State of California
AIR RESOURCES BOARD

RESOLUTIONS

No.	Item	Staff	Hearing Scheduled	Date Adopted	+ EIS to Resources
89-1	Proposed Revisions to Abrasive Blasting Regulations	CD	VOID — NOT USED	—	
89-2	Improvement of Procedures for Evaluating Photochemical Models	RD	01/12/89	01/12/89	N/A
89-3	Chronic Toxicity of mixed Air Pollutants: Oxidant, Acid and Fine Particles	RD	01/12/89	01/12/89	N/A
89-4	Field Verification of Yield Losses from Ambient Ozone to Cotton (Gossypium hirsutum) in the San Joaquin Valley	RD	01/12/89	01/12/89	N/A
89-5	Assessment of Exposures to Candidate Volatile Organic Contaminants in California Indoor Air	RD	01/12/89	01/12/89	N/A
89-6	Dr. James Kendrick Resolution	EO	01/12/89	01/12/89	N/A
89-7	Public Hearing to Consider Amendments to Regulations Regarding the Stand for Visibility Reducing Particles	RD/ MLD	01/12/89	01/12/89	
89-8	Evaluation of Low-Solvent Automotive Refinishing Coatings	RD	02/10/89	02/10/89	N/A
89-9	Effect of Ozone on Photosynthesis, Vegetative Growth, and Productivity of Prunus salicina in the SJV of Calif.	RD	02/10/89	02/10/89	N/A
89-10	Conference on Human Health Effects of Long-Term Exposure to Air Pollution	RD	02/10/89	02/10/89	N/A
89-11	Data Analysis for the So. Calif. Air Qlty Study, Phase I: Data Review & Inventory; Measurement-Specific Data Mgt Tasks	RD	02/10/89	02/10/89	N/A
89-12	Methanol Fuel Additive Demonstration Southwest Research Institute $339,348	RD	03/09/89		
89-13	Assessment of Combustion Sources that Emit Polychloriinated Dioxins and Furans, Polycyclic Aromatic Hydrocarbons,...$274,831	RD	03/09/89		
89-14	Assessment of Ethylene Oxide Concentrations and Emissions from Sterilization and Fumigation Processes $181,792	RD	03/09/89	03/09/89	N/A
89-15	Development of a universally Accepted Test Method for Determination of Volatile Organic Content (VOC) of Paints ... $164,000	RD	03/09/89	03/09/89	N/A
89-16	Chemical Analysis of Aerosol Samples from the Carbonaceous Species Methods Comparison Study $79,554	RD	03/09/89		

State of California
AIR RESOURCES BOARD

RESOLUTIONS

No.	Item	Staff	Hearing Scheduled	Date Adopted	+ EIS to Resources
89-17	Spatial inhomogeneities in SCAQS Filters U.C. Davis $38,265	RD	03/09/89	03/09/89	N/A
89-18	Secondary Organic Aerosol in the Los Angeles Basin Oregon Graduate Center $55,106	RD	03/09/89	03/09/89	N/A
89-19	Southern California Air quality Study Interpretive Data Analysis: Analysis of Hydrocarbon and Carbonyl Data $66,000	RD	03/09/89		
89-20	Advanced Receptor Modeling of Data from the Southern California Air Quality Study U.S.C. $129,280	RD	03/09/89	03/09/89	N/A
89-21	Southern California Air Quality Study Interpretive Data Analysis: Receptor Modeling $84,927	RD	03/09/89	03/09/89	N/A
89-22	Diagnostic Analysis of wind Observations Collected During the Southern California Air Quality Study $39,142	RD	03/09/89		
89-23	Improved Procedures for Quantifying Key Meteorological Effects on Ambient Ozone Data Systems Apps., Inc. $99,984	RD	03/09/89	03/09/89	N/A
89-24	Determination of Source Contributions to High Ambient Carbon Monoxide Concentrations and Categorization of Carb.Mono.	RD	03/09/89	03/09/89	N/A
89-25	Structural Modeling of Epidemiological Time Series U.C. Davis $74,628	RD	03/09/89	03/09/89	N/A
89-26	A Demonstration of the Effects of Smog on Ornamental and Home Garden Plants Calif. Arboretum Foundation $40,811	RD	03/09/89	03/09/89	N/A
89-27	Crop and Forest Losses from Air Pollutants: An Assessment Program UCR $97,998	RD	03/09/89	03/09/89	N/A
89-28	Public Meeting to Consider Petition of City of Kingsburg, et al. Requesting the ARB.....San Joaquin Valley APCD	EO	03/10/89	03/10/89	
89-29	Public Hearing to Consider the Adoption of an Airborne Toxic Control Measure for Hexavalent chromium Emis. from Cooling Towers	SSD	03/09/89	3/9/89	1/19/90
89-30	Public Hearing to Consider Adoption of Regulations Regarding the Certification of Methanol-Fueled Motor Vehicles	MSD	03/09/89	3/9/89	2/23/90
89-31	Status Report on Implementation of the 1982 Bay Area Air Quality Plan Under the Federal Clean Air Act	EO	03/10/89	3/10/89	
89-32	Methanol Fuel Additive Demonstration S.W. Research Institute $339,348	RD	04/13/89	04/13/89	

State of California
AIR RESOURCES BOARD

RESOLUTIONS

No.	Item	Staff	Hearing Scheduled	Date Adopted	+ EIS to Resources
89-33	Assessment Of Combustion Sources That Emit Polychlorinated Dioxins, & Furans, Polycyclic... Midwest Research Inst. $274,831.	RD	04/13/89	04/13/89	
89-34	Chemical Analysis Of Aerosol Samples From the Carbonanceous Species Methods Comparison Study Global Geochemistry Corp. $ 79,554.	RD	04/13/89	04/13/89	
89-35	Quantification Of Evaporative Running Loss Emissions From Gasoline-Powered Pass. Cars In CA Automotive Testing Lab., Inc. $300,000.	RD	04/13/89	04/13/89	
89-36	Engineered Analysis And Experimental Studies Of Medical Waste Incineration Energy & Environ. Research Corp. $150,058	RD	04/13/89	04/13/89	
89-37	Southern California Air Quality Study (SCAQS) Interpretive Data Analysis: Toxic Air Contaminant Daniel Grosjean & Assoc., Inc. $ 17,940.	RD	04/13/89	04/13/89	
89-38	Southern CA Air Quality Study Interpretive Data Analysis: Analysis Of Hydrocarbon & Carbonyl Data Sonoma Technology, Inc. $ 69,512.	RD	04/13/89	04/13/89	
89-39	Diagnostic Analysis Of Wind Observations Collected During The Southern CA Air Quality Study Systems Applications, Inc. $ 39,142.	RD	04/13/89	04/13/89	
89-40	Peroxyacetyl Nitrate And Methanol From FTIR Spectral Records During the 1986 Carbonaceous... Univ. Of Calif., Riverside $ 19,593.	RD	04/13/89	04/13/89	
89-41	Carbonaceous Species methods Comparison Study, Interlaboratory Round Robin, Interpretation... G2 Environmental, Inc. $ 19,994.	RD	04/13/89	04/13/89	
89-42	Low Level Carbon Monoxide Exposure In Sensitive Subects Exposed At High Altitude Univ. Of CA, Irvine $236,779.	RD	04/13/89	04/13/89	
89-43	Neural Basis for Symptomatic And Physiological Effects Of Ozone Univ. Of Calif., San Francisco $ 41,856	RD	04/13/89	04/13/89	
89-44	Indoor Pollutant Concentrations And Exposures Research Triangle Institute $459,975	RD	04/13/89	04/13/89	
89-45	1989-90 Research Plan	RD	04/13/89	04/13/89	
89-46	Indoor Air Quality/Personal Exposure Assessment Five Year Study Plan	RD	04/13/89	04/13/89	
89-47	VOID	—	—	—	
89-48	Hot Spots Information & Assessment Act	TSD	04/13/89	04/13/89	10/2/89

