
~~6/85~~ 7/85

State of California
AIR RESOURCES BOARD

PUBLIC HEARING TO CONSIDER THE ADOPTION OF SECTION 90608-90611, TITLE 17, CALIFORNIA ADMINISTRATIVE CODE, REGARDING THE ACID DEPOSITION FEE PROGRAM

Scheduled for Consideration: July 25, 1985
Agenda Item No.:

PROPOSED REGULATIONS

Adopt Sections 90608-90611, 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.

90608. General Requirements.

(a) To provide revenue for acid deposition research and monitoring for fiscal year 1985-86, each district identified in Section 90609 shall adopt regulations, with an effective date no later than December 15, 1985, which provide for the collection of fees from the holders of permits for sources which emitted 1000 tons per year or more of either sulfur oxides or nitrogen oxides during the period from January 1, 1984 through December 31, 1984. 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 administrative costs to the district, 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 July 15, 1985, as emitting 1,000 tons per

year or more of sulfur oxides or nitrogen oxides during the period from January 1, 1984 through December 31, 1984, the amount of emissions as determined by the executive officer of the state board on July 15, 1985, shall be used to determine compliance with this limitation and with the fee requirements of Section 90609(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.

90609. Fee Revenues.

(a) No later than March 1, 1986, each district specified in this section shall transmit the amount specified below, less an amount equal to the district's best estimate of or actual administrative costs, to the state board for deposit into the Air Pollution Control Fund:

(1) Kern County Air Pollution Control District: two hundred sixty-nine thousand six hundred ninty dollars (269,690);

(2) South Coast Air Quality Management District: two hundred thirty-one thousand sixty dollars ($231,060);

(3) Bay Area Air Quality Management District: two hundred twenty-nine thousand eight hundred eighty dollars (229,880);

(4) San Bernardino County Air Pollution Control District: eighty-eight thousand eight hundred ninty-five dollars ($88,895);

(5) San Luis Obispo County Air Pollution Control District: fifty-four thousand one hundred fifty dollars ($54,150);

(6) San Diego County Air Pollution Control District: thirty-one thousand four hundred thirty dollars ($31,430);

(7) Monterey Bay Unified Air Pollution Control District: twenty-eight thousand nine hundred fifty dollars ($28,950);

(8) Ventura County Air Pollution Control District; twenty thousand five hundred twenty-five dollars ($20,525);

(9) Fresno County Air Pollution Control District: thirteen thousand two hundred eighty-five dollars ($13,285);

(10) North Coast Unified Air Quality Management District: eight thousand nine hundred fifteen dollars ($8,915);

(11) Stanislaus County Air Pollution Control District: six thousand six hundred seventy-five dollars ($6,675);

(b) In addition to the fees specified in subsection (a) above, a district shall, no later than March 1, 1986:

(1) For any source identified after July 15, 1985, as having emitted 1,000 tons per year or more of sulfur oxides or nitrogen oxides during the period from January 1, 1984 through December 31, 1984, transmit to the state board for deposit into the Air Pollution Control Fund five dollars ($5.00) per ton of such pollutant, less an amount equal to the district's best estimate of or actual administrative costs; and

(2) For any source identified after September 1, 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, for which fees have not been transmitted pursuant to Section 90605(b)(1), transmit to the state board for deposit into the Air Pollution Control Fund five dollars ($5.00) per ton of such pollutant, less an amount equal to the district's best estimate of or actual administrative costs; and

(3) 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, for which fees have not been transmitted pursuant to Section 90605(b)(2), 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.

90610. 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 90609, retain fees in an amount equal to the best estimate of or actual costs incurred by the district in establishing the program, and collecting and transmitting the fees. Each district shall, upon request, submit to the state board within 30 days documentation to substantiate such administrative costs.

(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 90609.

NOTE: Authority cited: Sections 39600, 39601, and 39910, Health and Safety Code. Reference: Sections 39002, 39500, 39600, and 39910-39914, Health and Safety Code.

90611. 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 90609. 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 4, Subchapter 3.5, Chapter 1, Part III, Title 17, California Administrative Code, to read as follows:

Article 4. Fee Program to be Implemented by
Air Pollution Control Districts and Air Quality Management Districts
for Fiscal Year 1986-1987 and Subsequent Years

[Reserved.]

Attachment B

Adopt Sections 90608-90611, 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.

90608. General Requirements.

(a) To provide revenue for acid deposition research and monitoring for fiscal year 1985-86, each district identified in Section 90609 shall adopt regulations, with an effective date no later than December 15, 1985, 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, 1984 through December 31, 1984. 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 administrative costs to the district, 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 July 15, 1985, as emitting 1,000 tons per year or more of sulfur oxides or nitrogen oxides during the period from January 1, 1984 through December 31, 1984, the amount of emissions as determined by the executive officer of the state board on July 15, 1985, shall be used to determine compliance with this limitation and with the fee requirements of Section 90609(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.

90609. Fee Revenues.

(a) No later than March 1, 1986, each district specified in this section shall transmit the amount specified below, less an amount equal to the district's best estimate of or actual administrative costs, to the state board for deposit into the Air Pollution Control Fund:

(1) Kern County Air Pollution Control District: ~~three hundred twenty-five thousand five hundred dollars ($325,500)~~ two hundred sixty-nine thousand six hundred ninety dollars ($269,690);

(2) South Coast Air Quality Management District: ~~two hundred twenty thousand nine hundred seventy dollars ($220,970)~~ two hundred thirty-one thousand sixty dollars ($231,060);

(3) Bay Area Air Quality Management District: ~~two hundred eight thousand four hundred seventy-five dollars ($208,475)~~ two hundred twenty-nine thousand eight hundred eighty dollars ($229,880);

(4) San Bernardino County Air Pollution Control District: ~~eighty-seven thousand eight hundred seventy dollars ($87,870)~~ eighty-eight thousand eight hundred ninety-five dollars ($88,895);

(5) San Luis Obispo County Air Pollution Control District: ~~fifty-eight thousand nine hundred thirty dollars ($58,930)~~ fifty-four thousand one hundred fifty dollars ($54,150);

(6) San Diego County Air Pollution Control District: thirty-one thousand four hundred thirty dollars ($31,430);

(7) Monterey Bay Unified Air Pollution Control District: twenty-eight thousand nine hundred fifty dollars ($28,950);

(8) Ventura County Air Pollution Control District: twenty thousand five hundred twenty-five dollars ($20,525);

(9) Fresno County Air Pollution Control District: thirteen thousand two hundred eighty-five dollars ($13,285);

(10) North Coast Unified Air Quality Management District: eight thousand nine hundred fifteen dollars ($8,915);

(11) Stanislaus County Air Pollution Control District: six thousand six hundred seventy-five dollars ($6,675);

(b) In addition to the fees specified in subsection (a) above, a district shall, no later than March 1, 1986:

(1) For any source identified after July 15, 1985, as having emitted 1,000 tons per year or more of sulfur oxides or nitrogen oxides during the period from January 1, 1984 through December 31, 1984, transmit to the state board for deposit into the Air Pollution Control Fund five dollars ($5.00) per ton of such pollutant, less an amount equal to the district's best estimate of or actual administrative costs; and

(2) For any source identified after September 1, 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, for which fees have not been transmitted pursuant to Section 90605(b)(1), transmit to the state board for deposit into the Air Pollution Control Fund five dollars ($5.00) per ton of such pollutant, less an amount equal to the district's best estimate of or actual administrative costs; and

(3) 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, for which fees have not been transmitted pursuant to Section 90605(b)(2), 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.

90610. 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 90609, retain fees in an amount equal to the best estimate of or actual costs incurred by the district in establishing the program, and collecting and transmitting the fees. Each district shall, upon request, submit to the state board within 30 days documentation to substantiate such administrative costs.

(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 90609.

NOTE: Authority cited: Sections 39600, 39601, and 39910, Health and Safety Code. Reference: Sections 39002, 39500, 39600, and 39910-39914, Health and Safety Code.

90611. 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 90609. 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 4, Subchapter 3.5, Chapter 1, Part III, Title 17, California Administrative Code, to read as follows:

Article 4. Fee Program to be Implemented by
Air Pollution Control Districts and Air Quality Management Districts
for Fiscal Year 1986-1987 and Subsequent Years

[Reserved.]

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Amendments to Regulations Regarding the Certification of Federally Certified Light-Duty Motor Vehicles for Sale in California

Agenda Item No.: 85-11-2

Public Hearing Date: July 25, 1985

Response Date: August 21, 1985

Issuing Authority: Air Resources Board

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

Response: N/A

Certified: _____
Board Secretary

Date: 09-17-85

State of California

Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : September 24, 1985

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

From Harold Holmes
Board Secretary
Air Resources Board

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

Attachments
85-55
85-61(SEI)
85-62

SEP 24 1985

Resources Agency of California

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Adoption of Sections 90608-90611, Title 17, California Administrative Code, Regarding the Acid Deposition Fee Program

Agenda Item No.: 85-11-3

Public Hearing Date: July 25, 1985

Response Date: August 29, 1985

Issuing Authority: Air Resources Board

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

Response: N/A

Certified: _____
Board Secretary

Date: 10-16-85

State of California
AIR RESOURCES BOARD

Resolution 85-63

July 25, 1985

Agenda Item No.: 85-12-3

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

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

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

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

WHEREAS, EDB is ubiquitously emitted from the evaporation and burning of leaded gasoline, is present in the atmosphere in California, and is persistent in the atmosphere;

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

WHEREAS, DHS concluded in its evaluation that EDB is an animal carcinogen and potential human carcinogen; EDB should be treated as a substance without a carcinogenic threshold; health effects other than cancer are not expected to occur at existing ambient levels of EDB; and the added lifetime cancer risk from EDB exposure is estimated to range from 1.02 to 5.53 cases per million per 10 parts per trillion;

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

WHEREAS, upon receipt of the DHS evaluation, staff of the Board prepared a health effects report including and in consideration of the DHS evaluation and recommendations and in the form required by Section 39661 of the Health and Safety Code and, in accordance with the provisions of that section, made the report available to the public and submitted it for review to the Scientific Review Panel (SRP) established pursuant to Section 39670 of the Health and Safety Code;

WHEREAS, in accordance with Section 39661 of the Health and Safety Code, the SRP reviewed the staff health effects report, including the scientific procedures and methods used to support the data in the report, the data itself, and the conclusions and assessments on which the report was based, considered the public comments received regarding the report, and, on May 1, 1985, submitted its written findings to the Board;

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

> EDB is a potent animal carcinogen and should be considered a potential human carcinogen;
>
> EDB should be treated as a carcinogen that may act at all doses without a threshold level;
>
> Health effects, other than cancer, are not anticipated at current ambient EDB exposure levels;

WHEREAS, the SRP found the staff health effects report to be without serious deficiency, and to constitute a reasonable scientific basis for regulatory action regarding EDB, and included in its findings the statement that it agreed that EDB should be listed by the Air Resources Board as a toxic air contaminant to be treated as having no threshold level;

WHEREAS, the SRP recognized that due to the actions of the U.S. Environmental Protection Agency which will limit the use of EDB as a gasoline additive and as a pesticide, emissions of and public exposure to EDB are expected to decrease, and concluded nonetheless that due to the significant toxicity associated with EDB it should be listed as a toxic air contaminant;

WHEREAS, the proposed regulatory amendments will list EDB as a toxic air contaminant, to be treated as having no threshold exposure level below which no significant adverse health effects are anticipated from exposure to EDB in the ambient air, clarify the Board's no threshold determinations regarding toxic air contaminants, and make minor nonsubstantive 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 provisions of Chapter 3.5 (commencing with Section 11340), Part 1, Division 3, Title 2 of the Government Code;

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

EDB is a potent animal carcinogen and a potential human carcinogen;

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

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

EDB is an air pollutant which causes and contributes to an increase in mortality and an increase in serious illness, and poses a hazard to human health; and

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

NOW, THEREFORE BE IT RESOLVED, that the Board approves the proposed regulatory amendments to Section 93000, Title 17, California Administrative Code, as set forth in Attachment A.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to adopt the amendments 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.

I hereby certify that the above is a true and correct copy of Resolution 85-63, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ATTACHMENT A

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

93000. Substances Identified As Toxic Air Contaminants. Each substance identified in this section has been determined by the state board to be a toxic air contaminant as defined in Health and Safety Code Section 39655. ~~Where~~ If the state board has found there to be a threshold exposure level below which no significant adverse health effects are anticipated from exposure to the identified substance, that level is specified as the threshold determination. ~~Where~~ If the board has found there to be no threshold exposure level below which no significant adverse health effects are anticipated from exposure to the identified substance, ~~or where the board has found that there is not sufficient available scientific evidence to support the identification of a threshold exposure level~~ a ~~finding~~ determination of "no threshold" is specified. If the board has found that there is not sufficient available scientific evidence to support the identification of a threshold exposure level, the "Threshold" column specifies "None identified."

Substance	Threshold ~~Determination~~
Benzene (C_6H_6)	~~No threshold~~ None identified.
Ethylene Dibromide ~~($C_2H_4Br_2$)~~ ($BrCH_2CH_2Br$; 1,2-dibromoethane)	~~No threshold~~ None identified.

State of California

Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : August 5, 1985

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

From : Harold Holmes
Board Secretary
Air Resources Board

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

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

FILED
OFFICE
AUG 0 5 1985
Resources Agency of California

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider the Adoption of a Regulatory Amendment Identifying Ethylene Dibromide as a Toxic Air Contaminant

Agenda Item No.: 85-12-2

Public Hearing Date: July 26, 1985

Response Date: August 20, 1985

Issuing Authority: Air Resources Board

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

Response: N/A

Certified: Harold Holmes
Board Secretary

Date: DECEMBER 10, 1985

State of California
AIR RESOURCES BOARD

Resolution 85-64

August 22, 1985

Agenda Item No: 85-13-1

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 state board;

WHEREAS, Health and Safety Code Section 39606(b) requires the Board to adopt standards of ambient air quality 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, Health and Safety Code Section 39607 requires the state board to secure data on air quality in each air basin established by the state board and to monitor air pollutants in cooperation with other agencies;

WHEREAS, the current statewide ambient air quality standards for suspended particulate matter (PM_{10}) of 50 $\mu g/m^3$ (24-hour average) and 30 $\mu g/m^3$ (annual geometric mean), set forth in Title 17, California Administrative Code, Section 70200, specify measurement by a PM_{10} sampler "which collects 50 percent of all particles of 10 micrometers aerodynamic diameter and collects a declining fraction of particles as their diameter increases, reflecting the characteristic lung deposition";

WHEREAS, compliance with the state PM_{10} standard can best be determined by establishing a PM_{10} sampling method;

WHEREAS, the method by which suspended particulate matter (PM_{10}) is measured is an integral part of the standard, as the use of different types of PM_{10} samplers can produce different results;

WHEREAS, for purposes of the state 24-hour sulfur dioxide (SO_2) standard, the referenced suspended particulate matter standard is not the PM_{10} standard but rather the 100 $\mu g/m^3$ total suspended particulate matter standard adopted by the Board in 1969, measured by a high volume sampler;

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, the Board finds that:

Currently available, size selective inlet, high volume (SSI) PM_{10} samplers meet the criteria set forth in the comments to the PM_{10} standard in Title 17, California Administrative Code, Section 70200;

A sampling method should be adopted which sets forth performance specifications, operating and calibration procedures, and calibration methods for PM_{10} samplers;

Other samplers and sampling methods may be used for monitoring purposes if shown to give results equivalent to the specified method at or near the level of the standards;

The definitions for total suspended particulate matter as measured by a high volume sampler and suspended particulate matter (PM_{10}) should be in separate subsections of the regulations in order to differentiate and distinguish between the two definitions; and

The comment in Title 17, California Administrative Code, Section 70200 should be clarified to describe more accurately the PM_{10} particle size distribution by specifying that the PM_{10} sampler collects 50 percent of all particles of 10 microns aerodynamic diameter, a declining fraction of particles as their diameter increases, and an increasing fraction of particles as their diameter decreases;

WHEREAS, the Board finds that the proposed action will be beneficial to the environment by facilitating implementation of the state PM_{10} standard adopted in 1983 and will have no adverse environmental impacts; and

WHEREAS, a public hearing has been held in accordance with the provisions of the Administrative Procedure Act (Government Code Section 11340 et seq.).