State of California
AIR RESOURCES BOARD

RESOLUTIONS

No.	Item	Staff	Hearing Scheduled	Date Adopted	+ EIS to Resources
89-49	INDOOR AIR	RD	4/13/89	4/14/89	
89-50	VOID	VOID	VOID	VOID	
89-51	Validity of Current Aerosol Models for Calculating Gas-Aerosol Equilibrium, Water Content... CA Insitute of Technology $180,000.00	RD	6/09/89	6/09/89	
89-52	Atmospheric Acidity Protection Program 5 year Research Plan	RD	5/11/89	5/11/89	
89-53	Methylene Chloride	SSD	7/13/89	7/13/89	
89-54	Architectural Coatings	SSD	5/12/89	5/12/89	
89-55	Diesel Fuel	SSD	5/11/89	5/11/89	
89-56	Interim Oversight for Materials Exposure Sites C-E Environmental, Inc. $8,952.00	RD	6/09/89	6/09/89	
89-57	Emission Fees for CCAA	TSD	6/09/89	6/09/89	9/18/89
89-58	Fee Schedule for Atmospheric Acidity Protection Program	RD	6/09/89	6/09/89	11/9/89
89-59	CAA Criteria	TSD	6/08/89	6/08/89	9/18/89
89-60	CAA Designation	TSD	6/09/89	6/09/89	9/18/89
89-61	Calif. Exhaust Emission Standards & Test Procedures for 1988 & Subsequent Model Pass. Cars..	MSD	6/08/89	6/08/89	
89-62	Supervisor George Bailey	EO	6/08/89	6/08/89	
89-63	STI Ozone & PM Analysis for SCAQS Sonoma Tech., Inc. $24,992.	RD	7/13/89	7/13/89	
89-64	CIT Anaylsis of Tracer Data for SCAQS Calif. Inst. Of Tech. $77,660.	RD	7/13/89	7/13/89	

State of California
AIR RESOURCES BOARD

RESOLUTIONS

No.	Item	Staff	Hearing Scheduled	Date Adopted	+ EIS to Resources
89-65	Patterns & Processes of Surface Water Acidification University of California $399,996	RD	7/13/89	7/13/89	
89-66	South Coast Plan	EO	6/22/89	8/15/89	9/13/89
89-67	Annual Fee Schedule For MV Cert.	MSD	7/13/89	7/13/89	11/17/89
89-68	San Joaquin Valley NSR	SSD	8/10/89	8/10/89	10/2/89
89-69	Effects of Acidity and Ozone on Airway Epithelium Univer. Of CA, San Fran $204,558	RD	9/14/89	9/15/89	
89-70	Application of the Alpine Lake Forecaster to Watersheds in the Sierra Nevada U.S. Geological Survey $ 83,791	RD	9/14/89	9/15/89	
89-71	Pilot Studies to Develop Sensitive Markers for Detecting Health Effects of Acidic Atmospheres Univ. of Cincinnati $119,746	RD	9/14/89	9/15/89	
89-72	Pilot Studies to Develop Sensitive Markers for.. Univ. of CA, Irvine $122,924	RD	9/14/89	9/15/89	
89-73	Southern California Air Quality Study - Atmospheric Acidity Data Analysis AV Projects, Inc. $145,292	RD	9/14/89	9/15/89	
89-74	SCAQS - AA Data Analysis Carnegie Mellon Univ,	RD	9/14/89		
89-75	Wet Deposition Monitoring in the Alpine Zone in the Sierra Nevada Univ. of CA, Santa Barbara $469,798	RD	9/14/89	9/15/89	
89-76	Antiperspirant/Deodorant VOC Content	SSD	11/8/89	11/8/89	
89-77	On Board Diagnostics	MSD	9/14/89	9/14/89	10/15/90
89-78	Toxic "Hot Spots" Fee Schedule		9/14/89	9/15/89	
89-79	CNG & LPG	MSD	9/14/89	9/15/89	10/15/90

State of California
AIR RESOURCES BOARD

RESOLUTIONS

No.	Item	Staff	Hearing Scheduled	Date Adopted	+ EIS to Resources
89-80	Regulatory Strategies for Emissions from Selected Off-Road Mobile Sources... Booz, Allen, & Hamilton $245,624	RD	11/9/89	11/9/89	
89-81	Measurement of Ambient Concentrations of Chlorinated Dioxins and Furans... ENSR Cons. & Engin. $218,162	RD	11/9/89	11/9/89	
89-82	Development of an Improved Source Sampling Method for Polycyclic... CA Dept. of Health Services $192,959	RD	11/9/89	11/9/89	
89-83	Development of Laser Diagnostic Methods for PAH, PCDD & PCDF Univ. Of Calif., Davis $ 59,941	RD	11/9/89	11/9/89	
89-84	An Investigation of Error Propagation In the California Air Resources Board's... Gregory J. McRae $108,3000	RD	11/9/89	11/9/89	
89-85	Development and Application of an Up-to-Date Photochemical Mechanism ... Univ. of Calif., Riverside $ 99,559	RD	11/9/89	11/9/89	
89-86	Vehicle Monitoring to Characterize Los Angeles Fleet Near Areas Having... A V Projects, Inc. $ 50,000	RD	11/9/89	11/9/89	
89-87	Are Mucin and Mucin RNA Reliable Markers for Hyper-Secretion... Univ. of Calif., San Fran. $ 59,854	RD	11/9/89	11/9/89	
89-88	Comparison of Young Adult Male and Female Responses to Ozone... Univ. of Calif., Davis $ 35,614	RD	11/9/89	11/9/89	
89-89	Sierra Ozone Impact Assessment Study Univ. of Calif., Davis $199,182	RD	11/9/89	11/9/89	
89-90	Clinical Pilot Study to Develop Sensitive Markers for Detecting... C-E Env., Inc. $105,937	RD	11/9/89	11/9/89	
89-91	Investigation of the Effects of Atmospheric Acidity Upon... Univ. of S. California $359,396	RD	11/9/89	11/9/89	
89-92	SCM Residential Wood Emissions	SSD	11/8/89	11/8/89	
89-93	Test Methods Cancelled. Given new 1990 II	MLD	11/8/89	postponed	
89-94	AG Offsets	SSD	11/8/89	11/8/89	
89-95	Chrome Plating		11/9/89		

State of California
AIR RESOURCES BOARD

RESOLUTIONS

No.	Item	Staff	Hearing Scheduled	Date Adopted	+ EIS to Resources
89-96	Determination of Emissions from Open Burning of Ag. and Forestry Wastes Univ. of Davis $281,692	RD	12/14/89	12/14/89	
89-97	Chemical Anaylsis of Aromatics In Diesel Fuels SW Research Inst. $118,986	RD	12/14/89	12/14/89	
89-98	Determination of Key Organic Compounds Present in the Particulate.. CA Inst. of Tech. $298,904	RD	12/14/89	12/14/89	
89-99	Effects of Carbon Monoxide and High Altitude on Fetal Cardiac & Neurologica Loma Linda Univ. $238,388	RD	12/14/89	12/14/89	
89-100	Transported Air Pollutants	TSD	12/14/89	12/14/89	3/15/90
89-101	Warranty Regs	MSD	12/14/89	12/14/89	1/28/91
89-102	Low-Emission Vehicles, Clean Fuels, New Gasoline	MSD SSD	12/14/89	12/14/89	

89-1
Void
No Resolution

ITEM NO.: 89-1-2(b) 1
DATE: January 12, 1989

State of California

AIR RESOURCES BOARD

ITEM: Research Proposal No. 1627-143 entitled "Improvement of Procedures for Evaluating Photochemical Models"

RECOMMENDATION: Adopt Resolution 89-2 approving Proposal No. 1627-143 for an amount not to exceed $49,953.