NOW, THEREFORE, BE IT RESOLVED that the Board hereby amends the regulations contained in Title 17, California Administrative Code, Sections 70100 and 70200, as set forth in Attachment A, and adopts Method P to be incorporated by reference in Title 17, California Administrative Code, Section 70100(j), as set forth in Attachment B, for determining ambient atmospheric concentrations of suspended particulate matter (PM_{10}).

I hereby certify that the above is a true and correct copy of Resolution 85-64, 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 Amendments to Regulations Regarding Measurement Methods for Determining Ambient Concentrations of Suspended Particulate Matter (PM_{10}) and Related Matters

Agenda Item No.: 85-13-11

Public Hearing Date: July 5, 1985

Response Date: August 22, 1985

Issuing Authority: Air Resources Board

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

Response: N/A

Certified: Harold Holmes
Board Secretary

Date: 01/30/86

ATTACHMENT A

Text of Proposed Amendments to Title 17, California Administrative Code, Sections 70100 and 70200

NOTE: On April 30, 1985, the Board adopted amendments to Title 17, California Administrative Code, Sections 70100 and 70200 as a result of the regulatory review processes required by Assembly Bill 1111 (Stats 1979, ch 567) and by the Governor in 1983. The April 30, 1985 amendments are presently being reviewed by the Office of Administrative Law (OAL) and have not yet become effective.

The attached text of proposed amendments indicates changes from the presently effective language in underline and strikeout form. Copies of the April 30, 1985 amendments are available from the Air Resources Board's Public Information Office, 1102 Q Street, Sacramento, California 95814. The April 30, 1985 amendments did not change either Section 70100(j) or the portion of the table in Section 70200 regarding the sulfur dioxide (SO_2) standard, and amendments to the portion of the table in Section 70200 regarding the suspended particulate matter (PM_{10}) standard only corrected a typographical error contained in the published version of the California Administrative Code. The amendments did change the language in Section 70100(k) through (m), and added new subsections (n), (o) and (p). If the attached amendments are adopted by the Board, the staff will request to OAL that the new subsections added in the April 30, 1985 amendments be lettered (o), (p) and (q), respectively.

Amend Title 17, California Administrative Code, Section 70100, subsections (j) and following, to read as follows:

(j) Suspended Particulate Matter (PM_{10}). Suspended particulate matter (PM_{10}) refers to atmospheric particles, solid or liquid, except uncombined water~~.~~, ~~Atmospheric suspended particulate matter is to be~~ as 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 which collects 50 percent of all particles of 10 μm aerodynamic diameter and which collects a declining fraction of particles as their diameter increases and an increasing fraction of particles as their diameter decreases, reflecting the characteristic of lung deposition. Suspended particulate matter (PM_{10}) is to be measured by the size selective inlet high volume (SSI) PM_{10} sampler method in accordance with ARB Method P, as adopted on August 22, 1985, or by an equivalent PM_{10} sampler method, for purposes of monitoring for compliance with the Suspended Particulate Matter (PM_{10}) standards ~~(PM_{10})~~.

(k) Total Suspended Particulate Matter. Total suspended particulate matter refers to suspended atmospheric particles of any size, solid and liquid, except uncombined water. Total suspended particulate matter is to be measured by the high volume sampler method or by an equivalent method for purposes of monitoring for compliance with the 24-hour Sulfur Dioxide (SO_2) standard.

~~(k)~~ (l) Visibility Reducing Particles. Visibility reducing particles are atmospheric particles in the light scattering size range. The effect of these particles on prevailing visibility is to be determined by direct observation, or by an equivalent method.

~~(l)~~ (m) Hydrogen Sulfide (H_2S). Hydrogen sulfide is a colorless gas having the molecular form H_2S. Atmospheric hydrogen sulfide concentrations are to be measured by the cadmium hydroxide-STRactan method.

~~(m)~~ (n) 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.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code. Reference: Sections ~~39600,~~ 39602~~, and 39607~~ 39606(b), 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
		* * * * *		
Sulfur Dioxide (SO_2)	0.25 ppm** fluorescence method	1 hour	a. Bronchoconstriction accompanied by symptoms, which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma.	The standard is designed to protect against adverse effects from short-term (5-10 min.) peak exposures
	0.05 ppm fluorescence method, with oxidant, (ozone) equal to or greater than the state standard, or with total suspended particulate matter equal to or greater than the state 24-hour suspended particulate matter standard.****	24 hours	a. Will help prevent respiratory disease in children. b. Higher concentrations associated with excess mortality.	a. Further studies on co-carcinogenic role are necessary. b. Does not include effects on vegetation, ecosystems and materials. c. May not include a margin of safety

* * * * *

Suspended Particulate Matter (PM_{10})	$50\mu g/m^3$ PM_{10}**	24-hour sample	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 $10\mu m$ aerodynamic diameter and collects a declining fraction of particles as their diameter increases and an increasing fraction of particles as their diameter decreases, reflecting the characteristic of lung deposition.
	$30\mu g/m^3$ PM_{10}**	24-hour samples, annual geometric mean		
	SSI Method in accordance with ARB Method P			

* * * * *

* 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.

* * * * *

**** The 24-hour suspended particulate matter standard referred to is that adopted by the Board in 1969, of $100\mu g/m^3$ as measured by high volume sampler.

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.

METHOD P

AMBIENT AIR ANALYSIS METHOD FOR DETERMINING AMBIENT ATMOSPHERIC CONCENTRATIONS OF SUSPENDED PARTICULATE MATTER NOMINALLY 10 MICROMETERS OR LESS IN AERODYNAMIC DIAMETER (PM_{10})

1. Principle and Applicability

1.1 Principle

A sampler draws a known quantity of ambient air through an inlet which is designed to admit specified proportions of particles as a function of their aerodynamic diameter. The inlet is designed to mimic the deposition of particulate matter in the human lung.

The particle collection characteristics of an ideal sampler, one which matches the human lung particle deposition characteristics, are outlined in 5.1.j. The particulate matter collected with such a sampler is referred to as suspended particulate matter nominally 10 micrometers or less in aerodynamic diameter, or abbreviated as PM_{10}.

As does the human lung, the ideal sampler collects a declining fraction of particles as their diameter increases and an increasing fraction of particles as their diameter decreases. For example, as can be seen in 5.1.j, all particles less than 1.0 μm in diameter are collected and no particles of 16 or more μm in diameter are collected.

In the ideal sampler, the PM_{10} passes through the inlet and is collected on a filter. The net weight (mass) of particulate matter deposited on the filter is determined as the difference in filter weight before and after sampling. The concentration of PM_{10} is reported as mass of particulate collected per cubic meter of air sampled (micrograms per cubic meter) at normal sea level temperature and pressure (760 torr., 25°C).

1.2 Applicability

This method provides for the measurement in ambient air of the concentration of PM_{10} over a 24-hour period. The measurement process is nondestructive and the sample can be subjected to subsequent physical and chemical analyses.

2. Range

The lower limit of the mass concentration range is limited by the repeatability of filter tare weights, assuming the nominal air sample volume for the sampler. The upper range limit is determined by the point at which the sampler can no longer maintain the required flow. This limit is a complex function of particle type and size distribution which is not readily quantifiable.

3. Interferences

3.1 Loss of Volatile Particles

Volatile particles collected on filter material can be lost during shipment and/or storage of the filters. Filters should therefore be reweighed as soon as possible.

3.2 Artifact Particulate Matter

Filters that meet the alkalinity specifications (Section 6, paragraph 6.4) show little or no artifact sulfate. Loss of true nitrate is dependent on location and temperature but for most locations the errors are expected to be small.

4. Precision and Accuracy

4.1 Precision

The reproducibility of PM_{10} samplers must be within $\pm$ 15 percent of true value at the 95 percent confidence level, as assessed by collocation of samplers.

4.2 Accuracy

Sample accuracy is dependent on sampling effectiveness, flow measurement and calibration. Sampling effectiveness is expressed as the ratio of the mass concentration of particles of a given size reaching the sample filter to the mass concentration of particles of the same size approaching the sampler. The particle size for 50 percent effective- ness is required to be 10 $\pm$ 1 micrometers.

5. Apparatus and Specifications

5.1 PM_{10} Sampler

The sampler shall be designed to:

a. draw the air sample, via reduced internal pressure, into the sampler inlet and through the filter at a uniform face velocity.

b. hold and seal the filter in a horizontal position so that sample air is drawn downward through the filter.

c. allow the filter to be installed and removed conveniently.

d. protect the filter and sampler from precipitation and prevent insects and other debris from being sampled.

e. minimize leaks that would cause error in the measurement of the air volume passing through the filter.

f. discharge exhaust air at a sufficient distance from the sampler inlet to minimize the sampling of exhaust air.

g. minimize the collection of dust from the supporting surface.

h. provide uniform distribution of particulate matter on the filter media such that the deposition on the four quadrants shall agree within 5 percent.

The PM_{10} sampler shall meet the following criteria for sampling effectiveness at windspeeds from 2 to 24 kilometers per hour:

Parameter	Criteria
Liquid Particles	Expected mass concentration is within $\pm$ 10 percent of that predicted by the ideal sampler.
Solid Particles	Expected mass concentration no more than 5 percent above that obtained for liquid particles of the same size.
50 Percent Cutpoint	10 $\pm$ 1 µm aerodynamic diameter
Reproducibility	15 percent coefficient of variation for three collocated samplers.

The sampling effectiveness of the ideal sampler is:

Particle Size (µm)	Sampling Effectiveness
< 1.0	1.000
2.0	0.942
3.0	0.922
4.0	0.893
5.0	0.857
6.0	0.812
7.0	0.759
8.0	0.697
9.0	0.628
10.0	0.551
11.0	0.465
12.0	0.371
13.0	0.269
14.0	0.159
15.0	0.041
$\geq$ 16.0	0.000

The sampler shall operate at a controlled flow rate specified by its designer or manufacturer, and it shall have an inlet system that provides particle size discrimination characteristics meeting all of the specifications in this document. The sampler inlet shall show no significant wind direction dependence. This requirement can generally be satisfied by an inlet shape that is circularly symmetrical about a vertical axis.

The sampler shall provide a means to measure the total flow rate during the sampling period. A continuous flow recorder is recommended. The sampler may be equipped with additional flow measurement devices if it is designed to collect more than one particle size fraction.

The sampler shall have an automatic flow control device capable of adjusting and maintaining the sample flow rate within ±10 percent for the sampler inlet over normal variations in line voltage and filter pressure drop. A convenient means must be provided to temporarily disable the automatic flow control device to allow calibration of the sampler's flow measurement device.

A timing/control device capable of starting and stopping the sampler shall be used to obtain an elapsed run time of 24 ± 1 hour (1440 ± 60 minutes). An elapsed time meter, accurate to within 15 minutes, shall be used to measure sampling time. This meter is optional for samplers with continuous flow recorders if the sampling time measurement obtained by means of the recorder meets the ± 15 minute accuracy specifications.

The sampler shall have an associated operation or instruction manual.

Since proper service and maintenance is critical to obtaining valid data, the user should adopt adequate and documented standard operating procedures.

6. Filters

6.1 Filter Medium

No commercially available filter medium is ideal in all respects for all samplers. The user's goals in sampling determine the relative importance of various filter evaluation criteria (e.g. cost, ease of handling, physical and chemical characteristics, etc.) and consequently determine the choice among acceptable filters. Furthermore, certain types of filters may not be suitable for use with some samplers, particularly under heavy loading conditions (high mass concentrations), because of high or rapid increase in the filter flow resistance that would exceed the capability of the sampler's automatic flow controller. The specifications given below are minimum requirements to insure acceptability of the filter medium for measurement of PM_{10} mass concentrations.

6.2 Collection Efficiency

Greater than 99 percent as measured by DOP test (ASTM-2986) with 0.3 μm particles at the sampler's operating face velocity.

6.3 Integrity

$\pm$ 5 $\mu g/m^3$ (assuming sampler's nominal 24-hour air sample volume), measured as the concentration equivalent corresponding to the difference between the initial and final weights of the filter when weighed and handled under simulated sampling conditions (equilibration, initial weighing, placement on inoperative sampler, removal from sampler, re-equilibration, and final weighing).

6.4 Alkalinity

< 0.005 milliequivalents/gram of filter as measured by ASTM-D202 following at least two months storage at ambient temperature and relative humidity.

7. Procedure

7.1 The sampler shall be operated in accordance with the general instructions given here and with the specific instructions provided in the sampler manufacturer's instruction manual.

Note: This procedure assumes that the sampler's flow rate calibration was performed using flow rates at ambient conditions (Q_a).

7.2 Inspect each filter for pinholes, particles, and other imperfections; establish a filter information record and assign an identification number to each filter. Careful handling of filters between preweighing and post-sampling is necessary to avoid errors due to damaged filters or loss of particulate.

7.3 Equilibrate each filter in the conditioning environment for at least 24 hours.

Filter Conditioning Environment

a. Temperature range: 15 to 30°C

b. Temperature control: $\pm$3°C

c. Humidity: Less than 50 percent relative humidity

7.4 Following equilibration, weigh each filter and record the presampling weight with the filter identification number.

7.5 Analytical Balance

The analytical balance must be suitable for weighing the type and size of filters required by the sampler. The range and sensitivity required will depend on the filter tare weight and mass loading. Typically, an analytical balance with a sensitivity of 0.1 mg is required for high volume SSI samplers (flow rates > 0.5 m^3/min).

7.6 Pre-Run Procedure

a. Air Sample Report - Prior to each run, record on the Air Sample Report: the reporting agency, station address, station name, instrument number and county, site, agency and project codes. Figure P-1 shows an example of the Air Sample Report form.

b. Clean Filter Installation - The clean particulate filter is placed on the sampler and secured in place.

c. Flow Setting - The actual flow rate must be maintained as specified by the manufacturer in order to maintain the 10 µm cut-point of the inlet. This will require special care at elevations greater than 1000 feet above sea level in order to prevent errors due to reduced atmospheric density.

d. Elapsed Time Meter - Record the initial elapsed time meter reading on the Monthly Check Sheet.

7.7 Post-Run Procedure

a. Final Flow Meter Reading - Before removing the filter and flow chart, make sure that the recorder trace shows the final flow. If not, the sampler must be started to determine the final flow.

Remove the flow chart from the recorder and examine the trace for abnormalities. Note and investigate any abrupt changes in air flow. If the start and finish air flows are not representative of your geographic area, note this on the Air Sample Report under "Remarks."

b. Exposed Filter Removal - Grasp the exposed filter without touching the darkened area. Fold it in half width-wise with the darkened side in. A satisfactory filter is one which has a uniform white border. Dark streaks into the border may indicate an air leak which invalidates the sample. If there are insects on the filter, remove them carefully. Note on the Air Sample Report if the filter is torn or ruptured, if pieces of filter are left sticking to the gasket, if the start or finish times are not known, or if the flows are outside the specified range.

Note: A removable filter cartridge may be loaded and unloaded at the station operator's headquarters to avoid contamination and damage to the filter media.

c. Timer and Elapsed Time Meter Check - After each run, check how long the sampler ran by reading the elapsed time meter. Record the final elapsed time meter (ETM) reading. These ETM readings are used in calculating the concentration of collected particulates as they are more accurate than the timer or flow chart times. Adjust the timers to meet the timer acceptance limits of 24 hours $\pm$ 15 minutes.

7.8 Equilibration

Equilibrate the exposed filter(s) in the conditioning environment for 24 hours and immediately after equilibration reweigh the filter(s) and record the weight(s) with the filter identification number(s).