SUMMARY: The objectives of this project are to improve procedures used for evaluating photochemical model performance, and to develop methods to evaluate photochemical model performance in assessing ozone control strategies. Emphasis is to be placed on the analysis of the Southern California Air Quality Study (SCAQS) data base.

The results of this project will provide guidance to ARB on how best to evaluate the performance of photochemical models used in California to develop State Implementation Plans for ozone nonattainment areas.

A strength of Radian's approach to this study is the use of experts in photochemical models as subcontractors. This will ensure a wide range of views from the modeling community.

The contractor for this study will be Radian Corporation, and the principal investigator will be Dr. T. W. Tesche.

State of California

AIR RESOURCES BOARD

Resolution 89-2
January 12, 1989

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 1627-143, entitled "Improvement of Procedures for Evaluating Photochemical Models," has been submitted by Radian Corporation; 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 1627-143, entitled "Improvement of Procedures for Evaluating Photochemical Models," submitted by Radian Corporation, for a total amount not to exceed $49,953.

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 1627-143, entitled "Improvement of Procedures for Evaluating Photochemical Models," submitted by Radian Corporation, for a total amount not to exceed $49,953.

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 $49,953.

I hereby certify that the above is a true and correct copy of Resolution 89-2, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

ITEM NO.: 89-1-2(b) 2
DATE: January 12, 1989

State of California

AIR RESOURCES BOARD

ITEM: Research Proposal No. 1611-141 entitled "Chronic Toxicity of Mixed Air Pollutants: Oxidant, Acid and Fine Particles"

RECOMMENDATION: Adopt Resolution 89-3 approving Proposal No. 1611-141 for an amount not to exceed $398,835.

SUMMARY

Current ambient air quality standards, which are based largely on the effects of one- or two-hour exposures, may not be sufficiently stringent to protect people against the adverse health effects of longer exposures. This study, which uses a rodent model, is designed to help identify the mechanisms by which prolonged exposures produce damage in the lung.

The investigators will expose rats to complex mixtures of air pollutants common to the Los Angeles area to determine how their respiratory systems are affected by prolonged exposures to these mixtures. The study has been designed to maximize the information obtained about the effects of similar exposures on people. The concentrations of oxidant (as ozone), acid, and particles in the atmospheres and the durations of exposure mimic human exposures at heavily polluted sites in the Los Angeles area. The effects to be assessed can either be observed directly in humans or are analogous to expected effects on humans.

ITEM NO.: 89-1-2(b) 3.
DATE: January 12, 1989

State of California

AIR RESOURCES BOARD

ITEM: Research Proposal No. 1614-142R entitled "Field Verification of Yield Losses from Ambient Ozone to Cotton (Gossypium hirsutum) in the San Joaquin Valley"

RECOMMENDATION: Adopt Resolution 89-4 approving Proposal No. 1614-142R for an amount not to exceed $187,371.

SUMMARY: The Air Resources Board Program in Crop Loss Assessment has produced estimates of statewide yield losses to agricultural crops due to ozone exposure. To confirm the validity of the estimation equations at diverse sites, under the full range of field conditions, this study will: compare model predictions of ozone induced yield losses with actual yield losses in cotton at four representative fields in the San Joaquin Valley; and assess the relative yields of two major cotton cultivars over a range of ambient oxidant levels.

This study will provide information on the yield loss response of cotton, under field conditions, to the wide range of ambient oxidant levels which occur in the San Joaquin Valley. This information will be useful in validating crop loss assessment efforts and in supporting regulatory activities to protect agriculture from adverse air pollution impacts. The study will be a cooperative one involving county

State of California

AIR RESOURCES BOARD

Resolution 89-3
January 12, 1989

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 1611-141, entitled "Chronic Toxicity of Mixed Air Pollutants: Oxidant, Acid and Fine Particles," has been submitted by the University of California, Irvine; 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 1611-141, entitled "Chronic Toxicity of Mixed Air Pollutants: Oxidant, Acid and Fine Particles," submitted by the University of California, Irvine, for a total amount not to exceed $398,835.

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 1611-141, entitled "Chronic Toxicity of Mixed Air Pollutants: Oxidant Acid and Fine Particles," submitted by the University of California, Irvine, for a total amount not to exceed $398,835.

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 $398,835.

I hereby certify that the above is a true and correct copy of Resolution 89-3, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-4
January 12, 1989

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 1614-142R, entitled "Field Verification of Yield Losses from Ambient Ozone to Cotton (Gossypium hirsutum) in the San Joaquin Valley," 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 Research Screening Committee has reviewed and recommends for funding:

> Proposal Number 1614-142R, entitled "Field Verification of Yield Losses from Ambient Ozone to Cotton (Gossypium hirsutum) in the San Joaquin Valley," submitted by the University of California, Riverside, for a total amount not to exceed $187,371.

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 1614-142R, entitled "Field Verification of Yield Losses from Ambient Ozone to Cotton (Gossypium hirsutum) in the San Joaquin Valley," submitted by the University of California, Riverside, for a total amount not to exceed $187,371.

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 $187,371.

I hereby certify that the above is a true and correct copy of Resolution 89-4, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

ITEM NO.: 89-1-2(b) 4
DATE: January 12, 1989

State of California

AIR RESOURCES BOARD

ITEM: Research Proposal No. 1630-142 entitled "Assessment of Indoor Concentrations, Indoor Sources, and Source Emissions of Selected Volatile Organic Compounds"

RECOMMENDATION: Adopt Resolution 89-5 approving Proposal No. 1630-142 for an amount not to exceed $40,000.

SUMMARY: The purpose of this project is to provide information on indoor pollutant concentrations and source emissions for use in ARB's indoor exposure assessments.

Lawrence Berkeley Laboratory (LBL) will conduct an extensive literature review of indoor concentration data and indoor emissions data, including examination of data bases not available through library search programs, such as the National Aeronautics and Space Administration's materials data base. LBL will also evaluate indoor emissions measurement methods and will recommend measurement protocols for future indoor emissions.

The information obtained regarding existing data will be used by ARB staff to develop the indoor exposure assessments required under Health and Safety Code Section 39660.5 as part of the Toxic Air Contaminants Program's identification process. Information obtained regarding indoor source emissions data gaps and measurement methods will be used to guide future ARB research related to indoor sources and emissions.

State of California

AIR RESOURCES BOARD

Resolution 89-5
January 12, 1989

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 1630-142, entitled "Assessment of Indoor Concentrations, Indoor Sources, and Source Emissions of Selected Volatile Organic Compounds," has been submitted by the Lawrence Berkeley Laboratory, U.S. Department of Energy; and

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

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

> Proposal Number 1630-142, entitled "Assessment of Indoor Concentrations, Indoor Sources, and Source Emissions of Selected Volatile Organic Compounds, Phase I," submitted by the Lawrence Berkeley Laboratory, U.S. Department of Energy, for a total amount not to exceed $40,000;

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 1630-142, entitled, "Assessment of Indoor Concentrations, Indoor Sources, and Source Emissions of Selected Volatile Organic Compounds, Phase I," submitted by the Lawrence Berkeley Laboratory, U.S. Department of Energy, for a total amount not to exceed $40,000.

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 $40,000.

I hereby certify that the above is a true and correct copy of Resolution 89-5, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 89-6

January 12, 1989

WHEREAS, James B. Kendrick, Jr., Ph.D. has served with distinction as Chairman of the Scientific Review Panel on Toxic Air Contaminants from January 1987 through December 1988;

WHEREAS, as University of California Vice President--Agriculture and Natural Resources, and Professor of Plant Pathology, Emeritus, Dr. Kendrick has outstanding technical, scientific, and leadership abilities which he has dedicated to implementing California's toxic air contaminant program and to furthering the Air Resources Board's ("Board") understanding of toxic air contaminants;

WHEREAS, his acknowledged expertise in air pollution research has played an important role in guiding the efforts of the Scientific Review Panel and in advising the Board; and

WHEREAS, his intelligence and his balanced and objective approach to the issues have won for him the respect of his fellow Panel members, the Board, and the public;

NOW, THEREFORE, BE IT RESOLVED that the Air Resources Board extends its deepest appreciation to Dr. Kendrick and expresses its thanks for his significant contribution to California's progress towards cleaner and healthier air.

Jananne Sharpless, Chairwoman

George F. Bailey, Member

Betty S. Ichikawa

Eugene A. Boston, M.D. Member

John S. Lagarias, Member

John N. Cefalu, Member

Harriett M. Wieder, Member

Roberta H. Hughan, Member

Andrew Wortman, Ph.D., Member

State of California
AIR RESOURCES BOARD

Resolution 89-6

January 12, 1989

WHEREAS, James B. Kendrick, Jr., Ph.D., has served with distinction as Chairman of the Scientific Review Panel on Toxic Air Contaminants from January 1987 through December 1988;

WHEREAS, as University of California Vice President — Agriculture and Natural Resources, and Professor of Plant Pathology, Emeritus, Dr. Kendrick has outstanding technical, scientific, and leadership abilities which he has dedicated to implementing California's toxic air contaminant program and to furthering the Air Resources Board's ("Board") understanding of toxic air contaminants;

WHEREAS, his acknowledged expertise in air pollution research has played an important role in guiding the efforts of the Scientific Review Panel and in advising the Board; and

WHEREAS, his intelligence and his balanced and objective approach to the issues have won for him the respect of his fellow Panel members, the Board, and the public;

NOW, THEREFORE, BE IT RESOLVED that the Air Resources Board extends its deepest appreciation to Dr. Kendrick and expresses its thanks for his significant contribution to California's progress towards cleaner and healthier air.

Jananne Sharpless, Chairwoman

George Bailey, Member

Beny S. Ichikawa, Member

Eugene A. Boston, M.D., Member

John S. Lagarias, Member

John N. Cefalu, Member

Harriett M. Wieder, Member

Roberta H. Hughan, Member

Andrew Wortman, PH.D., Member

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves the amendments to Sections 70100 and 70200, Title 17, California Code of Regulations, and the "Method V" incorporated therein, as set forth in Attachment A hereto.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to adopt the amendments to Sections 70100 and 70200, Title 17, California Code of Regulations, and the "Method V" incorporated therein, 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 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 89-7, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

WHEREAS, the Board finds that:

Human observations of visual range provide only approximate particle-visibility linkages thereby limiting the basis for relating visual air quality to controllable pollutant emissions in regulatory programs and posing significant problems for the operation of a statewide visibility monitoring network;

Direct measurements of the aspects of particles such as mass, particle size, particle number, or optical density would create a direct link between visibility degradation and pollutant concentrations and provide a scientific basis for designing emission control programs necessary to achieve compliance with the applicable visibility standard and for operating a statewide monitoring network;

The visibility standard should reflect the critical importance of scattering and absorption of light by visibility reducing particles, and should be stated in terms of the numerical extinction coefficient based on such scattering and absorption;

Specific instrumental monitoring methods are available to measure light scattering, light absorption, and the mass of visibility reducing particles, and it is appropriate to revise the existing standard to incorporate such methods or equivalent methods;

The standard should also be revised to set forth the specific extinction coefficients in terms of total scattering and absorption of light which are approximately equivalent to the visual range measurements in the existing standard, i.e., 0.23 per kilometer due to particles, except in the case of the Lake Tahoe Air Basin, where the extinction coefficient will be 0.07 per kilometer;

The duration of the averaging period for the standard should be 8 hours to accommodate the variability in atmospheric conditions and to reflect the technical efficiency of the instrumental methods; and

The revised standard for visibility reducing particles will have a beneficial effect on air quality and will have no adverse environmental impacts.

State of California
AIR RESOURCES BOARD

Resolution 89-7

January 12, 1989

Agenda Item No.: 89-1-1

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

WHEREAS, Section 39606(b) of the Health and Safety Code 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, the current statewide ambient air quality standard for visibility reducing particles, as set forth in Section 70200, Title 17, California Code of Regulations, limits the particles to the amount which allows visibility at a range of 10 miles or more, except in the case of the Lake Tahoe Air Basin, where the limit is the amount which allows visibility at a range of 30 miles or more;

WHEREAS, the current standard specifies that measurement of visual range shall be based on one human observation of the range;

WHEREAS, Section 70100, Title 17, California Code of Regulations, contains the definitions used in the standard;

WHEREAS, based on the recommendations of the report from the Board Committee on Visibility, the Board in September 1986 adopted Resolution 86-86 which stated the Board's intent to consider an instrumental monitoring method for measurement of visibility degradation and which directed staff to develop such a method, to implement a routine visibility monitoring program at selected sites, and to integrate visibility and PM-10 monitoring;

WHEREAS, the California Environmental Quality Act and Board regulations require that no project which may have significant adverse environmental impacts be adopted as originally proposed if feasible alternatives or mitigation measures are available to reduce or eliminate such impacts, and;

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.

Proposal Number 1632-144, entitled "Evaluation of Low-Solvent Automotive Refinishing Coatings," submitted by Calcoast Analytical-ITL, for a total amount not to exceed $75,703.

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 1632-144, entitled "Evaluation of Low-Solvent Automotive Refinishing Coatings," submitted by Calcoast Analytical-ITL, for a total amount not to exceed $75,703.

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 $75,703.

I hereby certify that the above is a true and correct copy of Resolution 89-8, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-8

February 10, 1989

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 1632-144, entitled "Evaluation of Low-Solvent Automotive Refinishing Coatings," has been submitted by Calcoast Analytical-ITL; 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:

Prunus salicina in the San Joaquin Valley of California," submitted by the University of California, Davis, for a total amount not to exceed $84,956.

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 1633-144, entitled "The Effect of Ozone on Photosynthesis, Vegetative Growth, and Productivity of Prunus salicina in the San Joaquin Valley of California," submitted by the University of California, Davis, for a total amount not to exceed $84,956.

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 $84,956.

I hereby certify that the above is a true and correct copy of Resolution 89-9, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-9

February 10, 1989

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 1633-144, entitled "The Effect of Ozone on Photosynthesis, Vegetative Growth, and Productivity of Prunus salicina in the San Joaquin Valley of California," has been submitted by the University of California, Davis; 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 1633-144, entitled "The Effect of Ozone on Photosynthesis, Vegetative Growth, and Productivity of

submitted by the University of California, Irvine, for a total amount not to exceed $28,999.

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 1637-144, entitled "Conference on Human Health Effects of Long-Term Exposures to Air Pollution," submitted by the University of California, Irvine, for a total amount not to exceed $28,999.

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 $28,999.