8. Calibration

The Size Selective Inlet High Volume Sampler (SSI) is calibrated by establishing that the air sample velocity is as designed to meet the particle deposition specifications given in Section 5 of this method. The SSI PM_{10} sampler is calibrated using an orifice transfer standard that has been standardized against a primary standard Roots meter. The orifice transfer standard is referenced to 25°C and 760 mm Hg. Two different types of orifice calibrators are available. One type uses multihole adapter plates to vary the flow. The second type has an adjustable flow restrictor. In either case, the calibrator is connected to a differential pressure gauge or slack tube manometer. Pressure drops and indicated flow meter readings are recorded and corrected for elevation, as necessary. Using the pressure drops, the standard (true) flowrates are calculated using the certification equation for the transfer standard. Finally, a working sampler calibration curve of standard flowrate vs. indicated flowrate is plotted. The field calibration procedure assumes that:

- elevations below 1,000 feet are equivalent to standard conditions.

- the effect of temperature on the indicated flowrate is negligible and therefore is not used in the determination of the standard flowrate.

8.1 Apparatus

a. Orifice Calibrator Transfer Standard with certification equation.

(1) A flow rate transfer standard, suitable for the flow rate of the sampler and calibrated against a primary standard that is traceable to NBS, must be used to calibrate the sampler's flow measurement device.

(2) The reproducibility and resolution of the transfer standard must be 2 percent or less of the sampler's operating flow rate.

(3) The flow rate transfer standard must include a means to vary the sampler flow rate during calibration of the sampler's flow measurement device.

b. 0-20" differential pressure gauge or slack tube manometer.

c. Tygon tubing for static pressure connections.

d. Faceplate adapter with "C" clamps.

e. Flow charts for continuous recorder.

f. Calibration report forms.

g. Plastic cap for constant volume sampler sensor.

8.2 "As Is" Calibration

Other than routine daily checks, sampler repairs or adjustments (brush changes, motor replacement, flow recorder changes, etc.) should not be made prior to the "as is" calibration. The sampler should be calibrated after each 800 hours of operation, if the sampler is moved to a different site, or if the initial flow meter reading falls outside of specified tolerance limits.

Note: Some samplers use a closed loop control system to provide constant blower speed and sample flow. The flow sensor is located in the throat of the filter holder assembly. Before calibrating this type of sampler, first cover the flow sensor with a plastic cap. After calibrating, remove the cap.

a. Open the PM_{10} sampler shelter and remove the filter holder. Secure the faceplate adaptor and orifice calibrator; then, tighten down the orifice calibrator. If using a variable resistance calibrator, simply secure the calibrator to the faceplate adaptor and turn the restrictor control fully counterclockwise so that the maximum flow will be obtained. Connect a section of tygon tubing from the orifice tap on the calibrator to one leg of the manometer. Open the other leg so that it is open to the atmosphere. A schematic diagram of a typical sampler flow calibration is shown in Figure P-2.

b. After the sampler has warmed up, turn the motor off and then on and allow the static pressure (ΔP) and indicated flow reading (Qind) to stabilize. Then, read the static pressure (ΔP) and indicated flow readings (Qind). The static pressure is read as the total displacement, in inches, of the manometer water column. Record the static pressure and the indicated flow readings on the PM_{10} Sampler Calibration Data Sheet (see Figure P-4 as an example). Repeat this step twice so that a total of three test runs are performed.

c. Repeat Step b for each of the remaining four load plates. When using the variable resistance calibrator, select four additional points equally spaced around the setpoint determined in Section 7.6 (two points above and two points below; see example in Figure P-4).

d. Remove the orifice calibrator from the sampler. Measure the indicated flow with a clean filter installed in the PM_{10} sampler and record this value on the bottom of the Calibration Data Sheet.

e. On the left side of the Calibration Data Sheet, sum the ΔP readings for each line (Runs 1-3) and record the sum under "SUM ΔP"; then calculate and record the average ΔP for each line (Points 1-5). On the right side of the data sheet, sum the Qind readings for each line (Runs 1-3) and record the sum under "SUM Qind"; then calculate and record the average Qind for each line (Points 1-5).

f. Record the elevation of the sampler on the Calibration Data Sheet. If the elevation is less than 1,000 feet, no altitude correction is required. If the elevation is 1,000 feet or greater, apply an altitude correction factor.

g. Referring to the certification equation and using the corrected ΔP values calculated in f. above (or average ΔP values for locations less than 1,000 feet elevation), determine and record Qstd (transfer standard) for each point, where

$$Qstd = factor \quad Corr \; \Delta P$$

h. Using the data from the Calibration Data Sheet, plot a Calibration Graph Qstd (transfer standard) vs. Qind. Draw a straight line through the plotted points, or, if facilities are available, obtain a linear regression computer plot.

This line represents the working sampler calibration graph for the particular sampler elevation. A sample plot is shown in Figure P-5.

i. Using the tabulated values of average Qind, determine Qprev (PM_{10} Sampler) by referring to the previous sampler calibration curve (Qstd vs. Qind). Find the appropriate value of Qprev from the y-axis corresponding to Qind on the x-axis. Record Qprev on the Calibration Data Sheet for each line (points 1-5).

j. Sum the column Qstd (transfer standard), tabulated on the left side of the Calibration Data Sheet. Record this sum as "S_1".

k. Sum the column Qprev (PM_{10} Sampler), determined in Step i; record this sum as "S_2".

l. Calculate the percent deviation from previous calibration using the equation listed on the bottom of the Calibration Data Sheet. Record the result.

m. Using the sampler calibration graph, convert the clean filter indicated air flow rate to standard air flow rate and record the result on the bottom of the Calibration Data Sheet.

n. Complete a Calibration Report (see Figure P-3). A copy should be kept at the sampling site and in the operating organization's headquarters file.

8.3 "Final" Calibration - A final calibration is required after specified maintenance is performed (brush changes, motor replacement, flow recorder changes, including maintenance to correct the average initial flow meter reading being out of tolerance, or to repeat a sampler calibration graph which is non-linear.

8.4 Blank Forms and Assistance - A sample copy of forms such as blank Calibration Data Sheets, as well as assistance in calibration procedures, can be obtained by contacting:

STATE OF CALIFORNIA
Air Resources Board
Aerometric Data Division
Quality Assurance Section
P. O. Box 2815
Sacramento, CA 95812

9. Calculations

9.1 Determine the average flow rate over the sampling period corrected to reference conditions as Q_{std}.

9.2 Calculate the total volume of air sampled as:

$$V = Q_{std} \times t$$

Where:

V = total air sampled in standard volume units, std m^3;

t = sampling time, min.

9.3 Calculate the PM_{10} concentration as:

$$PM_{10} = \frac{(W_f - W_i) \times 10^6}{V}$$

Where:

PM_{10} = mass concentration of PM_{10}, µg/std m^3;

W_f W_i = final and initial weights of filter(s) collecting PM_{10} particles, g;

10^6 = conversion of g to µg.

State of California

Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : January 27, 1986

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

From : Harold Holmes
Board Secretary
Air Resources Board

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

ATTACHMENTS
85-64
85-65
85-70 and SEI
85-79

FILED AND POSTED BY
OFFICE OF THE SECRETARY

JAN 27 1986

Resources Agency of California

State of California
AIR RESOURCES BOARD

Resolution 85-65

Agenda Item No.: 85-13-2

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 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, two new advisory committees have been established pursuant to legislation regarding California's toxic air contaminants and acid deposition research programs, and other legislation now requires the Board's Training Section Manager to be subject to conflict of interest disclosure requirements;

WHEREAS, Board staff has proposed amendments to Sections 95002 and 95004, Title 17, California Administrative Code, which would (1) add to the Board's designated disclosure categories the members of the Scientific Review Panel on Toxic Air Contaminants and the Scientific Advisory Committee on Acid Deposition, and the Training Section Manager; (2) change the disclosure category of the Research Screening Committee; (3) add the members of the Abrasive Blasting Committee to the Board's designated employees subject to disclosure requirements; and (4) make minor grammatical and clarifying 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:

The amendments to Sections 95002, 95003, 95004, and 95007, Title 17, California Administrative Code, set forth in Attachment A appropriately reflect additions and changes to the designated disclosure categories of the Board's conflict of interest regulations consistent with the requirements of recent legislation and applicable case law;

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 95002, 95003, 95004, and 95007, 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 hereby certify that the above is a true and correct copy of Resolution 85-65, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ATTACHMENT A

Amend Title 17, California Administrative Code, Section 95002(a), to read as follows:

95002. Category I.

(a) Air Resources Board Members, members of the Scientific Review Panel on Toxic Air Contaminants, members of the Scientific Advisory Committee on Acid Deposition, members of the Research Screening Committee, 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, of the Administrative Services Division, and the Training Section Manager of the Administrative Services Division.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code; Sections 82019, 87300 and 87306, Government Code. Reference: Section 87302, Government Code.

Amend Title 17, California Administrative Code, Section 95003(a), to read as follows:

95003. Category II.

(a) Members of the Abrasive Blasting Committee, ~~All~~ all professional employees in and special consultants* attached to the Toxic Pollutants Branch, Project Review Branch and the Strategy Assessment ~~Review~~ Branch of the Stationary Source Division, and the Local Projects Support Branch of the Technical Support Division.

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

Amend Title 17, California Administrative Code, Section 95004(a), to read as follows:

95004. Category III.

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

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

Amend Title 17, California Administrative Code, Section 95007, to read as follows:

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 : January 27, 1986

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

From : Harold Holmes
Board Secretary
Air Resources Board

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

ATTACHMENTS
85-64
85-65
85-70 and SEI
85-79

FILED AND POSTED BY
OFFICE OF THE SECRETARY

JAN 27 1986

Resources Agency of California

State of California
AIR RESOURCES BOARD

Resolution 85-66
September 19, 1985

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 1342-119, entitled "The Effects of Present and Potential Air Pollution on Inportant San Joaquin Valley Crops: Thompson Seedless Grapes and Cotton", has been submitted by the University of California, Riverside;

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

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

> Proposal Number 1342-119, entitled "The Effects of Present and Potential Air Pollution on Important San Joaquin Valley Crops: Thompson Seedless Grapes and Cotton", submitted by the University of California, Riverside for a total amount not to exceed $132,127.

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 1342-119, entitled "The Effects of Present and Potential Air Pollution on Important San Joaquin Valley Crops: Thompson Seedless Grapes and Cotton", submitted by the University of California, Riverside for a total amount not to exceed $132,127.

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 $132,127.

I hereby certify that the above is a true and correct copy of Resolution 85-66 as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 2
DATE: September 19, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 1296-112(a) entitled "Proposal for Additional Effort of Technical Advisory Group for Design of the Southern California Air Quality Field Study."

RECOMMENDATION: Adopt Resolution 85-67 approving Proposal No. 1296-112(a) for funding in an amount not to exceed $8,340.00.

SUMMARY: The proposed effort would augment the current program planning effort for the upcoming Southern California Air Quality Study. Initial meetings between ARB, EPA, the South Coast Air Quality Management District and industry representatives have shown that the interest and participation in the ARB's cooperative air quality study is much greater than originally anticipated, with potential contributions to the study valued at 3 to 3 1/2 million dollars.

The Technical Advisory Group (TAG) for the study, which consists of a group of internationally recognized air quality experts, has been assembled by Sonoma Technology to provide input to the study design. Additional TAG members and an extra participants' workshop have become necessary as a result of the widespread interest shown in the study by other governmental and industry groups. This proposal is to convene an additional workshop for the TAG and all interested groups in the latter phase of the design study. The completion date for this study would not be changed by this augmentation.

The Research Screening Committee recommends funding this augmentation request from the University of California, Los Angeles. The principal investigators are Drs. Sheldon Friedlander and Susanne Hering.

State of California
AIR RESOURCES BOARD

Resolution 85-67
September 19, 1985

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 to Augment Contract A4-114-32, entitled "Proposal for Additional Effort of Technical Advisory Group for Design of the Southern California Air Quality Field Study", has been submitted by Sonoma Technology, Inc.;

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

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

An Augmentation to Contract A4-114-32, entitled "Proposal for Additional Effort of Technical Advisory Group for Design of the Southern California Air Quality Field Study", submitted by Sonoma Technology, Inc. for a total amount not to exceed $8,340.00.

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:

An Augmentation to Contract A4-114-32, entitled "Proposal for Additional Effort of Technical Advisory Group for Design of the Southern California Air Quality Field Study", submitted by Sonoma Technology, Inc. for a total amount not to exceed $8,340.00.

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 $8,340.00.

I hereby certify that the above is a true and correct copy of Resolution 85-67 as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.:
DATE: September 19, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 93-13 entitled "Investigation of the Effects of Acid Deposition Upon California Crops".

RECOMMENDATION: Adopt Resolution 85-68 approving Proposal No. 93-13 for funding in an amount not to exceed $153,518.

SUMMARY: The Kapiloff Act requires the ARB to study the physiological effects of acid deposition upon plants, to develop dose response functions, and to determine the economic consequences of acid deposition upon crops. The proposed research will provide needed information on economically important crops in two of the agricultural areas of the State that are most likely to be affected by acid fogs and acid precursors.

The objectives of the proposal are to identify the metabolic basis for sensitivity of crop species to acidic fogs and to test for interactive effects of acidic fogs and ambient ozone upon these crops. Two experiments would be performed. One experiment would expose carrot, potato, onion, and alfalfa plants to simulated acid fogs that chemically resemble San Joaquin Valley fogs during the winter growing season. A second experiment would expose tomato, pepper, strawberry, and celery plants to simulated fogs that chemically resemble South Coast Air Basin fogs; these plants would also be exposed to ambient ozone concentrations representative of the Basin during spring. These physiological measurements, including net photosynthesis, transpiration, and stomatal resistance, would be recorded during the course of both experiments.

At the end of each experiment, plant weight and elemental composition would also be determined. These physiological measurements would be correlated with any observed plant injury and with the growth measurements.

The physiological measurements should provide useful markers to identify acid fog-injured plants growing under field conditions and will aid in relating damage to yield and growth effects. This information is needed to provide an initial basis for assessing crop loss due to acid deposition in California.

State of California
AIR RESOURCES BOARD

Resolution 85-68
September 19, 1985

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

WHEREAS, an unsolicited research proposal, Number 93-13, entitled "Investigation of the Effects of Acid Deposition Upon California Crops," has been submitted by the University of California, Riverside; and

WHEREAS, the Research Division 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 93-13 entitled "Investigation of the Effects of Acid Deposition Upon California Crops," submitted by the University of California, Riverside for a total amount not to exceed $153,518.

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 93-13 entitled "Investigation of the Effects of Acid Deposition Upon California Crops," submitted by the University of California, Riverside for a total amount not to exceed $153,518.

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 $153,518.

I hereby certify that the above is a true and correct copy of Resolution 85-68 as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

85-69
Missing Resolution

State of California
AIR RESOURCES BOARD

Resolution 85-70

September 19, 1985

Agenda Item No.: 85-14-4

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

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

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

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

WHEREAS, ethylene dichloride (EDC) is ubiquitously emitted from evaporation and burning of leaded gasoline, is emitted by the use of solvents, is present in the atmosphere in California, and is persistent in the atmosphere;

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

WHEREAS, DHS concluded in its evaluation that EDC is an animal carcinogen and potential human carcinogen; EDC should be treated as a substance without a carcinogenic threshold; health effects other than cancer are not expected to occur at existing ambient levels of EDC; and the added lifetime cancer risk from EDC exposure is estimated to range from 53 to 88 cases per million people for each part per billion of lifetime average ambient concentration;

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

WHEREAS, upon receipt of the DHS evaluation, staff of the Board prepared a health effects report including and in consideration of the DHS evaluation and recommendations and in the form required by Section 39661 of the Health and Safety Code and, in accordance with the provisions of that section, made the report available to the public and submitted it for review to the Scientific Review Panel (SRP) established pursuant to Section 39670 of the Health and Safety Code;

WHEREAS, in accordance with Section 39661 of the Health and Safety Code, the SRP reviewed the staff health effects report, including the scientific procedures and methods used to support the data in the report, the data itself, and the conclusions and assessments on which the report was based, considered the public comments received regarding the report, and, on July 17, 1985, submitted its written findings to the Board;

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

> EDC is an animal carcinogen and should be considered a potential human carcinogen;
>
> EDC should be treated as a carcinogen that may act at all doses without any threshold level;
>
> Health effects, other than cancer, are not anticipated at current ambient EDC exposure levels;

WHEREAS, the SRP found the staff health effects report to be without serious deficiency and included in its findings the statement that it is appropriate that EDC should be listed by the Air Resources Board as a toxic air contaminant;

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

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

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

> EDC is an animal carcinogen and should be considered a potential human carcinogen;
>
> Health effects other than cancer are not anticipated at current ambient EDC exposure levels;

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

EDC is an air pollutant which because of its carcinogenicity, may cause and contribute to an increase in mortality and an increase in serious illness, and poses a hazard to human health; and

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

NOW, THEREFORE BE IT RESOLVED, that the Board hereby adopts a regulatory amendment to Section 93000, Title 17, California Administrative Code, as set forth in Attachment A.