I hereby certify that the above is a true and correct copy of Resolution 89-10, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-10

February 10, 1989

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 1637-144, entitled "Conference on Human Health Effects of Long-Term Exposures to Air Pollution," has been submitted by the University of California, Irvine; 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 1637-144, entitled "Conference on Human Health Effects of Long-Term Exposures to Air Pollution,"

Proposal Number 1675-145, entitled "Data Analysis for the Southern California Air Quality Study, Phase I: Data Review and Inventory; Measurement-Specific Data Management Tasks," submitted by Sonoma Technology, Inc., for a total amount not to exceed $31,907.

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 1675-145, entitled "Data Analysis for the Southern California Air Quality Study, Phase I: Data Review and Inventory; Measurement-Specific Data Management Tasks," submitted by Sonoma Technology, Inc., for a total amount not to exceed $31,907.

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 $31,907.

I hereby certify that the above is a true and correct copy of Resolution 89-11, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-11

February 10, 1989

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 1675-145, entitled "Data Analysis for the Southern California Air Quality Study, Phase I: Data Review and Inventory; Measurement-Specific Data Management Tasks," has been submitted by Sonoma Technology, Inc.; 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:

89-12 Missing Resolution

89-13
Missing
Resolution

State of California

AIR RESOURCES BOARD

Resolution 89-14
March 9, 1989

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 1648-145, entitled "Assessment of Ethylene Oxide Concentrations and Emissions from Sterilization and Fumigation Processes," has been submitted by Central Coast Analytical Services; 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 1648-145, entitled "Assessment of Ethylene Oxide Concentrations and Emissions from Sterilization and Fumigation Processes," submitted by Central Coast Analytical Services, for a total amount not to exceed $181,792.

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 1648-145, entitled "Assessment of Ethylene Oxide Concentrations and Emissions from Sterilization and Fumigation Processes," submitted by Central Coast Analytical Services, for a total amount not to exceed $181,792.

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 $181,792.

I hereby certify that the above is a true and correct copy of Resolution 89-14, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-15
March 9, 1989

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 1640-145, entitled "Development of a Universally Accepted Test Method for Determination of Volatile Organic Content (VOC) of Paints and Related Coatings," has been submitted by Calcoast Analytical-ITL; 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 1640-145, entitled "Development of a Universally Accepted Test Method for Determination of Volatile Organic Content (VOC) of Paints and Related Coatings," submitted by Calcoast Analytical-ITL, for a total amount not to exceed $164,000.

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 1640-145, entitled "Development of a Universally Accepted Test Method for Determination of Volatile Organic Content (VOC) of Paints and Related Coatings," submitted by Calcoast Analytical-ITL, for a total amount not to exceed $164,000.

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 $164,000.

I hereby certify that the above is a true and correct copy of Resolution 89-15, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

89-16
Missing
Resolution

State of California

AIR RESOURCES BOARD

Resolution 89-17
March 9, 1989

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 1674-145, entitled "Spatial Inhomogeneities in SCAQS Filters" has been submitted by the University of California, Davis 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 1674-145, entitled "Spatial Inhomogeneities in SCAQS Filters" submitted by the University of California, Davis, for a total amount not to exceed $38,265.

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 1674-145, entitled "Spatial Inhomogeneities in SCAQS Filters" submitted by the University of California, Davis, for a total amount not to exceed $38,265.

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 $38,265.

I hereby certify that the above is a true and correct copy of Resolution 89-17, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-18
March 9, 1989

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 1668-145, entitled "Secondary Organic Aerosol in the Los Angeles Basin" has been submitted by the Oregon Graduate Center; 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 1668-145, entitled "Secondary Organic Aerosol in the Los Angeles Basin" submitted by the Oregon Graduate Center, for a total amount not to exceed $55,106.

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 1668-145, entitled "Secondary Organic Aerosol in the Los Angeles Basin" submitted by the Oregon Graduate Center, for a total amount not to exceed $55,106.

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 $55,106.

I hereby certify that the above is a true and correct copy of Resolution 89-18, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

89-19
Missing
Resolution

State of California

AIR RESOURCES BOARD

Resolution 89-20
March 9, 1989

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 1666-145, entitled "Advanced Receptor Modeling of Data from the Southern California Air Quality Study" has been submitted by the University of Southern California; 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 1666-145, entitled "Advanced Receptor Modeling of Data from the Southern California Air Quality Study" submitted by the University of Southern California for a total amount not to exceed $129,280.

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 1666-145, entitled "Advanced Receptor Modeling of Data from the Southern California Air Quality Study" submitted by the University of Southern California for a total amount not to exceed $129,280.

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 $129,280.

I hereby certify that the above is a true and correct copy of Resolution 89-20, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-21
March 9, 1989

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 1665-145, entitled "Southern California Air Quality Study Interpretive Data Analysis: Receptor Modeling" has been submitted by Desert Research Institute; 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 1665-145, entitled "Southern California Air Quality Study Interpretive Data Analysis: Receptor Modeling" submitted by Desert Research Institute for a total amount not to exceed $84,927.

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 1665-145, entitled "Southern California Air Quality Study Interpretive Data Analysis: Receptor Modeling" submitted by Desert Research Institute for a total amount not to exceed $84,927.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $84,927.

I hereby certify that the above is a true and correct copy of Resolution 89-21, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

89-22
Missing
Resolution

State of California

AIR RESOURCES BOARD

Resolution 89-23
March 9, 1989

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 1660-145, entitled "Improved Procedures for Quantifying Key Meteorological Effects on Ambient Ozone Data", has been submitted by Systems Applications, Inc.; 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 1660-145, entitled "Improved Procedures for Quantifying Key Meteorological Effects on Ambient Ozone Data" that has been submitted by Systems Applications, Inc. for a total amount not to exceed $99,984.

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 1660-145, entitled "Improved Procedures for Quantifying Key Meteorological Effects on Ambient Ozone Data", that has been submitted by Systems Applications, Inc. for a total amount not to exceed $99,984.

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 $99,984

I hereby certify that the above is a true and correct copy of Resolution 89-23, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-24
March 9, 1989

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 1651-145, entitled "Determination of Source Contributions to High Ambient Carbon Monoxide Concentrations and Categorization of Carbon Monoxide Potential", has been submitted by AV Projects Inc.; 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 1651-145, entitled "Determination of Source Contributions to High Ambient Carbon Monoxide Concentrations and Categorization of Carbon Monoxide Potential", submitted by AV Projects Inc. for a total amount not to exceed $249,429.

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 1651-145, entitled "Determination of Source Contributions to High Ambient Carbon Monoxide (CO) Concentrations and Categorization of Carbon Monoxide Potential", that has been submitted by AV Products Inc. for a total amount not to exceed $249,429

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 $249,429.

I hereby certify that the above is a true and correct copy of Resolution 89-24, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-25
March 9, 1989

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 1674-145, entitled "Structural Modeling of Epidemiological Time Series," has been submitted by the University of California, Davis; 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 1674-145, entitled "Structural Modeling of Epidemiological Time Series," submitted by the University of California, Davis, for a total amount not to exceed $74,628.

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 1674-145, entitled "Structural Modeling of Epidemiological Time Series," submitted by the University of California, Davis, for a total amount not to exceed $74,628.

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 $74,628.

I hereby certify that the above is a true and correct copy of Resolution 89-25, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-26
March 9, 1989

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 1676-145, entitled "A Demonstration of the Effects of Smog on Ornamental and Home Garden Plants," has been submitted by the California Arboretum Foundation; 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 1676-145, entitled "A Demonstration of the Effects of Smog on Ornamental and Home Garden Plants," submitted by the California Arboretum Foundation, for a total amount not to exceed $40,811.