I hereby certify that the above is a true and correct copy of Resolution 85-70, as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

ATTACHMENT A

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

93000. Substances Identified As Toxic Air Contaminants. Each substance identified in this section has been determined by the state board to be a toxic air contaminant as defined in Health and Safety Code Section 39655. If the state board has found there to be a threshold exposure level below which no significant adverse health effects are anticipated from exposure to the identified substance, that level is specified as the threshold determination. If the Board has found there to be no threshold exposure level below which no significant adverse health effects are anticipated from exposure to the identified substance, a determination of "no threshold" is specified. If the board has found that there is not sufficient available scientific evidence to support the identification of a threshold exposure level, the "Threshold" column specifies "None identified."

Substance	Threshold
Benzene (C_6H_6)	None identified.
Ethylene Dibromide ($BrCH_2CH_2Br$; 1,2-dibromoethane)	None identified.
Ethylene Dichloride ($ClCH_2CH_2Cl$), 1,2-dichloroethane)	None identified.

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

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider the Adoption of a Regulatory Amendment Identifying Ethylene Dichloride as a Toxic Air Contaminant

Agenda Item No.: 84-14-4

Public Hearing Date: September 19, 1985

Response Date: September 19, 1985

Issuing Authority: Air Resources Board

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

Response: N/A

Certified: Harold Holmes
Board Secretary

Date: 9/10/86

State of California

Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : January 27, 1986

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

From : Harold Holmes
Board Secretary
Air Resources Board

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

ATTACHMENTS
85-64
85-65
85-70 and SEI
85-79

FILED AND POSTED BY OFFICE

JAN 2 , 1986

Resources Agency of California

State of California
AIR RESOURCES BOARD

Resolution 85-71

October 24, 1985

Agenda Item No.: 85-15-1

WHEREAS, Section 39602 of the Health and Safety Code designates the Air Resources Board (the "Board") as the state agency responsible for preparation of the state implementation plan required by the federal Clean Air Act;

WHEREAS, Sections and 39002, 39003, 39500 and 40000 of the Health and Safety Code assign the Board primary responsibility for the control of emissions from motor vehicles;

WHEREAS, Section 43000 of the Health and Safety Code identifies the emission of air pollutants from motor vehicles as the primary cause of air pollution in many parts of the state, and states that the control and elimination of those air pollutants is of prime importance for the protection and preservation of the public health and welfare;

WHEREAS, Section 43012 of the Health and Safety Code authorizes the Board to adopt and implement motor vehicle emission standards;

WHEREAS, currently motor vehicles in customer service on the average do not comply with these emission standards throughout their useful lives;

WHEREAS, certain areas of the state, including the South Coast Air Basin, are not expected to comply with the national ambient air quality standards for ozone and carbon monoxide by the end of 1987, as required by the Clean Air Act;

WHEREAS, the U.S. Environmental Protection Agency ("EPA"), in consultation with the Air Resources Board, has developed a program which requires California to demonstrate to EPA that it is making all reasonable efforts to attain national ambient air quality standards as expeditiously as practicable;

WHEREAS, the ARB staff has recommended that a primary goal of the Board's demonstration of reasonable efforts is to ensure that motor vehicles comply with the emission standards for their useful life in customer service;

WHEREAS, the staff has developed a Reasonable Efforts Program emission reduction goal for motor vehicles and has identified potential motor vehicle control measures which may help to ensure that this goal is attained;

WHEREAS, achieving this goal will reduce motor vehicle emissions of hydrocarbons (a major contributor to ozone formation) and carbon monoxide in the South Coast Air Basin by at least 80 and 870 tons per day, respectively, by the year 2000; and

WHEREAS, additional emission reductions may be achievable through revisions to current emission standards and/or expanded use of cleaner fuels.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves the attached emission reduction goal for motor vehicles and directs the Executive Officer to transmit this policy commitment to appropriate local districts and to the EPA, and to begin to develop control measures for consideration by the Board consistent with this goal.

BE IT FURTHER RESOLVED that the staff is directed to return to the Board with a schedule for the development of specific reduction measures to implement the Reasonable Efforts Program: Proposed Emission Reduction Goals for Motor Vehicles, as required by EPA.

I hereby certify that the above is a true and correct copy of Resolution 85-71, as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

State of California
Air Resources Board

Resolution 85-72

October 24, 1985

Agenda Item No.: 85-15-2

WHEREAS, Health and Safety Code Section 41982 requires the Board, after completing a study on the emissions from incineration of toxic waste materials pursuant to Section 41981, to establish guidelines for the issuance of permits by air pollution control districts for the incineration of hazardous waste materials, in consultation with affected districts and the Department of Health Services, and after public hearings;

WHEREAS, the guidelines are required by Health and Safety Code Section 41982 to take into consideration the following factors, among others:

the characteristics of the toxic waste materials to be incinerated;

the methods or equipment available to minimize or eliminate the emission of air contaminants; and

the applicable federal standards for owners and operators of hazardous waste treatment, storage, and disposal facilities.

WHEREAS, the Board staff have prepared a report titled "District Permit Guidelines for Hazardous Waste Incineration" which contains the proposed guidelines;

WHEREAS, the Board has held a duly noticed public meeting at which it has received and considered public comments as well as the proposed guidelines and the report prepared and presented to it by staff;

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, the District Subcommittee on Incineration, established by the California Air Pollution Control Officers Association Toxics Committee, and the Department of Health Services have actively participated in the development of the guidelines;

WHEREAS, the staff has held two public consultation meetings to receive comments from industry and other interested persons; and

WHEREAS, the Board finds that:

the guidelines take into consideration the characteristics of the toxic waste materials to be incinerated and the methods and equipment available to reduce emissions from their incineration, and accurately address other issues related to emissions from incineration of toxic waste materials, in accordance with the legislative direction;

the guidelines provide specific permit review procedures which will assist the air pollution control districts to evaluate the air pollutant emissions from hazardous waste incineration so that an assessment of potential public health impacts can be made and any such impacts mitigated through the imposition of appropriate permit conditions;

WHEREAS, the Board finds that the proposed guidelines will be beneficial to the environment and will result in no adverse effects;

NOW, THEREFORE, BE IT RESOLVED that the Air Resources Board approves the guidelines set forth in the report, "District Permit Guidelines for Hazardous Waste Incineration," as amended pursuant to the CAPCOA subcommittee recommendations and directs the Executive Officer to forward the report and guidelines to the local air pollution control districts for their use when issuing permits for hazardous waste incineration facilities.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to return to the Board within one year with information regarding the practices of each district in implementing and enforcing the guidelines and district regulatory requirements with regards to the permitting and subsequent operations of hazardous waste incineration facilities.

I hereby certify that the above is a true and correct copy of Resolution 85-72, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 85-73

February 28, 1986

Agenda Item Nos.: 85-15-3
85-18-3
86-2-1

WHEREAS, Health and Safety Code Section 39601 requires the Air Resources Board (the "Board") to adopt 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 39606(b) requires the Board to adopt standards of ambient air quality in consideration 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, Health and Safety Code Section 39606(b) provides that standards relating to health effects shall be based upon the recommendation of the state Department of Health Services;

WHEREAS, the Board periodically reviews existing state ambient air quality standards to ensure that they reflect current scientific knowledge;

WHEREAS, the existing state ambient air quality standard for nitrogen dioxide (NO_2) of 0.25 parts per million (ppm) (470 $\mu g/m^3$) averaged over one hour is based upon evidence of effects at slightly higher levels in experimental animals which implies a risk to the public health, and upon evidence that NO_2 at the standard level produces atmospheric discoloration;

WHEREAS, pursuant to Sections 108 and 109 of the federal Clean Air Act (42 U.S.C. Sections 7401 et seq.), the Environmental Protection Agency (EPA) has adopted national ambient air quality standards for NO_2 based on health and welfare effects; both the primary standard (health protection) and secondary standard (welfare protection) are 100 $\mu g/m^3$ (0.053 ppm) as an annual arithmetic average; there is no national short-term standard;

WHEREAS, the health effects data suggests that short-term peaks in NO_2 levels, as regulated by a one-hour standard, result in the most relevant acute health effects;

WHEREAS, the Board has received and considered a recommendation from the Department of Health Services, dated August 29, 1985, to retain the statewide NO_2 ambient air quality standard;

WHEREAS, the Board, in accordance with the Administrative Procedure Act, Government Code Section 11341 et seq., has held a duly noticed public hearing at which it has received and considered a substantial body of evidence, both written and oral, presented to it by staff, other scientists, industry representatives, and other members of the public relating to the proposed amendment of the standard;

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 Board staff and the Department of Health Services review of health effects literature indicates that the current state NO_2 ambient air quality standard is necessary to afford children and sensitive adults protection against bronchial irritation and to prevent key biochemical and cellular alterations that, while observed in animals, are indicative of adverse health effects in both normal and sensitive individuals;

The present standard also serves to limit the intensity of atmospheric discoloration of NO_2, although intense discoloration of the atmosphere at distances of a few miles will still occur when concentrations of NO_2 reach the level of the present standard;

The text in the "Most Relevant Effects" and "Comments" columns in the existing regulation should reflect the current evidence of the effects of NO_2, and the "Concentration and Methods" column should be amended to clarify that the standard is violated when concentrations exceed those set forth in the body of the regulation; and

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

NOW, THEREFORE, BE IT RESOLVED that the Board hereby retains the existing state ambient air quality standard for NO_2 at 0.25 ppm (470 $\mu g/m^3$) averaged over one hour.

BE IT FURTHER RESOLVED that in determining what control strategies and measures are necessary to attain and maintain the one-hour NO_2 standard, local districts may, in consultation with the Air Resources Board, take into account whether an exceedance of the standard is caused by a rare and exceptional localized meteorological event that may be anticipated to occur only at intervals of many years or by a rare and exceptional breakdown of pollution control equipment, and districts shall not be required to adopt generally applicable control measures to address an exceedance which is caused by such exceptional circumstances.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to adopt the amendments, as set forth in Attachment A, after making them available to the public 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 may be appropriate in light of the comments received, and shall present the regulations to the Board for further consideration if he determines that this is warranted.

I hereby certify that the above is a true and correct copy of Resolution 85-73, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

Amend Section 70200, Title 17, California Administrative Code, to read as follows:

70200. Table of Standards***

Substance	Concentrations and Methods*	Duration of Averaging Periods	Most Relevant Effects	Comments
		* * * * *		
Nitrogen Dioxide	0.25 ppm Gas Phase Chemiluminescence**	1 hour	a. ~~At slightly higher dosage effects are observed in experimental animals, which imply a risk to the public health.~~ May cause aggravation of chronic respiratory disease ~~bronchoconstriction~~ and respiratory symptoms in sensitive groups. b. ~~Produces atmospheric discoloration.~~ Risk to public health is implied by pulmonary and extra-pulmonary biochemical and cellular changes, and pulmonary structural changes, observed in short-term animal tests at or above concentration of the standard. c. An upper limit on adverse effects on welfare, including atmospheric discoloration by NO_2, is imposed.	a. The standard is intended to prevent adverse health effects. b. Contributes to intense discoloration of the atmosphere. ~~At short distances is produced by NO2 at the level of the standard.~~
		* * * * *		

* 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.
*** Applicable statewide unless otherwise noted.

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* * * * *

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.

NOTE: Some of the unamended language shown above differs from that included in the text of the regulation originally made available to the public on November 19, 1984. These differences reflect earlier amendments adopted by the Board which did not become effective until December 27, 1985, after the original proposal was released.

State of California
AIR RESOURCES BOARD

Public Availability of Modified Text

PUBLIC HEARING TO CONSIDER AMENDMENTS TO SECTION 70200, TITLE 17, CALIFORNIA ADMINISTRATIVE CODE, REGARDING THE SHORT-TERM (ONE-HOUR) STATE AMBIENT AIR QUALITY STANDARD FOR NITROGEN DIOXIDE

Public Hearing Date: October 24, 1985
December 19, 1985
February 28, 1986

Public Availability Date: April 14, 1986

At public hearings held October 24, 1985, December 19, 1985, and February 28, 1986 the Air Resources Board (the "Board") considered the adoption of proposed amendments to regulations contained in Section 70200 of Title 17, California Administrative Code, regarding the California ambient air quality standard for nitrogen dioxide (one-hour) and the measurement method specified for nitrogen dioxide (NO_2). After receiving and considering extensive testimony, the Board on February 28, 1986, approved the proposed amendments with modifications to the originally proposed text in response to public comments. The modifications to the originally proposed text are described below.

Attached is a copy of Board Resolution 85-73 approving the proposed amendments with the modifications made by the Board. Attached to the resolution is the approved language as it will appear in Title 17, California Administrative Code, Section 70200, with additions to the original staff proposal shown by double underlining and deletions shown by slashes. (In the original staff proposal, additions are shown by single underlining and deletions are shown by horizontal cross-outs.) In response to comments, the Board approved changing the text of the "Most Relevant Effects" column for NO_2, at letter a., from "Aggravation of bronchoconstriction" to "May cause aggravation of chronic respiratory disease." This text will therefore read as follows: "May cause aggravation of chronic respiratory disease and respiratory symptoms in sensitive groups."

The Board also approved adding the word "is" after the word "health" and before "implied" in the "Most Relevant Effects" column for NO_2, at letter b. This change was made to improve readability and clarity. The text will read: "Risk to public health is implied by pulmonary and extra-pulmonary biochemical and cellular changes, and pulmonary structural changes, observed in short-term animal tests at or above concentration of the standard."

In the "Most Relevant Effects" column for NO_2, at letter c., the Board approved inserting the phrase "by NO_2" after the word "discoloration." The text will read as follows: "An upper limit on adverse effects on welfare, including atmospheric discoloration by NO_2, is imposed". This phrase was added to make it clear that the effects on discoloration were those of NO_2 alone, and not those of aerosols or particles.

Finally, under the "Comments" column for NO_2, the Board approved changing the text in letter b. The Board deleted the word "Intense" and replaced it with the phrase "Contributes to" and deleted all words after "atmosphere". The revised text will read: "Contributes to discoloration of the atmosphere."

In accordance with Section 11346.8 of the Government Code, the Board directed the Executive Officer to adopt the approved regulatory amendments after making them available to the public for comment for a period of at least 15 days, provided that the Executive Officer shall consider written comments received and make minor modifications to the language as appropriate in response to comments, 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.

Comments must be submitted to the Board Secretary, Air Resources Board, P.O. Box 2815, Sacramento, CA 95812 no later than April 29, 1986, for consideration by the Executive Officer.

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Amendments to Section 70200, Title 17, California Administrative Code, Regarding the Short-Term (One-Hour) State Ambient Air Quality Standard for Nitrogen Dioxide

Agenda Item Nos.: 85-15-3
85-18-3
86-2-1

Public Hearing Dates: October 24, 1985
December 19, 1985
February 28, 1986

Response Date: April 29, 1986

Issuing Authority: Air Resources Board

Comment: Staff indicated that changing the basis of determining compliance with the standard from "not to be equalled or exceeded" to "not to be exceeded" has the effect of making the standard itself slightly less stringent.

Response: The level of the ambient standard, and whether monitoring data indicates that it is exceeded in any given area, determines the level of controls which will apply to sources of emissions of the pollutant. The staff report indicated that changing the basis for determining compliance with the standard from "not to be equalled or exceeded" to "not to be exceeded" would not engender significant environmental effects. This is because the health effects data provide no basis for differentiating between health effects associated with a 0.245 ppm concentration (i.e., the value which would be interpreted as a violation of the "not be be equalled or exceeded" standard) and a 0.255 ppm concentration (i.e., the value which would signal a violation of the "not to be exceeded" standard). A review of monitoring data indicates that although some stations would change from "non-compliance" to "compliance", nearby sites would continue to register "non-compliance", thus necessitating the same control strategies as are currently required. No fewer controls are anticipated to be needed in order to meet the standard as currently expressed as would have been needed to meet the standard as previously expressed.

Comment: Gladys Meade, representing the American Lung Association, commented that the Board should retain the existing "not to be equalled or exceeded" method for determining violations of the standard because defining violations on a "not to be exceeded" basis allows more NO_2 in the ambient air, endangering public health.

Response: As the response above indicates, while the effect of the change is to make the standard minutely less stringent, health effects data indicate no basis for differentiating between adverse effects anticipated at the two levels. Further, because the same number and stringency of control measures will be required, no adverse health effects will result from the change. (The Board adopted the "not to be exceeded" basis for determining violations of ambient standards in 1982 in order to conform to federal practice and has applied this policy to all ambient standards considered since that date.)

CERTIFIED: Harold Holmes
Board Secretary

Date: 08-13-86

State of California
AIR RESOURCES BOARD

Resolution 85-74

November 22, 1985

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 1241-106-A2, entitled "Project BASIN (BAsic Studies IN Airflow, Smog and Inversion)", has been submitted by the University of California, Los Angeles;

WHEREAS, the Research Division 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-A2, entitled "Project BASIN (BAsic Studies IN Airflow, Smog and Inversion)", submitted by the University of California, Los Angeles for a total amount not to exceed $6800.

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-A2, entitled "Project BASIN (BAsic Studies IN Airflow, Smog and Inversion)", submitted by the University of California, Los Angeles for a total amount not to exceed $6800.

BE IT FUPTHER 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 $6800.

I hereby certify the above is
a true and correct copy of
Resolution 85-74 as adopted
by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-17-4(b)1
DATE: November 22, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 1241-106-A2 entitled "Project BASIN (BAsic Studies IN Airflow, Smog and Inversion)".

RECOMMENDATION: Adopt Resolution 85-74 approving Proposal No. 1241-106-A2 for funding in an amount not to exceed $6800.

SUMMARY: The objective of this proposal is to extend the analysis of aerometric data collected by the ARB and others as part of project Basin. During the 1984 Summer Olympic Games in Los Angeles, the Air Resources Board and the South Coast Air Quality Management District (SCAQMD) sponsored the Department of Atmospheric Sciences at UCLA, to make extensive surface and upper-level meteorological measurements to characterize the windfield over the South Coast Air Basin. In addition to these efforts, significant field measurement support was provided, at no cost to ARB, by the U. S. Forest Service, in the form of airsonde measurements, by the EPA in the form of airborne LIDAR measurements, and by several private participants. As a result, a far richer data base than originally envisioned was forthcoming. Accordingly, an initial augmentation of $15,000 was provided for analysis and archiving these additional data.

During the data analysis phase, new techniques were developed for relating LIDAR data to surface and upper-level meteorological data. Taken together this information clearly shows the existence of polluted layers aloft and the relationships of these polluted layers to the meteorology of the Basin.

Notably, the LIDAR equipped aircraft performed several flights along major air trajectories, offering the opportunity to continuously analyze the atmospheric processes and effects along these routes. The trajectories to be studied are from Long Beach to Riverside and from Los Angeles to Upland. These have also been tentatively selected as the trajectories of major interest for next year's Southern California Air Quality Study.

The additional work proposed here would extend the analyses of the relationships between meteorological conditions and polluted layers aloft. The structure of the polluted layers aloft depicted by the LIDAR data will be related to the measured meteorological patterns. Trajectory analysis will be conducted to verify the source region and the pathway along which these polluted air masses move. The improved understanding of these complex flow patterns and distribution of polluted layers aloft will be used to make an assessment of the minimum number of upper-air measurements needed to model pollutant formation and transport along transport corridors and will provide important information concerning boundary conditions for air quality simulation models.

The Research Screening Committee has recommended that this augmentation be awarded to the University of California, Los Angeles. The principal investigators will be Dr. Morton G. Wurtele and Dr. Roger M. Wakimoto.

State of California
AIR RESOURCES BOARD

Resolution 85-75

November 22, 1985

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 1341-118, entitled "Lifetimes and Fates of Toxic Chemicals in California's Atmosphere", has been submitted by the Statewide Air Pollution Research Center, University of California, Riverside;

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

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

> Proposal Number 1341-118, entitled "Lifetimes and Fates of Toxic Chemicals in California's Atmosphere", submitted by the Statewide Air Pollution Research Center, University of California, Riverside for a total amount not to exceed $196,186.

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 1341-118, entitled "Lifetimes and Fates of Toxic Chemicals in California's Atmosphere", submitted by the Statewide Air Pollution Research Center, University of California, Riverside for a total amount not to exceed $196,186.

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 $196,186.

I hereby certify the above
is a true and correct copy
of Resolution 85-75 as adopted
by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

ITEM NO.: 85-17-4(b)2
DATE: November 22, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 1341-118 entitled "Lifetime and Fates of Toxic Chemicals in California's Atmosphere".

RECOMMENDATION: Adopt Resolution 85-75 approving Proposal No. 1341-118 for funding in an amount not to exceed $196,186.

SUMMARY:

The objectives of this proposed program are to investigate the atmospheric lifetimes and products formed for a series of organic compounds of interest to the CARB. In recent years there has been growing concern by both the general public and by health, regulatory and legislative officials concerning the use, storage and transport of hazardous and toxic chemicals. This concern exists, in part, because segments of the public are exposed to a variety of toxic and hazardous chemical compounds which are emitted from hazardous waste disposal sites and landfills, and from releases which occur in the course of industrial or commercial processes.

Present assessments of the environmental and health impacts of airborne toxic and hazardous chemicals focus primarily on the effects of the parent compound. In general, little or no consideration is given to the atmospheric reactions of such compounds which can lead to products that are either more, or less, toxic than the parent compound. Without a thorough knowledge of these atmospheric processes, and the rates at which they occur, reliable and cost-effective risk assessments for releases of toxic and hazardous chemicals cannot be made in the case of many volatile and reactive organic compounds.

The compounds to be studied through this effort will include benzyl chloride, cresol, p-chloroaniline, napthalene, benzo-1,4-dioxin, 2,3-benzofuran, allyl chloride, ethylene dichloride and acrolein. Six of these compounds are included in the ARB list of substances scheduled for review as Toxic Air Contaminants by the Scientific Review Panel. The other three compounds selected for study are model compounds structurally related to certain pesticides (p-chloroaniline) and to toxic compounds emitted from combustion sources, polychlorinated benzo-1,4-dioxins and 2,3-benzofurans.

The data obtained from this research will provide information on both atmospheric lifetimes and chemical transformations that are directly relevant to the assessment of potential human health hazards of airborne toxic and hazardous substances as required by the Tanner Bill.

The Research Screening Committee has recommended that this contract be awarded to the Statewide Air Pollution Research Center, University of California, Riverside. Drs. Arthur Winer and Roger Atkinson will be the co-principal investigators.

BUDGET SUMMARY

Statewide Air Pollution Research Center
University of California, Riverside

"Lifetimes and Fates of Toxic Chemicals
in California's Atmosphere"

BUDGET ITEMS:

Salaries	$112,831		
Supplies	17,787		
Other Cost*	6,800		
Travel	2,216		
TOTAL, Direct Costs			$139,634
TOTAL, Indirect Costs			56,552
		TOTAL PROJECT COST	$196,186

*Machine shop, electronic shop, printing and publication costs.

State of California
AIR RESOURCES BOARD

Resolution 85-76

November 22, 1985

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 1349-120, entitled "Statewide Economic Assessment of Crop Loss Due to Air Pollution", has been submitted by the University of California, Davis;

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

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

> Proposal Number 1349-120, entitled "Statewide Economic Assessment of Crop Loss Due to Air Pollution", submitted by the University of California, Davis for a total amount not to exceed $77,000.

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 1349-120, entitled "Statewide Economic Assessment of Crop Loss Due to Air Pollution", submitted by the University of California, Davis for a total amount not to exceed $77,000.

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 $77,000.

I hereby certify the above is
a true and correct copy of
Resolution 85-76 as adopted
by the Air Resources Board.

Harold Holmes, Board Secretary

ITEM NO.: 85-17-4(b)3
DATE: November 22, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 1349-120 entitled "Statewide Economic Assessment of Crop Losses Due to Air Pollution".

RECOMMENDATION: Adopt Resolution 85-76 approving Proposal No. 1349-120 for funding in an amount not to exceed $77,000.

SUMMARY: This research project will use the California Agricultural Resources (CAR) model to estimate the statewide cost of air pollution damage to crops in California and to refine and direct the biological and economic estimation of the California Crop Loss Assessment program (CCLA). The CCLA program is funded by the ARB and conducted by plant scientists at the Statewide Agricultural Research Center at UC Riverside. The CAR model is a computerized model of the California farm economy which was developed by the Giannini Foundation of the University of California.

The tasks to be performed by this project include:

1. evaluate the cost of air pollution damage to crops in all major farming areas of California using the CAR model;

2. update the CAR model from the 1978 base year to 1984. This task involves re-estimating cost functions and data on land-use, water, fuel, energy, labor and fertilizer by crop and region; and

3. use the CAR model to evaluate preliminary biological data on crop yields as a guide in selecting crops for future fumigation studies.

In accordance with the State Health and Safety Code, this research provides for the development of a mathematical model to facilitate both the estimation of the effects of air pollution on plants and the economic analysis of those effects in order to assist the Board in determining the consequences of various alternative solutions to specific air pollution problems and adopting standards in consideration of the public welfare, including, effects on the economy, in its statewide effort to combat air pollution.

The Research Screening Committee has recommended funding this proposal from the University of California at Davis. The principal investigators will be Drs. Richard E. Howitt and Delworth B. Gardner.

State of California
AIR RESOURCES BOARD

Resolution 85-77

November 22, 1985

Agenda Item No.: 85-17-1

WHEREAS, Section 39606 of the Health and Safety Code directs the Air Resources Board (the "Board") to divide the state into air basins based on meteorological and geographic conditions and with consideration for political boundary lines whenever practicable;

WHEREAS, Sections 60105(d) and 60106(i) of Title 17, California Administrative Code, designate part of Shasta County as within the Sacramento Valley Air Basin, and the remaining portion of the County as within the Northeast Plateau Air Basin;

WHEREAS, on February 26, 1985, the Board of the Shasta County Air Pollution Control District requested the Air Resources Board to change the boundaries of the Northeast Plateau and Sacramento Valley Air Basins so that all of Shasta County is in the Sacramento Valley Air Basin;

WHEREAS, on June 28, 1985, the Control Council of the Sacramento Valley Air Basin adopted a resolution supporting the Shasta County Air Pollution Control District request;

WHEREAS, on August 23, 1985, the Control Council of the Northeast Plateau Air Basin adopted a resolution supporting the Shasta County Air Pollution Control District's request;

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

WHEREAS, the intent of the law would be served if the boundary between the Northeast Plateau Air Basin and the Sacramento Valley Air Basin were to be along County lines;

WHEREAS, the Board finds that the meteorological and geographic factors which originally justified placing a portion of Shasta County in the Northeast Plateau Air Basin are outweighed by the administrative and cost advantages of changing the air basin boundaries, so that all of Shasta County is in the Sacramento Valley Air Basin;

WHEREAS, the District has two existing rules which apply only to the Sacramento Valley Air Basin portion of the Shasta County Air Pollution Control District;

WHEREAS, the District has the authority to decide whether, in light of the basin boundary change, the District rules that are applicable only in the Sacramento Valley Air Basin portion of the Shasta County Air Pollution Control District should be interpreted to include the portion of the District which is now in the Northeast Plateau Air Basin;

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; and

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

NOW, THEREFORE, BE IT RESOLVED that effective July 1, 1986, Sections 60105(d) and 60106(i) of Title 17, California Administrative Code, are amended as set forth in Attachment A hereto.

BE IT FURTHER RESOLVED, that in taking this action, the Air Resources Board leaves to the authority of the District the interpretation and application of the District's rules in light of the basin boundary change.

I hereby certify that the above is a true and correct copy of Resolution 85-77, as adopted by the Air Resources Board.

Harold Holmes

Harold Holmes, Board Secretary

ATTACHMENT A

Delete Section 60105(d), Title 17, California Administrative Code, as follows:

~~(d)--That-portion-of-Shasta-County-which-lies-east-and-north-of-a line-described-as-follows:~~

~~Beginning-at-the-Shasta-Siskiyou-County-boundary-and-running-south along-the-range-line-common-to-R.-2-E-and-R.-1-E-to-the-southwest-corner-of-T. 35-N.,-R.-2-E.;-then-east-along-the-township-line-common-to-T.-35-N-and-T.-34-N to-the-northwest-corner-of-T.-34-N.,-R.-3-E.;-then-south-along-the-range-line common-to-R.-3-E-and-R.-2-E-to-the-southwest-corner-of-T.-33-N.,-R.-3-E.;-then east-along-the-township-line-common-to-T.-33-N-and-T.-32-N-to-the-northwest corner-of-T.-32-N.,-R.-4-E.;-then-south-along-the-range-line-common-to-R.-4-E and-R.-3-E-to-the-point-of-intersection-with-the-northwest-corner-of-the Lassen-Volcanic-National-Park-boundary;-then-east-along-the-north-boundary-of Lassen-Volcanic-National-Park-to-the-point-of-intersection-with-the Lassen-Shasta-County-Boundary.~~

Amend Section 60106(i), Title 17, California Administrative Code, to read as follows:

(i) ~~That-portion-of~~ All of Shasta County ~~which-lies-west-and south-of-a-line-described-as-follows:~~

~~Beginning-at-the-Shasta-Siskiyou-County-boundary-and-running-south along-the-range-line-common-to-R.-2-E-and-R.-1-E.,-Mt.-Diablo-Base-and-Meridian~~

~~to-the-southwest-corner-of-T.-35-N.,-R.-2-E.;-then-east-along-the-township-line common-to-T.-35-N.,-and-T.-34-N-to-the-northwest-corner-of-T.-34-N.,-R.-3-E.; then-south-along-the-range-line-common-to-R.-3.-E-and-R.-2-E.;-to-the-southwest corner-of-T.-33-N.,-R.-3-E.;-then-east-along-the-township-line-common-to-T.-33-N and-T.-32-N-to-the-north-west-corner-of-T.-32-N.,-R.-4-E.;-then-south-along-the range-line-common-to-R.-4-E-and-R.-3-E-to-the-point-of-intersection-with-the northwest-corner-of-the-Lassen-Volcanic-National-Park-boundary;-then-east along-the-north-boundary-of-Lassen-Volcanic-National-Park-to-the-point-of intersection-with-the-Lassen-Shasta-County-boundary.~~

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Amendments to Regulations Changing the Boundary Between the Northeast Plateau Air Basin and the Sacramento Valley Air Basin

Agenda Item No.: 85-17-1

Public Hearing Date: November 22, 1985

Response Date: November 22, 1985

Issuing Authority: Air Resources Board

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

Response: N/A

Certified: _____
Board Secretary

Date: 1/15/86

State of California

Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : August 27, 1986

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

From : Harold Holmes
Board Secretary
Air Resources Board

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

ATTACHMENTS
85-77
85-78
85-80
86-4
86-25
86-43
86-44
86-45

State of California
AIR RESOURCES BOARD

Resolution 85-78

November 21, 1985

Agenda Item: 85-17-2

WHEREAS, Section 39601 of the Health and Safety Code authorizes the Air Resources Board ("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 39607(d) of the Health and Safety Code requires the Board to adopt test procedures to measure compliance with its nonvehicular emission standards and those of the air pollution control and air quality management districts ("districts");

WHEREAS, in 1983 the Board adopted Title 17, California Administrative Code, Sections 94100-94116, which establish 16 test methods for determining whether a nonvehicular (stationary source) is in compliance with district emission standards;

WHEREAS, the Board's staff has now developed 14 new test methods and revisions to four of the previously adopted test methods for determining compliance with district nonvehicular emission standards;

WHEREAS, the new and revised test methods have been thoroughly evaluated by the Board's staff;

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 which would substantially reduce such adverse impacts;

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:

> Adoption of the 14 new test methods and revisions to four existing test methods set forth in Attachments B, C, and D, and adoption of the regulations set forth in Attachment A incorporating the test methods and revisions, are necessary and appropriate to satisfy the requirements of Section 39607(d) of the Health and Safety Code and may simplify the identification, adoption and enforcement of nonvehicular emission standards; and

The adoption of the test methods, test method revisions, and regulations set forth in Attachments A through D will have no significant adverse environmental impacts.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves the amendments to Sections 94101, 94103, 94105, and 94115 and new Sections 94117 through 94130, Title 17, California Administrative Code, as set forth in Attachment A hereto.