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 1676-145, entitled "A Demonstration of the Effects of Smog on Ornamental and Home Garden Plants," submitted by the California Arboretum Foundation, for a total amount not to exceed $40,811.

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 $40,811.

I hereby certify that the above is a true and correct copy of Resolution 89-26, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-27
March 9, 1989

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 1638-145, entitled "Crop and Forest Losses from Air Pollutants: An Assessment Program," 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 Research Screening Committee has reviewed and recommends for funding:

> Proposal Number 1638-145, entitled "Crop and Forest Losses from Air Pollutants: An Assessment Program," submitted by the University of California, Riverside, for a total amount not to exceed $97,998.

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 1638-145, entitled "Crop and Forest Losses from Air Pollutants: An Assessment Program," submitted by the University of California, Riverside, for a total amount not to exceed $97,998.

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 $97,998.

I hereby certify that the above is a true and correct copy of Resolution 89-27, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

districts pursuant to Health and Safety Code Section 41504 or to take other appropriate action.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to forward a copy of this resolution to the board of each Valley district.

I hereby certify that the above is a true and correct copy of Resolution 89-28, as adopted by the Air Resources Board.

for Cary Allison, Board Secretary

The lowering of these threshold levels and other revisions to the new source review rules are also consistent with the requirements of the California Clean Air Act;

It is appropriate and necessary to prevent further deterioration of air quality in the Valley that the Valley districts take action to prevent emissions increases which would occur under the current rules from sources whose applications are pending or who may file applications before the districts' permitting rules are amended; and

It is also appropriate and necessary that the Valley districts take any action in light of technical and legal considerations which is available to prevent the significant emissions increases which will result from sources which have been permitted but are not yet constructed or operating.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby directs the Executive Officer to:

Notify the Valley districts pursuant to Health and Safety Code Section 39517 that the revisions to the threshold levels for the BACT and offset requirements and other appropriate amendments to the permitting rules, as proposed by the BCC, should be accomplished by the individual districts more rapidly than proposed by the BCC and in accordance with the most expeditious schedule practicable;

Notify the districts of the Board's concern regarding the emissions increases which would occur under the current rules from new sources which have pending applications or which may file permit applications before the rule amendments take effect and notify the districts to take immediate action to assure that any permits which may be issued to these sources reflect the proposed reduced threshold requirements for BACT and offsets, and to notify the Executive Officer of the actions taken; and

With respect to sources which have been permitted but are not yet constructed or operating, notify the districts to take any action which is available in light of any technical and legal considerations to assure that the permits reflect the proposed reduced threshold requirements for BACT and offsets.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to monitor the actions of the districts, to return to the Board at its meeting in May 1989 with a report on the district actions, and if any of the districts do not take appropriate and timely action, to present to the Board at that time a recommendation for the Board to act for the district or

facilities in the San Joaquin Valley which showed since 1980 an increase in emissions associated with this growth of 11 tons per day of oxides of nitrogen and one ton per day of fine particulate matter and concluded that the existing permit regulations would not prevent substantial increases in emissions from these facilities in the future;

WHEREAS, under the threshold levels in the current rules of the Valley districts, many stationary sources have been permitted without a requirement for emissions offsets and, in some cases, without a requirement for the application of best available control technology ("BACT)");

WHEREAS, the Board has received a petition from the City of Kingsburg and several citizens groups which requests that the Board exercise its oversight authority over the eight San Joaquin Valley air pollution control districts (San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and Kern; "Valley districts") with respect to this situation;

WHEREAS, the San Joaquin Valley Basinwide Air Pollution Control Council ("BCC") has approved the development of a revised new source review rule for the Valley districts which will contain a threshold for BACT requirements of zero by January 1, 1990, and a threshold for emissions offset requirements of 150 pounds per day (80 for PM-10 and 550 for carbon monoxide) by January 1, 1990, and a threshold of zero by July 1, 1991;

WHEREAS, currently there are pending applications and permit applications for new sources may be filed before the lowered thresholds become effective, and without some further action, the potential exists for substantial emissions from the facilities which may be permitted in this interim period;

WHEREAS, the cumulative impact of the emissions from sources which have been permitted under the current rules of the Valley districts but are not yet constructed or operating will be significant;

WHEREAS, the Board has held a duly noticed public meeting to consider these matters and has heard and considered the comments presented by its staff, the petitioners and other interested persons; and

WHEREAS, the Board finds that:

Emissions from electrical generation facilities and other stationary sources contribute to concentrations of ozone and of particulate matter in excess of state and national ambient air quality standards in the San Joaquin Valley Air Basin;

Evidence exists to support a finding that the existing new source review rules of the eight San Joaquin Valley districts will not prevent significant future emissions increases and thus are not sufficiently effective to provide for the attainment and maintenance of the state ambient air quality standards;

The threshold levels for the BACT and emissions offset requirements in the Valley districts' new source review rules should be lowered to prevent these increases;

State of California
AIR RESOURCES BOARD

Resolution 89-28

March 10, 1989

Agenda Item No.: 89-5-3

WHEREAS, Health and Safety Code Section 39003 charges the Air Resources Board ("ARB" or "Board") to coordinate efforts throughout the state to attain and maintain state and federal ambient air quality standards;

WHEREAS, Health and Safety Code Section 41500 provides that the Board shall review the rules and regulations of the local air pollution control districts ("districts") to determine whether the rules and regulations are sufficiently effective to achieve and maintain the state ambient air quality standards;

WHEREAS, Health and Safety Code Section 39002 authorizes the Board to undertake control activities in any area, after holding public hearings, when it determines that the local or regional authority has failed to meet its responsibilities under Division 26 of the Health and Safety Code or any other provision of law;

WHEREAS, Health and Safety Code Section 39517 provides that a district shall be given notice and the opportunity to act before the Board adopts any rule or regulation for the district;

WHEREAS, pursuant to Health and Safety Code Sections 39602 and 41650-41652, the Board is responsible for ensuring that nonattainment area plans comply with the requirements of the federal Clean Air Act (42 U.S.C. Sec. 7401 et seq.);

WHEREAS, the California Clean Air Act (Stats. 1988, chap. 1568) provides that districts shall endeavor to achieve and maintain state ambient air quality standards for ozone, carbon monoxide, sulfur dioxide, and nitrogen dioxide by the earliest practicable date (Health and Safety Code Section 40910);

WHEREAS, the Air Resources Board ("ARB" or "Board") and the Environmental Protection Agency have established health-based ambient air quality standards for ozone and for particulate matter, and these standards are frequently violated in the San Joaquin Valley Air Basin;

WHEREAS, the Board conducted a public hearing April 7, 1988 in Fresno on growth and air quality impacts in the San Joaquin Valley Air Basin with a focus on the ambient air quality standards for ozone, carbon monoxide, and fine particulate matter and received information and testimony concerning the current air quality and the anticipated worsening of the air quality in the Valley in light of projected economic, population, and industrial growth;

WHEREAS, the information presented to the Board at the April 7, 1988 meeting included an analysis of the rapid growth in small electrical generation

test the circulating water to determine the concentration of hexavalent chromium monthly

and

show a decrease in hexavalent chromium concentrations in the circulating water each month,

and

keep the results of the tests of circulating water for two years and give them to the district when asked,

and

the hexavalent chromium concentration in the circulating water must not exceed 8 milligrams hexavalent chromium per liter of circulating water.

(i) I am planning to build a cooling tower after the effective date of this regulation. Do I need to notify the district? Yes, no later than 90 days before you begin to operate the cooling tower, you must write and tell the district the following:

who is the owner and operator of the cooling tower,

and

where the cooling tower will be located,

and

when you plan to start operation.