BE IT FURTHER RESOLVED that the Board hereby approves the 14 new test methods and revisions to four existing test methods for determining compliance with district nonvehicular emission standards set forth in Attachments B, C, and D.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to adopt the regulatory changes set forth in Attachments A, B, C and D 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.

I hereby certify that the above is a true and correct copy of Resolution 85-78, 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 Amendments to Regulations Regarding the Hydrocarbon Exhaust Emission Standard for Small Volume Class III California Motorcycles

Agenda Item No.: 85-16-1

Public Hearing Date: November 21, 1985

Response Date: January 6, 1985

Issuing Authority: Air Resources Board

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

Response: N/A

Certified: _____
Board Secretary

Date: 02/27/86

State of California

Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : August 27, 1986

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

From : Harold Holmes
Board Secretary
Air Resources Board

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

ATTACHMENTS
85-77
85-78
85-80
86-4
86-25
86-43
86-44
86-45

State of California
AIR RESOURCES BOARD

Resolution 85-79

November 21, 1985

Agenda Item No: 85-16-1

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 Section 43000 of the Health and Safety Code, the Legislature has declared that the emission of air pollutants from motor vehicles is the primary cause of air pollution in the state and, in Sections 39002 and 39003 of the Health and Safety Code, has charged the Air Resources Board with the responsibility for systematically attacking the serious air pollution problem caused by motor vehicles;

WHEREAS, Section 43107 of the Health and Safety Code authorizes the Board to adopt emission standards for new 1977 and later model year motorcycles registered or sold in California;

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;

WHEREAS, in 1975 the Board adopted a 1.0 gram per kilometer (g/km) hydrocarbon (HC) exhaust emission standard for Class III motorcycles effective with the 1982 model year;

WHEREAS, 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, in April, 1983, the Board granted a three-year delay (through the 1986 model year) of the 1.0 g/km HC standard for small volume manufacturers, i.e., those selling less than 5,000 new motorcycles annually, and established an interim standard of 2.5 g/km HC;

WHEREAS, Senate Bill 158 (Stats. 1983, ch. 103; Health and Safety Code Section 43107.5) extended the 1982-1983 model year HC exhaust emission standard (2.5 g/km HC) for Class III motorcycles through July 1, 1984 or until the Board took further action to revise its standards;

WHEREAS, the Board, in April, 1984, adopted a 1.4 g/km corporate average HC exhaust emission standard for Class III motorcycles to be effective March, 1985 through the 1987 model year, and for the 1988 and subsequent model years a split corporate average standard of 1.0 g/km HC for engines 280-699cc and 1.4 g/km HC for 700cc engines and larger;

WHEREAS, one small volume manufacturer has formally requested that the Board extend for one year (through the 1987 model year) the small volume Class III motorcycle manufacturer standard of 2.5 g/km;

WHEREAS, staff has proposed amendments to Section 1958(f), Title 13, California Administrative Code which would extend the 2.5 g/km HC exhaust emission standard for Class III motorcycles produced by small volume manufacturers for one year;

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 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;

WHEREAS, the Board finds that:

Some small volume manufacturers lack sufficient resources to complete research and development in order to meet the 1.4 g/km HC exhaust emission standard for the 1987 model year;

If the current three-year exemption is allowed to expire at the end of the 1986 model year, some small volume manufacturers will not be able to certify their Class III motorcycles for the 1987 model year;

Based on the 1985 model year implementation date of the 1.4 g/km standard for major motorcycle manufacturers, a one-year extension of the 2.5 g/km HC emission standard for small volume manufacturers through the 1987 model year will allow sufficient time for small volume manufacturers to develop or incorporate the necessary technology to meet the 1.4 g/km standard;

A minor change to the regulation is necessary and appropriate in order to allow new small volume manufacturers the opportunity to certify Class III motorcycles pursuant to Section 1958(f) Title 13, California Administrative Code;

The amendments will have an adverse environmental impact of increasing HC emissions from 1987 model year Class III motorcycles by 56.8 lb/day (0.028 tons/day);

WHEREAS, the Board further finds that as proposed, the extension of the 2.5 g/km standard is limited in application to small volume manufacturers and in duration to one year, and in light of the serious economic effects which would be imposed on the affected manufacturers if the one year extension of the existing exemption is not adopted, there are no feasible alternatives or mitigation measures available.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves the proposed amendments to Section 1958(f) 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, as set forth in Attachment A, after making it available to the public for a period of 15 days, provided that the Executive Officer shall consider such written comments as may be submitted during this period, shall make such modifications as may be appropriate in light of the comments received, and shall present the regulations to the Board for further consideration if he determines that this is warranted.

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 regulations 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 hereby certify that the above is a true and correct copy of Resolution 85-79, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

ATTACHMENT A

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

(f)(1) Exhaust emissions from Class III motorcycles of small volume manufacturers shall not exceed 2.5 grams per kilometer hydrocarbon for the 1984, 1985, ~~and~~ 1986, and 1987 model years. To obtain certification as a small volume manufacturer pursuant to this subsection, the manufacturer shall submit product information and estimated sales data with the certification application for each engine family sold in California. ~~On or before March 1, 1984, and annually thereafter for the following two years~~ As a condition of obtaining certification as a small volume manufacturer, the manufacturer shall submit annually to the state board a summary of its efforts and progress toward meeting more stringent hydrocarbon exhaust emission standards. The summary shall include a description of the manufacturer's current hydrocarbon emission control development status, along with supporting test data, and future planned development work.

(2) For purposes of this subsection, a small volume manufacturer is one which sells ~~or was in the process of obtaining certification to sell as of December 31, 1982,~~ less than 5,000 new motorcycles per year in California.

NOTE: Authority cited: Sections 39600 and 39601, Health and Safety Code. Reference: Sections 39002, 39003, 43000, 43013, 43100, 43101, 43104 and 43107, Health and Safety Code; and Cal. Stats. 83, Ch.103.

State of California

Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : January 27, 1986

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

From : Harold Holmes
Board Secretary
Air Resources Board

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

ATTACHMENTS
85-64
85-65
85-70 and SEI
85-79

FILED AND POSTED BY
OFFICE OF THE SECRETARY
JAN 27 1986
Resources Agency of California

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Adoption of and Amendments to Regulations Regarding Test Methods for Determining Emissions from Nonvehicular Sources

Agenda Item No.: 85-17-2

Public Hearing Date: November 22, 1985

Response Date: December 27, 1985

Issuing Authority: Air Resources Board

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

Response: N/A

Certified: Harold Holmes
Board Secretary

Date: 4-4-86

STATE OF CALIFORNIA
AIR RESOURCES BOARD

Resolution 85 - 80

December 19, 1985

Agenda Item No.: 85-16-2
85-18-1

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 Section 43000 of the Health and Safety Code, the Legislature has declared that the emission of air pollutants from motor vehicles is the primary cause of air pollution in the state and, in Sections 39002 and 39003 of the Health and Safety Code, has charged the Board with the responsibility for systematically attacking the serious air pollution problem caused by motor vehicles;

WHEREAS, Sections 43013 and 43101 of the Health and Safety Code authorize the Board to adopt and implement vehicle emission standards in order to control air pollution caused by motor vehicles and Section 43104 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, Section 43102 of the Health and Safety Code provides that no new motor vehicle shall be certified by the Board unless it meets the emission standards adopted by the Board pursuant to Section 43101 under the test procedures adopted by the Board pursuant to Section 43104;

WHEREAS, on November 29, 1984, the Board, at a duly noticed public meeting, considered a report from its staff and public comment regarding nonconforming import vehicles and adopted Resolution 84-59, in which the Board found that a large and growing number of nonconforming vehicles are unlawfully imported for use and registration in this state in violation of California law;

WHEREAS, in Resolution 84-59 the Board further found that the Environmental Protection Agency's (EPA) nonconforming import vehicle program is ineffective in ensuring that such vehicles comply with applicable emission standards and other requirements;

WHEREAS, at the November 29, 1984, hearing the Board determined to support legislative changes which would allow California to prevent the importation and sale of nonconforming import vehicles and further directed staff to consider development of regulations to allow new noncomplying import vehicles to be legally and effectively converted and certified to meet California standards;

WHEREAS, Senate Bill 1118 (SB 1118; Stats 1985, ch. 1235) effective January 1, 1986, directs the Board to adopt, by regulation, a certification program for new light-duty vehicles manufactured outside the United States and not certified for sale in this state;

WHEREAS, the Board has adopted the following certification and compliance requirements for passenger cars, light-duty trucks, and medium-duty vehicles: exhaust standards and test procedures (Sections 1960.1 and 1960.1.5, Title 13, California Administrative Code ("13 CAC")), evaporative emission standards and test procedures (Section 1976, 13 CAC), fill pipes and fuel tank openings (Section 2290, 13 CAC), tune-up label specifications (Section 1965, 13 CAC), assembly-line test procedures (Section 2061, 13 CAC), new and in-use vehicle recall requirements, including provisions for in-use vehicle defects reporting and enforcement testing (Sections 2109 and 2111 through 2113, 13 CAC), and emission control system warranty requirements (Sections 2035 et seq., 13 CAC);

WHEREAS, the Board has determined that the existing certification standards and test procedures applicable to vehicles certified by original manufacturers are necessary and technologically feasible for the purposes of controlling motor vehicle emissions;

WHEREAS, the Staff has proposed certification and compliance procedures for new direct import vehicles based on the existing certification and compliance programs for vehicles produced and certified by original vehicle manufacturers with modifications necessary in recognition of the "small business" nature of the direct import industry and its unproven ability to produce durable complying vehicles;

WHEREAS, SB 1118 provides for a bonding requirement not to exceed one thousand dollars ($1,000) per modified vehicle and further requires that all costs of the certification and compliance program for new direct import vehicles including enforcement costs, be borne by the modifiers;

WHEREAS, the California Environmental Quality Act (CEQA) 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 number of new motor vehicles manufactured outside the United States and not certified for sale in California ("direct import" vehicles) which are being sold and used in this state is increasing

at an accelerated rate with the approximately 500 such vehicles reaching California in 1980 increasing to approximately 15,000 in 1984;

The importation and use in California of direct import vehicles contributes significantly to the serious air pollution problem in this state;

The adoption of an effective certification and compliance program for direct import vehicles will result in a decrease in the number of higher polluting vehicles unlawfully imported for sale and use in California;

The certification program for direct import motor vehicles will benefit consumers because it will result in a wider selection of legally available vehicles and, possibly, lower vehicle costs;

WHEREAS, the Board further finds that:

It is technologically feasible for direct import vehicles to comply with the certification requirements set forth in Attachments A and B hereto and the requirements are necessary to ensure that direct import vehicles meet the California emission standards applicable to new vehicles;

The certification requirements for direct import vehicles (referred to in the regulations as "modifier certified motor vehicles") including provisions for a 25,000 mile (or 50,000 mile, as applicable) durability demonstration and durability carryover/carry-across, are necessary to meet the unique characteristics of the modification industry;

Increased requirements for new production (assembly-line) and in-use vehicle testing over existing requirements which are applicable to original vehicle manufacturers are necessary to ensure that each modifier certified motor vehicle will meet the applicable certification standards and maintain those standards throughout the vehicle's certification period;

The bonding and insurance requirements of the certification program are necessary to ensure the modifier's continuing financial ability to provide for completing any necessary recall campaign and honoring warranty obligations throughout the applicable vehicle certification period in order to ensure compliance with these requirements even if the modifier ceases to do business during this period;

The requirement that modifiers demonstrate driveability of new modifier certified motor vehicles is necessary to ensure that the emission control system of a modified vehicle will not be altered or tampered with in-use to improve driveability and performance and thereby increase vehicle emissions;

Requirements for service establishment and parts availability, provision of shop manuals, free of charge warranty repairs of the emission control system and recall are necessary to ensure that modifier certified motor vehicles comply with the applicable emission standards throughout the vehicle certification period;

The certification and recertification fees specified in the regulations are necessary to cover the costs to the Board for administering and enforcing the certification and compliance program for new modifier certified motor vehicles.

WHEREAS, the Board further finds that the certification standards and procedures for new direct import vehicles will not have a significant adverse impact on the environment and may have a significant beneficial impact.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves Section 1964 of Title 13, California Administrative Code as set forth in Attachment A hereto, and the incorporated "California Certification and Compliance Test Procedures for Modifier Certified New Motor Vehicles" as set forth in Attachment B hereto.

BE IT FURTHER RESOLVED THAT the Board directs the Executive Officer to adopt Section 1964, Title 13, California Administrative Code, and the incorporated certification and compliance procedures, as set forth in Attachments A and B, after making them available to the public 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 may be appropriate in light of the comments received, and shall present the regulations to the Board for further consideration if he determines that this is warranted.

BE IT FURTHER RESOLVED that the Executive Officer is directed to monitor efforts to comply with the requirements regarding bonding and recall insurance contained in Section I.D.3. of the certification and compliance procedures and to propose to the Board changes to the procedures if the Executive Officer determines that insurance or a bond to comply with the requirements in the procedures is unavailable.

BE IT FURTHER RESOLVED THAT the Board directs the Executive Officer to take all necessary and reasonable steps to ensure that only lawfully imported and modified direct import vehicles are sold and used in this state and that appropriate enforcement action is taken against those entities which continue to illegally import, modify, offer for sale or sell new direct import vehicles which have not been certified to meet California standards.

BE IT FURTHER RESOLVED that the Board hereby determines that the amendments and adoption 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, and 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, upon their adoption, forward the regulation and incorporated certification and compliance procedures to the Environmental Protection Agency with a request for a waiver or for confirmation that the amendments are within the scope of an existing waiver, as appropriate, pursuant to Section 209(b) of the Clean Air Act.

I hereby certify that the above is a true and correct copy of the Resolution 85-80, as adopted by the Air Resources Board.

Harold Holmes, Board Secretary

Attachment A

Adopt a new Section 1964, Title 13, California Administrative Code to read as follows:

1964. Special Test Procedures For Certification and Compliance - New Modifier Certified Motor Vehicles. The emission standards and test procedures for new vehicle certification, warranty, assembly-line testing, and recall for modifier certified motor vehicles are set forth in "California Certification and Compliance Test Procedures for New Modifier Certified Motor Vehicles", as adopted by the Air Resources Board on .