(j) I switched to non-chromate treatments before this regulation became effective, do I have to meet the same requirements? If you have not used hexavalent chromium in your cooling tower for at least one year immediately before the compliance date, or if your cooling tower has never used hexavalent chromium, *and* you can demonstrate this to the district, then the district may waive the testing requirement. Such demonstration may be made by written certification signed

hexavalent chromium per liter of circulating water, then the testing requirement is ended. All other requirements remain the same. The district may, however, require you to resume testing the circulating water at any time if the district has information that the circulating water may contain hexavalent chromium.

(g) How do I test the circulating water for hexavalent chromium? You must test the circulating water to determine hexavalent chromium concentrations using American Public Health Association Method 312B, or an equivalent method approved by the district. You will find Method 312B in a book called *Standard Methods for the Examination of Water and Wastewater*, Sixteenth Edition, published by the American Public Health Association, and available at libraries and bookstores nationwide.

(h) I use hexavalent chromium in a wooden cooling tower. Even if I stop adding hexavalent chromium on the compliance date, hexavalent chromium from the wood may cause the concentration in the circulating water to exceed 0.15 milligrams per liter for a time after the compliance date. How may I avoid being cited immediately after the compliance date? You may avoid being cited for violations of the 0.15 milligrams per liter hexavalent chromium concentration limit for up to six months after the compliance date. In order to not be cited during the transition period, you must:

comply with all other requirements of this regulation,

and

notify the district in writing that your cooling tower has wooden components that are exposed to the circulating water, and that you plan to take advantage of this section,

and

chromium every six months,

and

keep the results of all required tests of circulating water for two years, and give them to the district when asked.

(d) What information must I send the district? Within 90 days after the effective date of this regulation, you must write and tell the district the following:

that you own or operate a cooling tower,

and

where the cooling tower is located,

and

who is the owner or operator of the cooling tower,

and

whether or not you use hexavalent chromium in the cooling tower,

and

if you are using hexavalent chromium, when you plan to stop.

(e) When must I comply with the hexavalent chromium limits? You must stop adding hexavalent chromium-containing compounds to the circulating water in your cooling tower and meet the 0.15 milligrams per liter hexavalent chromium concentration limit no later than 180 days after the effective date of the regulation. This is the compliance date for the regulation.

(f) For how long do I have to test the circulating water? If, after the effective date of this regulation, 2 consecutive required tests showing concentrations of hexavalent chromium less than 0.15 milligrams of

93103. Regulation For Chromate Treated Cooling Towers

(a) **Definitions.** In this regulation, *hexavalent chromium* and *chromate* are substances identified as toxic air contaminants by the Air Resources Board. *You, yours, I,* and *my* mean the person who owns or operates, or who plans to build, own, or operate, a cooling tower. The *district* is the local air pollution control district or air quality management district. A *cooling tower* is a device which evaporates circulating water to remove heat from a process, a building, or a refrigerator, and puts the heat into the ambient air. *Must* means a provision is mandatory, and *may* means a provision is permissive.

(b) **Who must comply with this regulation?** Any person who owns or operates, or who plans to build, own, or operate, a cooling tower must comply with this regulation.

(c) **What must I do to comply with this regulation?** To comply with this regulation, you must:

notify the district in writing about your cooling tower,

and

not add any hexavalent chromium-containing compounds to the cooling tower circulating water,

and

keep the hexavalent chromium concentration in the cooling tower circulating water less than 0.15 milligrams hexavalent chromium per liter of circulating water,

and

test the circulating water to determine the concentration of hexavalent

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider the Adoption of an Airborne Toxic Control Measure for Hexavalent Chromium Emissions from Cooling Towers

Agenda Item No.: 89-4-2

Public Hearing Date: March 9, 1989

Response Date: March 9, 1989

Issuing Authority: Air Resources Board

Comment: No comments were received identifying any significant environmental issues pertaining to this item. The staff report identified potential adverse environmental effects as a result of the use of compounds as substitute for hexavalent chromium. A detailed ananlysis of the effects of the use of substitute compounds is found in the Technical Support Document, pages IV-5 and V-5 to V-16. In Resolution 89-29, the Board found that

"The public health and environmental benefits from the proposed control measure, specifically the elimination of hexavalent chromium and the associated cancer risks, far outweigh any potential adverse health and environmental impacts that may result from this regulatory action and there are no feasible mitigation measures which would substantially reduce any adverse impact while at the same time providing the substantial overall health benefit realized by the reductions in emissions of hexavalent chromium."

Response: N/A

Certified: _____
Board Secretary

Date: 1/9/90

The need for disposal of hexavalent chromium will be minimal because operators will be able to eliminate or significantly reduce inventories of hexavalent chromium or chromate containing treatments prior to the effective date of the ban; after the transition period, remaining inventory may be able to be returned to the supplier or must be disposed of subject to regulation as a hazardous waste; and

The public health and environmental benefits from the proposed control measure, specifically the elimination of hexavalent chromimum and the associated cancer risks, far outweigh any potential adverse health and environmental impacts that may result from this regulatory action and there are no feasible mitigation measures which could be taken by the Board and no feasible alternatives which would substantially reduce any adverse impact while at the same time providing the substantial overall health benefit realized by the reductions in emissions of hexavalent chromium.

NOW, THEREFORE, BE IT RESOLVED, that the Board hereby approves the adoption of Section 93103, Subchapter 7.5, Chapter 1, Part III, Titles 17 and 26, California Code of Regulations as set forth in Attachment A.

BE IT FURTHER RESOLVED that the Board direct the Executive Officer to adopt the airborne toxic control measure as set forth in Attachment A after making it available to the public for a period of 15 days, and with such 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 89-29, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

The proposed airborne toxic control measure would essentially eliminate hexavalent chromium emissions from chromate-treated cooling towers by prohibiting the use of hexavalent chromium in cooling towers;

The reporting requirements of the proposed regulation which apply to small businesses are necessary for the health, safety, and welfare of the people of the state;

WHEREAS, the Board further finds that:

Adoption of the proposed airborne toxic control measure will result in increases in emissions into the air and waste water discharges of substitute chemicals used to treat cooling tower circulating water and may require cooling tower operators to dispose of chromate inventory on hand at the time the ban takes effect;

Several of the common substitutes for hexavalent chromium are not expected to have adverse health effects at levels associated with use in cooling towers; other substitutes may have some adverse health or environmental impacts at these levels but many are short-term and reversible and none are as serious as the impacts from hexavalent chromium;

Mitigation measures include the use of permit conditions for airborne emissions or water discharges from permitted sources to insure the use of the least harmful substitute or to limit discharges or emissions to environmentally safe levels; the authority to take these permitting actions is within the purview of other public agencies such as local air pollution control districts and water quality control agencies;

For nonpermitted cooling towers adverse impacts can be minimized if operators evaluate and consider health and environmental impacts in selecting a substitute water treatment; however, there are no feasible means for the Board to require such an assessment for nonpermitted sources due to the large number of small sources affected:

WHEREAS, the staff report for the proposed ATCM and its Technical Support Document in conjunction with the "Hexavalent Chromium Control Plan" and its Technical Support Document constitute the report on the need and appropriate degree of regulation for hexavalent chromium required by Health and Safety Code Section 39665;

WHEREAS, the proposed ATCM would essentially eliminate hexavalent chromium emissions and the potential lifetime cancer incidence (70-900 cancer cases) from chromate-treated cooling towers by prohibiting the use of hexavalent chromium containing treatments, necessitating the use of substitutes, which are considered the best available control technology, as required by Health and Safety Code Section 39666 (c);