NOTE: Authority: Sections 39600, 39601, 43013, 43101, 43104, 43105, 43203.5, 43210 and 43835, Health and Safety Code Reference: Sections 43000, 43012, 43100-43106, and 43200, 43202, 43203, 43203.5, 43204, 43210-43213 and 43835 Health and Safety Code.

Attachment B

State of California
AIR RESOURCES BOARD

California Certification and Compliance Test Procedures for New Modifier Certified Motor Vehicles

Adopted: _____

NOTE: The proposed certification and compliance procedures as originally made available are shown in normal type. Subsequent modifications to the procedures are shown in underline to indicate additions and strikeout to indicate deletions from the original proposal.

California Certification and Compliance Test Procedures for New Modifier Certified Motor Vehicles

I. The provisions of the "California Exhaust Emission Standards and Test Procedures for 1981 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," incorporated by reference in Title 13, California Administrative Code (CAC), Section 1960.1(h), shall apply to new modifier certified motor vehicles, with the following exceptions and additions.

A. Definitions

1. "Modifier certified motor vehicle" means any passenger car, light-duty truck, and medium-duty vehicle which was manufactured outside of the United States for which the original manufacturer did not obtain California certification and which is subsequently modified by persons other than the original vehicle manufacturer to meet California motor vehicle emission standards.

2. "Modifier" means any person or entity who applies for a California certification of a new modifier certified motor vehicle. For the purpose of requiring remedial action or imposing sanctions and penalties specified in Division 26 of the Health and Safety Code and Title 13, CAC, the Modifier shall be the same as a manufacturer. If remedial actions, sanctions or penalties are sought, the Modifier shall have the same rights of appeal and protections provided a manufacturer.

3. "Model Year" - The model year designation for new modifier certified motor vehicles shall be determined on the same basis as vehicles in the same engine family which are offered for sale in ~~California~~ the United States by the original vehicle manufacturer or its authorized ~~importer~~ distributor. For purposes of this paragraph, a modifier certified motor vehicle is in the same engine family as a vehicle certified for sale in the United States by the original vehicle manufacturer if the configuration of the vehicle and engine, with the exception of the emission control system, and the engine displacement are the same. (The model year assigned must be consistent with the year model designated in the vehicle identification number of the U.S. certified vehicle.)

The model year for any new modifier certified motor vehicle in an engine family which the original vehicle manufacturer does not offer for sale in ~~California~~ the United States shall be determined by the ~~annual production period designated by the Modifier. If the Modifier does not designate an annual production period, the Model Year shall be deemed to be the Calendar year of certification~~ following, in descending order of preference:

a) Model year as encoded in the VIN by the original vehicle manufacturer, or

b) The date the vehicle was initially delivered by the original vehicle manufacturer to the non-U.S. dealer, or

c) The model year shown on the foreign title document, or

d) The production dates as provided by the original vehicle manufacturer to the Modifier and/or to the Department of Motor Vehicles.

e) When the model year is to be determined from either (b) or (d) above, if the original vehicle manufacturer has established a specified annual production period for its U.S. certified vehicles of the same make, the model year shall coincide with the production year for the U.S. certified vehicles.

B. Test Procedures

1. If the complete exhaust emission control system from a California-certified vehicle required to meet the same emission standards is installed in a modifier certified motor vehicle equipped with an engine having the same basic parameters as specified in Title 40 Code of Federal Regulations (CFR) 86.085-24(a)(2) (October 19, 1983) or Environmental Protection Agency (EPA) Advisory Circular (AC) No. 20 B. (see Appendix A), no durability-data vehicle will be required provided the Executive Officer determines that the carry-across criteria of Environmental Protection Agency (EPA) Advisory Circular (AC) 17F (see Appendix B) are satisfied. The deterioration factors (DF's) shall be assigned by the Executive Officer based on typical DF values obtained from similar vehicles manufactured by original vehicle manufacturers which are representative of the emissions characteristics of the engine family to be certified. For the purposes of this paragraph "complete emission control system from a California-certified vehicle" means all of those parts included on the Air Resources Board Warranty Parts List, as specified in Section 2036(c), Title 13, California Administrative Code, and which are installed on a motor vehicle which has been certified under the "California Exhaust Emission Standards and Test Procedures for 1981 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles"; provided that the parts as installed on the modifier certified motor vehicle are identical to those parts in terms of manufacturer, specifications, and production quality control procedures.

2. For all other cases, a durability-data vehicle shall be tested.

(a) For engine families certifying to the 50,000 mile emission standards, the durability-data vehicle shall be emissions tested for exhaust and, if applicable, evaporative emissions every 5,000 ± 250 miles from 5,000 miles to 25,000 miles following the driving schedule shown in Title 40 CFR, Part 86, Appendix IV (June 28, 1977) or an equivalent driving schedule. The driving schedule may be met by on-road mileage accumulation following a route approved by the Executive Officer, or by chassis dynamometer. Emission tests shall be performed before and after scheduled maintenance. Driving schedules other than that set out in Title 40 CFR, Part 86, Appendix IV (June 28, 1977) and other testing intervals which provide an equivalent demonstration of vehicle durability may be approved by the Executive Officer. A regression line for each pollutant shall be calculated by the method of least squares using all test data. Exhaust hydrocarbon, carbon monoxide and oxides of nitrogen, and evaporative emission DF's shall be calculated in accordance with the procedures as stated in Title 40 CFR 86.085-28 (a)(4)(i)(B) (January 24, 1984) except that the exhaust emissions DF shall be the exhaust emissions extrapolated to 50,000 miles divided by the exhaust emissions extrapolated to 4,000 miles. The evaporative emissions DF shall be the evaporative emission level extrapolated to 50,000 miles minus the evaporative emission level extrapolated to 4,000 miles, following the procedures stated in Title 40 CFR 86.085-28 (a)(4)(i)(C) (January 24, 1984).

(b) For engine families certifying to the 100,000 mile emission standards, the durability-data vehicle shall be emissions tested for exhaust and, if applicable, evaporative emissions every 5,000 ± 250 miles from 5,000 miles to 50,000 miles following the driving schedule shown in Title 40 CFR, Part 86, Appendix IV (June 28, 1977) or an equivalent driving schedule. The driving schedules may be met by on-road mileage accumulation following a route approved by the Executive Officer, or by chassis dynamometer. Emission tests shall be performed before and after scheduled maintenance. Driving schedules other than that set out in Title 40 CFR, Part 86, Appendix IV (June 28, 1977) and other testing intervals which provide an equivalent demonstration of vehicle durability may be approved by the Executive Officer. Hydrocarbon, carbon monoxide, oxides of nitrogen and evaporative emission DF's shall be calculated in accordance with the methodology stated in Paragraph 6.a. of the "California Exhaust Emission Standards and Test Procedures for 1981 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" except that the exhaust emissions DF shall be

the exhaust emissions extrapolated to 100,000 miles divided by the exhaust emissions extrapolated to 4,000 miles. The evaporative emissions DF shall be the evaporative emission level extrapolated to 50,000 miles minus the evaporative emission level extrapolated to 4,000 miles.

3. In lieu of the mileage accumulation required pursuant to Paragraphs I.B. 2(a) and I.B. 2.(b) above, the Executive Officer may authorize other means of demonstrating durability based on good engineering practice including, but not limited to, bench testing and engine mapping. A proposed alternate method of demonstrating durability shall be submitted to the Executive Officer for approval prior to testing. The submittal must demonstrate that the alternative method provides an assurance of durability equivalent to mileage accumulation. Carryover/carry-across of DF's within the Modifier's product line shall be allowed provided the Executive Officer determines the criteria of EPA AC 17F (see Appendix B) are satisfied.

4. An emission-data vehicle shall be tested for each engine family. The mileage on the test vehicle shall be 4,000 miles plus or minus 250 miles. At the discretion of the Modifier, the durability-data vehicle may be also tested at 4,000 miles and used as the emission-data vehicle. The emission-data vehicle may be submitted by the Modifier to EPA for confirmatory testing for certification under applicable federal regulations, and the Modifier may submit the Executive Order of Certification to EPA for purposes of seeking federal certification.

C. Standards

The exhaust emission standards for modifier certified motor vehicles shall be the same as specified for California motor vehicles in Title 13, California Administrative Code, Sections 1960.1 and 1960.1.5.

D. Other Requirements

1. Modifications made to modifier certified motor vehicles for the purpose of emission control shall not significantly degrade the driveability of the modified vehicle as compared to an original vehicle manufacturer's California-certified version of the same model vehicle equipped with an engine of the same basic parameters as defined in Paragraph I.B.1., if such a configuration exists. In those cases where the original vehicle manufacturer has not certified a particular engine family in California, the driveability shall be

comparable (as defined below) to California-certified vehicles of similar cost, engine type, displacement, inertia weight and purpose ("Comparable Vehicle"), as determined by the Executive Officer. The Modifier shall submit a written statement in accordance with the requirements of Paragraph 5.g. of the "California Exhaust Emission Standards and Test Procedures for 1981 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles" which states that the vehicle driveability and performance characteristics satisfy the Modifier's customary driveability and performance requirements. Prior to the issuance of an Executive Order granting certification, the Executive Officer may require driveability evaluations, at the Modifier's expense, of both the modified vehicle and California-certified or comparable vehicle, as applicable, by an ~~ARB/approved~~ independent testing laboratory selected by the Modifier. The driveability evaluation shall be performed using the Board's "Driveability Procedure" (Appendix C). Each vehicle's engine shall be set to the Modifier's or original vehicle manufacturer's specifications, as applicable, and fueled with the recommended fuel. Demerits in excess of ten points for the modified vehicle compared to the California-certified or comparable vehicle shall constitute significant degradation of driveability and non-compliance with this provision and shall be cause for denial of certification.

2. The Modifier shall submit with the application for certification a written statement that the production vehicles shall be in all material respects the same as those for which certification is granted. In addition, the Modifier shall:

   (a) Demonstrate to the satisfaction of the Executive Officer that it has knowledge that basic vehicle parameters (e.g., weight, axle ratio, etc.) and all parts and calibration of parts on the Emissions-Related Parts List for each vehicle sold are in all material respects identical to the certification vehicle. This requirement may be satisfied by demonstrating at the time of certification that the Modifier has an adequate, timely, and reliable means of knowing when changes to emissions-related parts are made by the original vehicle manufacturer, and by the emission control system parts suppliers.

   (b) If the conditions of Paragraph I.D.2.(a) ~~II.E.2.(a)~~ of this procedure cannot be met, stipulate in writing to demonstrate compliance with the emission standards by performing the Federal Test Procedure (FTP) exhaust emission test on every other production vehicle of an engine family in the first year of certification; and every fourth production vehicle in subsequent years, if

certification for the engine family is carried over. An initial evaluation shall be made after the first five vehicles of an engine family are tested. Compliance will be demonstrated if the average deteriorated emissions for the tested vehicles are equal to or less than the applicable emission standards. If a non-compliance condition occurs, the Modifier shall notify the Executive Officer within 10 working days. Based on such non-compliance, the Executive Officer may invoke Section 2109 of Title 13, California Administrative Code. Subsequent evaluations shall be made on a calendar monthly basis by evaluating data from all vehicles tested since the start of that model-year's production. These monthly evaluations shall continue throughout the model year and shall be reported to the Chief, Mobile Source Division. Non-compliance based upon the monthly evaluations shall be reported to the Executive Officer within 10 working days. Based on such non-compliance, the Executive Officer may invoke Section 2109 of Title 13, California Administrative Code. The Executive Officer may order resumption of every other vehicle testing of an engine family if a condition of non-compliance occurs.

(c) Except as otherwise provided in Paragraph ~~Section~~ I.D.2.(d) below, the Modifier shall provide an engineering analysis which shows that emissions will not be increased for each design or specification change to an emissions-related part or calibration. In lieu of the report, or if the Executive Officer rejects the report as being inconclusive regarding the emissions effect of the change, before and after configuration change FTP exhaust emission tests will be required to demonstrate that emissions have not exceeded the standards due to the change. If as a result of a change made by the original manufacturer or the Modifier to an engine family's emission control system or related specifications, the changed vehicle is not in all material respects identical to the test vehicle, that engine family shall require recertification. Notification by the original manufacturer of a design, specification or part number change to an emission-related part, or of a calibration change shall not be deemed cause for recertification without supporting engineering or emissions data which could reasonably lead the Executive Officer to conclude that an engine family would not comply with emission standards. The Modifier shall be obligated to designate the date and/or chassis number after which such change became effective or was identified.

(d) With respect to changes in design or specifications of emissions-related parts or calibrations requiring that the engine family be recertified, the Executive Officer may authorize the use of an engineering evaluation of the subject part rather than ordering a new durability vehicle test if such testing provides equivalent assurance of durability.

3. The ability of the Modifier to correct emissions defects and perform emissions recalls and the Modifier's methods of performing service and parts distribution shall be evaluated by the Executive Officer.

The Modifier shall post a prepaid five, seven or ten year surety bond, as applicable based on the recall period, from a source and in a form approved by the Executive Officer, payable to the Air Pollution Control Fund, of $1,000 for each vehicle offered for sale in California prior to delivery to a sales outlet, sale, or offer for sale, whichever occurs first. The surety bond shall be subject to the payment and forfeiture provisions of Paragraph VI.B.4.

The Executive Officer may accept, in lieu of the required surety bond, proof that the engine family to be certified is covered by a prepaid independent insurance policy with a liability limit of no less than $3,000 per vehicle ~~YYYY/YYYY~~ to provide for the execution of a recall, either voluntary or ordered, pursuant to Sections 2111, 2112 and 2113, Title 13 of the California Administrative Code at any time during the entire recall period for that engine family. The insurance policy shall cover the entire cost of executing any recall and shall be subject to review and approval by the Executive Office prior to certification to determine the adequacy of the insurer's ability to provide for or carry out any recall, including the source and amount of the policy and other relevant factors.

4. The Modifier shall submit to the state board with the application for certification the name(s) and location(s) of assembly-line(s), fabrication facility(ies) and test facility(ies).

5. The Modifier shall comply with the Emission Control System (ECS) Warranty provisions set forth in Sections 2035 through 2046 of Title 13, California Administrative Code. This warranty shall be effective from the date of modification for 2 yrs/24,000 miles and 5 yrs/50,000 miles, 5 yrs/50,000 miles, or 10 yrs/100,000 miles, as applicable, as set forth in Section 2035 of Title 13, California Administrative Code. The Modifier itself shall comply with the ECS warranty requirements, including the requirements of Paragraphs I.D.5(a) and I.D.5(b); or in the alternative, the Modifier may

provide for compliance with these provisions through an insurer. In addition, the Modifier shall submit with the certification application proof of coverage by a prepaid independent insurance policy which guarantees reimbursement to the vehicle owner for all repairs required by the ECS warranty, including Section I.D.5.(b), in the event the Modifier, or its agent, fails to complete such repairs and which shall remain in effect for the entire warranty period of the vehicle. The insurance policy or policies shall be subject to review and approval by the Executive Officer to ensure that all warranty obligations will be met. In addition, the Modifier shall:

(a) Establish and maintain a statewide network of service centers to provide "free of charge" warranty service. The names and locations of such service establishments shall be submitted with the certification application and included in the owner's service manual. Any agreements between contract service establishments and the Modifier shall be retained by the Modifier. Upon request from the Executive Officer, copies of the agreements shall be submitted to the Air Resources Board (ARB) within 10 days. As used herein, the term "statewide network" shall mean at least one service center located in each of the seven major urban areas* in California. In the event the Modifier changes a designated service center, the Modifier shall notify all vehicle owners and the Executive Officer within thirty (30) days of such change.

(b) Provide reimbursement for warranty repairs provided by service establishments other than the modifier's designated service centers for vehicle owners permanently residing more than 50 miles from a contract service establishment.

*THE MODIFIER SHALL SUBMIT PROOF OF COVERAGE BY AN INSURANCE POLICY WHICH GUARANTEES ALL REPAIRS COVERED BY THE VEHICLE EMISSION CONTROL SYSTEM DEFECTS WARRANTY AND WHICH WILL REMAIN IN EFFECT FOR THE ENTIRE WARRANTY PERIOD OF THE VEHICLE. THE INSURANCE POLICY OR POLICIES SHALL BE SUBJECT TO REVIEW AND APPROVAL BY THE EXECUTIVE OFFICER TO ENSURE THAT ALL WARRANTY REPAIRS IN THIS EVENT SHALL BE REIMBURSED AND PROVIDED BY THE EXECUTIVE OFFICER TO GRANTING CERTIFICATION.

(c) Furnish with each vehicle a replacement parts list of the added and emissions-related parts, including part numbers, the name(s) of added part manufacturer(s), its address(es), and location(s) of retail outlet(s) in California where the added part(s) can be procured. The Modifier will not be required to divulge proprietary information or trade secrets in the parts list, but part descriptions shall be sufficient for procurement of the correct parts.

If the emissions-related part(s), including the original vehicle manufacturer's, are not available to the consumer within 10 working days, the Modifier shall be required to complete the repairs within 30 calendar days from initiation of service by the consumer unless it can be shown that part(s) unavailability resulted from circumstances beyond the control of the Modifier.

(d) Provide a shop manual with each vehicle which describes the emission control system function and repair procedures in sufficient detail so that a competent mechanic can repair the vehicle.

(e) If special repair or service procedures or tools are required to repair the emission control system/components, demonstrate that one or more mechanic with the special training and tools is available in each of the seven major urban areas in California,* or that a means is available to provide the necessary service information and special loaner tools. Mechanic training must be made available as needed.

Any violation of the terms and conditions of Paragraph I.D.5. (d), (e), (f) of this procedure, shall subject the Modifier to penalties specified in Section 43016 of the Health and Safety Code for each violation.

* The Major Urban Areas are the following counties: 1) Los Angeles/Orange; 2) Riverside/San Bernardino; 3) Alameda/San Francisco; 4) San Diego; 5) Sacramento; 6) Fresno; and 7) Ventura.

II. The "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Liquefied Petroleum Gas- or Gasoline-Powered Motor Vehicles," as incorporated by reference in Title 13, California Administrative Code, Section 1976, shall apply to modifier certified motor vehicles with the following exceptions and additions.

A. If a durability-data vehicle is run, the vehicle shall be Sealed Housing Evaporative Determination (SHED) tested every 5,000 miles. An evaporative emission deterioration factor shall be calculated in accordance with the method described in Paragraph I.B.2. of this procedure. Compliance with the evaporative emission standard shall be determined by SHED testing the emission-data vehicle and applying the DF to the test results.

B. If no durability-data vehicle is run for exhaust emission certification, the durability of the evaporative emission control system shall be determined by an engineering evaluation by the Modifier. The engineering evaluation shall be submitted to the Executive Officer for approval prior to certification.

1. The deterioration factor (DF) for the approved evaporative family shall be assigned as 0.5 grams/test.

2. Compliance with the evaporative emission standard shall be determined by SHED testing the emission-data vehicle and applying the DF to the SHED test results.

III. "Specifications for Fill Pipes and Openings of Motor Vehicle Fuel Tanks" incorporated by reference in Title 13, California Administrative Code, Section 2290, shall apply to modifier certified motor vehicles.

IV. "California Motor Vehicle Tune-Up Label Specifications" as incorporated by reference in Title 13, California Administrative Code, Section 1965, shall apply to modifier certified motor vehicles with the following addition.

An "Emission Control Information" label shall be affixed to each vehicle produced. The label shall clearly state that the vehicle has been modified to comply with California emission requirements and shall show the Modifier's name, address and telephone number as well as the emission control component codes used for the visual portion of the California Vehicle Inspection Program and the model year, date (month/year) the modification is completed, and mileage when the emission control system warranty expires. A vacuum hose routing diagram shall also be installed with each vehicle. The label shall be placed underhood in a permanent, visible and accessible location, but not on the engine.

V. The provisions of the "California Assembly-Line Test Procedures for 1983 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles" incorporated by reference to Title 13, California Administrative Code, Section 2061, shall apply to modifier certified motor vehicles with the following exceptions and additions.

A. General Provisions

State Board personnel shall have access to vehicle assembly plants, distribution facilities, and test facilities for the purpose of vehicle selection, testing, or observation. The Executive Officer shall have access to vehicles for confirmatory testing of production vehicles at the ARB's laboratory at the Modifier's expense. Quality-audit test vehicles shall be retained by the Modifier for two (2) business days, or ten (10) business days at the Executive Officer's request, following the quality-audit tests. Any modified vehicle which the Modifier has under its control is eligible for confirmatory testing by the Air Resources Board.

B. Inspection Test Procedures

The Modifier shall perform an emission control function test on all modifier certified motor vehicles.

C. Quality-Audit Test Procedures

1. Vehicle Sample Selection

The first five vehicles of each model year for each engine family shall be selected for quality-audit FTP testing. Every fourth vehicle shall be tested thereafter. However, if FTP tests are performed on an engine family for configuration control, the quality-audit testing requirement is satisfied.

2. 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" with the following exceptions and additions.

3. Evaluation and Compliance

Compliance with the quality-audit test requirement shall be based on an initial evaluation of a minimum of five vehicles. Compliance will be demonstrated if the average deteriorated emissions for the tested vehicles are equal to or less than the applicable emission standards. If a non-compliance condition occurs, the Modifier shall notify the Executive Officer within 10 working days. Based on such non-compliance, the Executive Officer may invoke Section 2109 of Title 13, California Administrative Code. Subsequent evaluations shall be made at the end of each calendar month of the model year by evaluating data from all vehicles tested since the start of that model-year's production. If the average emissions, with deterioration factors applied, exceed the applicable standards, the Modifier shall notify the Executive Officer within 10 working days. Based on such non-compliance, the Executive Officer may invoke the provisions of Section 2109 of Title 13, California Administrative Code. The Executive Officer may seek penalties as specified under Sections 43211 and 43212 of the Health and Safety Code. The Executive Officer may order resumption of every other vehicle testing of an engine family if a condition of non-compliance occurs.

4. Reports

Each Modifier shall submit monthly evaluation reports to the ARB for each calendar month that a Modifier's engine famiy is in production. The reports shall be sent to the Chief, Mobile Source Division, by the 15th day of the following month.

In addition to the above, the Modifier shall report a description of each production vehicle sold or intended for sale in California

on a monthly basis. The description shall include the make, model, engine family, original date of manufacture, date of modification and Vehicle Identification Number or chassis number.

VI. Vehicle Emissions-Related Defects Reporting Procedures, In-Use Vehicle Emissions-Related Recall Procedures, and In-Use Vehicle Enforcement Test Procedures for Modifier Certified Motor Vehicles.

A. The following procedures shall apply to modifier certified motor vehicles with exceptions and additions:

1. "California Vehicle Emissions-Related Defects Reporting Procedure for 1978 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, Medium and Heavy-Duty Vehicles, and Motorcycles," incorporated by reference in Title 13, California Administrative Code, Section 2111, except for those sections applicable only to motorcycles.

2. "California In-Use Vehicle Emissions-Related Recall Procedures and In-Use Vehicle Enforcement Test Procedures for 1978 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, Medium and Heavy-Duty Vehicles, and Motorcycles," incorporated by reference in Title 13, California Administrative Code, Section 2112, except for those sections applicable only to motorcycles.

B. Exceptions and Additions

1. The Executive Officer shall require a program of in-use recall testing ~~Any group or sub-group~~ of modifier certified motor vehicles still within the vehicle useful life ~~certification mileage~~ period ~~is subject to in-use enforcement and recall testing~~. The program shall be based on testing five in-use vehicles of an engine family which are determined by the Executive Officer to have been properly maintained and used. Vehicle procurement and testing shall be performed at the Modifier's expense at an ARB approved independent laboratory. ~~or if its own laboratory, the modifier shall be entitled to select the test laboratory from an ARB approved list.~~ In addition:

(a) The Executive Officer shall be given prior notice of the start of testing and access to the test vehicles, test facilities, and test data.

(b) The Executive Officer may perform confirmatory testing.

(c) The Executive Officer may, at the request of the modifier, increase the sample size to ten.

(d) The Executive Officer shall not order recall testing at the expense of the modifier more than once for each engine family for a specific model year.

2. The criteria for acceptance of a vehicle as representative are specified in Paragraph C.2.b. of the "California In-Use Vehicle Enforcement Test Procedures for 1978 and Subsequent Model Year Passenger Cars, Light-Duty Trucks, Medium and Heavy-Duty Vehicles and Motorcyles." The testing procedures and permitted restorative maintenance are specified in Paragraphs C.2.c. and C.2.d. of the same procedures.

3. If the tested vehicles' deteriorated average emissions exceed any applicable emission standard, the engine family shall be deemed to be in non-compliance. If a non-compliance occurs, the Modifier shall notify the Executive Officer within 10 working days. Based on such non-compliance, the Executive Officer may implement the recall provisions set forth in Sections 2111 and 2112 of Title 13, California Administrative Code, and penalties provided in Health and Safety Code Sections 43211 and 43212.

4. If the Modifier fails to perform in-use recall testing as required by Paragraph VI. B. or if, on the basis of any testing performed pursuant to Section VI of these procedures, the Executive Officer determines that the vehicles in a certified engine family are subject to recall and the Modifier fails to comply with all recall requirements to the satisfaction of the Executive Officer including those requirements specified in a voluntary or ordered remedial plan, the surety bonds for each vehicle in that engine family shall be forfeited and shall be paid into the Air Pollution Control Fund. If the vehicles have not been recalled or if the Modifier (or his or her agent) has completed all necessary recall actions to the satisfaction of the Executive Officer, the bond shall be released at the end of the recall period for the engine family.

5. The Executive Officer shall not require in-use testing of more than ~~three (3) passing engine families per Model Year unless the determines that additional testing is necessary to assure that all certified vehicles meet the applicable emission standards. In no case shall more than one-half of a Modifier's engines families be tested in a Model Year. If the Modifier has certified seven (7) or more engine families~~ one-half of each Modifier's engine families for each model year at the Modifier's expense. If division of the total number of engine families by two to calculate a Modifier's liability does not result in a whole number, the result shall be rounded up to the next whole number. When three engine families are tested which comply with the emission standards for a given model year and Modifier, no further testing of that Modifier's engine families for that model year shall be performed at the Modifier's expense.

VII. Under the authority of Health and Safety Code Section 43012, upon presentation of his/her credentials, the Executive Officer or his/her

authorized representative shall conduct inspections of new or used modifier certified motor vehicle dealerships or facilities where such new or used vehicles are offered for sale to verify conformity with requirements specified in Title 13, CAC, Sections 2151 and 2152. Costs of new vehicle inspections such as those enumerated in Section 2153 (personnel salaries, administrative overhead, travel time, etc.) shall be borne by the Modifier and shall be made payable to the State of California, Air Resources Board, 9528 Telstar Avenue, El Monte, CA 91731.

Violation of requirements specified in Sections 2151 and 2152 may result in sanctions and penalties as specified in each section.

VIII. CERTIFICATION PROTOCOL

A. A Modifier may apply for certification of modifier certified motor vehicles. The application shall be in the new vehicle certification application format developed by the Environmental Protection Agency and shall be accompanied by the applicable certification or recertification fee. Upon confirming that the applicant has met all applicable requirements, an Executive Order shall be issued certifying the vehicles as meeting California emission standards. A fee of $4,000 payable to the Air Resources Board shall be charged for each application for certification of an engine family submitted by a Modifier. A fee of $2,000 payable to the Air Resources Board shall be charged for each application to recertify an engine family. These fees may be increased annually by an amount not to exceed ten percent (10%) at the discretion of the Executive Officer without further authorization from the Board, if necessary to cover the costs of administartion and enforcement of these procedures.

B. The application for certification shall include a statement, executed by a responsible officer of the Modifier under penalty of perjury, that all vehicles which the Modifier has, from the effective date of these certification and compliance procedures, sold, leased, rented, offered to sell, imported, delivered, purchased, received or otherwise acquired, or which acts the Modifier has attempted or assisted in, have been certified by the Board, and have been manufactured, tested and sold or offered for sale in compliance with Health and Safety Code Sections 43211 and 43212, or were the subject of a mitigation settlement accepted by the Board or a civil penalty paid pursuant to a judicial determination; provided that this statement shall apply only to vehicles which, at the time of the applicable transaction, were new vehicles as defined in Health and Safety Code Sections 39042 and 43156, and had not previously been registered outside of this state, and which were intended for use, registration or resale in this state, or were sold or offered for sale to a resident of or person doing business in this state.

1. For purposes of this section, the term "Modifier" shall extend to and include any person who owns a 10 percent or greater interest in the Modifier; and shall also include any business or entity in which the Modifier, as defined in this section, since the effective date of these procedures has owned or owns a 10 percent or greater interest or has been or is a managerial employee.

2. The Modifier shall produce records and other evidence as necessary to support the statement required by this paragraph upon request of the Executive Officer.

3. The Executive Officer shall withhold certification if the Modifier fails to comply with the provisions of this section or if the Executive Officer determines that the statement required by this section contains false or incomplete information. The Executive Officer shall provide to the Modifier a written statement specifying the basis of his/her action under this provisions.

IX. SEVERABILITY

Each part of the "California Certification and Compliance Test Procedures for Modifier Certified Motor Vehicles" is intended to be non-severable, and in the event that any part of these certification and compliance test procedures is held to be invalid, the entirety of the certification and compliance test procedures shall be invalid, and of no further force and effect.

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Regulations Regarding the Certification for Sale in California of Modifier Certified New Motor Vehicles

Agenda Item No.: 85-16-2

Public Hearing Date: November 21, 1985

Response Date: January 31, 1985

Issuing Authority: Air Resources Board

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

Response: N/A

Certified: Marcia Holmes
Board Secretary

Date: May 13, 1986

State of California

Memorandum

To : Gordon Van Vleck
Secretary
Resources Agency

Date : August 27, 1986

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

From : Harold Holmes
Board Secretary
Air Resources Board

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

ATTACHMENTS
85-77
85-78
85-80
86-4
86-25
86-43
86-44
86-45

85-81
&
85-82
Missing Resolution

State of California
AIR RESOURCES BOARD

Resolution 85-83

December 20, 1985

Agenda Item No.: 85-19-3

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, the Legislature in 1982 enacted the Kapiloff Acid Deposition Act (Stats. 1982, ch. 1973; Health and Safety Code Sections 39900-39915) to address the potential 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 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 the Health and Safety Code Section 39909, a draft report entitled "Third 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 "Third Annual Report to the Governor and the Legislature on the Air Resources Board's Acid Deposition Research and Monitoring Program;"

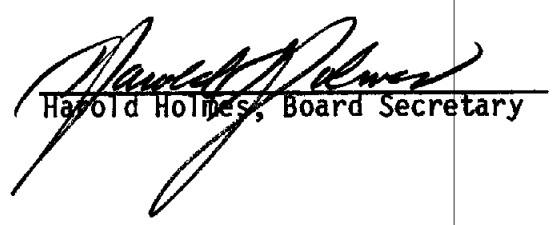
WHEREAS, the Board finds that the report thoroughly and accurately describes the activities, findings and plans of the acid deposition research and monitoring program; and

WHEREAS, the Board finds that one additional year will be needed beyond January 1, 1988 for the completion of research and monitoring studies designed and planned to meet the objectives of the Kapiloff Acid Deposition Act to the extent practicable, and to allow for the integration and reporting of study results by the Board to the Governor and the Legislature by January 1, 1989;

NOW, THEREFORE, BE IT RESOLVED that the Board approves the "Third 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 directed by the Board.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to investigate the need for, and, if necessary, to develop, a legislative proposal designed to permit the Board to continue for one additional year beyond the current authorization, i.e., until December 31, 1988, the acid deposition research monitoring efforts begun pursuant to the Kapiloff Acid Deposition Act.

I hereby certify that the above is a true and correct copy of Resolution 85-83, as adopted by the Air Resources Board.



Harold Holmes, Board Secretary