WHEREAS, the proposed ATCM was made available to the public for review and comment, and was discussed at public consultation meetings on April 27, 1988, September 21, 1988 and November 29, 1988;

WHEREAS, in accordance with Health and Safety Code Section 39665(c), the staff report and relevant comments received during public consultation with the districts, affected industry sources, and the public were made available for public review and comments 45 days prior to the public hearing to consider the proposed ATCM;

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

WHEREAS, in consideration of the staff report and the written comments and public testimony it has received, the Board finds:

The added lifetime potential cancer cases from exposure to hexavalent chromium emissions from chromate-treated cooling towers contribute to the statewide and local incidence of cancer;

The proposed airborne toxic control measure for hexavalent chromium complies with the requirements of state law for control of sources of toxic air contaminants identified by the Board;

State of California
AIR RESOURCES BOARD

Resolution 89-29

March 9, 1989

Agenda Item No.: 89-4-2

WHEREAS, on January 23, 1986, pursuant to Section 39662 of the Health and Safety Code, the Air Resources Board (Board) identified hexavalent chromium as a toxic air contaminant for which there is not sufficient available scientific evidence to support identification of a threshold exposure level below which no significant adverse health effects are anticipated (see Title 17, California Code of Regulations, Section 93000);

WHEREAS, following identification of hexavalent chromium as a toxic air contaminant, the Executive Officer, with the participation of local air pollution control districts, is required to prepare a report on the need for and appropriate degree of control of hexavalent chromium emissions;

WHEREAS, on February 18, 1988, the Board considered at a public meeting the "Hexavalent Chromium Control Plan" (Plan) prepared by staff and found it to be an appropriate overall course of action for developing potential hexavalent chromium control measures;

WHEREAS, the staff has worked closely with the districts through the Technical Review Group and with the affected sources to develop as expeditiously as practicable an airborne toxic control measure for emissions of hexavalent chromium from chromate-treated cooling towers;

WHEREAS, the staff has developed a proposed airborne toxic control measure (ATCM) for hexavalent chromium emissions which would eliminate hexavalent chromium emissions by prohibiting the use of hexavalent chromium in cooling towers;

WHEREAS, the staff has prepared the "Proposed Hexavalent Chromium Control Measure for Cooling Towers" (staff report) and its Technical Support Document which include: estimates of hexavalent chromium emissions, exposure, cancer risk and cancer incidence from chromate-treated cooling towers; a discussion of the availability, technological feasibility and costs of an ATCM to reduce emissions of hexavalent chromium from chromate-treated cooling towers; a discussion of the anticipated effect of the ATCM on hexavalent chromium exposure and risk; a discussion of alternatives to the ATCM; and identification of any potential adverse health, safety or environmental impacts of the ATCM;

"The test procedures require manufacturers where feasible to design the fuel tank fill pipe assembly to discourage siphoning of methanol fuel, which due to its systemic toxicity may cause blindness and death if ingested;

"There are no feasible mitigation measures or alternatives available to the Board which would substantially reduce the potential adverse impacts of the amendments while at the same time providing the substantial overall public health benefit from the reductions noted above."

Response: N/A

Certified: _____
Board Secretary

Date: 1/18/90

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Amendments to Regulations Regarding the Certification of Methanol-Fueled Motor Vehicles and Motor Vehicle Engines for Sale in the State of California

Agenda Item No.: 89-4-1

Public Hearing Date: March 9, 1989

Issuing Authority: Air Resources Board

Comment: No comments were received identifying any significant environmental issues pertaining to this item. The staff report identified potential adverse environmental effects. These effects are discussed in the Staff Report: Initial Statement of Reasons, pages 27, 34 and 36-39. Based on the record, the Air Resources Board ("Board") found, in Resolution 89-30:

"The use of methanol-fueled vehicles in place of vehicles using petroleum-based fuels will result in significant reductions in ozone, reductions in ambient levels of formaldehyde, and reductions in levels of exposure to toxic substances, including benzene, benzo-(a)-pyrene and 1-3 butadiene; additionally, the use of methanol in diesel vehicles will result in reductions in emissions of oxides of nitrogen, particulate matter and smoke;

"An increase in the use of methanol-fueled vehicles may result in short term intermittent exposures to methanol, which has recognized acute health effects, and formaldehyde, a known animal carcinogen, which is currently under review for identification by the Board as a toxic air contaminant; however, even the worst case anticipated exposure for methanol is below the U.S. Environmental Protection Agency 'level of concern,' and formaldehyde emissions are expected to remain within the range of formaldehyde emissions from vehicles using petroleum-based fuels because of the separate formaldehyde standard included in the regulations;

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 adoption, forward the amendments to the Environmental Protection Agency with a request for a waiver or confirmation that the amendments are within the scope of an existing waiver of federal preemption pursuant to Section 209(b) of the Clean Air Act, as appropriate.

I hereby certify that the above is a true and correct copy of Resolution 89-30, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

reductions in levels of exposure to toxic substances, including benzene, benzo-(a)-pyrene and 1-3 butadiene; additionally, the use of methanol in diesel vehicles will result in reductions in emissions of oxides of nitrogen, particulate matter and smoke;

An increase in the use of methanol-fueled vehicles may result in short term intermittent exposures to methanol, which has recognized acute health effects, and formaldehyde, a known animal carcinogen which is currently under review for identification by the Board as a toxic air contaminant; however, even the worst case anticipated exposure for methanol is below the U.S. Environmental Protection Agency "level of concern," and formaldehyde emissions are expected to remain within the range of formaldehyde emissions from vehicles using petroleum-based fuels because of the separate formaldehyde standard included in the regulations;

The test procedures require manufacturers where feasible to design the fuel tank fill pipe assembly to discourage siphoning of methanol fuel, which due to its systemic toxicity may cause blindness and death if ingested;

There are no feasible mitigation measures or alternatives available to the Board which would substantially reduce the potential adverse impacts of the amendments while at the same time providing the substantial overall public health benefit from the reductions noted above.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves the amendments to Title 13, California Code of Regulations, Sections 1956.8, 1960.1, 1965, 1976, and 2290 and the documents incorporated by reference therein as set forth in Attachments A through K.

BE IT FURTHER RESOLVED that the Board direct the Executive Officer to adopt the amendments set forth in Attachments A through K after making them available to the public for a period of 15 days, and with such 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 staff shall report annually to the Board regarding developments in technology to meet the formaldehyde standards approved by the Board; the report to include information regarding emission testing performed by staff and manufacturers and the results of the formaldehyde catalyst demonstration program.

BE IT FURTHER RESOLVED that the Board hereby determines that the amendments adopted herein will not cause the California emission standards, in the

WHEREAS, the staff has proposed amendments to Section 1976 of Title 13, California Code of Regulations and the documents incorporated by reference therein, which would make existing evaporative standards and test procedures applicable to all classes of methanol-fueled vehicles and engines;

WHEREAS, the staff has proposed amendments to Section 2290 of Title 13, California Code of Regulations and the documents incorporated by reference therein, which would make existing fill pipe specifications applicable to all classes of methanol-fueled vehicles and engines, and which would require that fill pipes in methanol-fueled vehicles be designed to resist siphoning;

WHEREAS, the staff has proposed that the standards and test procedures for all classes of methanol-fueled vehicles except urban buses be effective for the 1993 and subsequent model years, and for urban buses the standards and test procedures shall be effective for the 1991 and subsequent model years except for the formaldehyde, evaporative and fill pipe standards which would be effective for the 1993 and subsequent model years;

WHEREAS, the California Environmental Quality Act and Board regulations require that no project which may have significant adverse environmental impacts be adopted as originally proposed if feasible alternatives or mitigation measures are available to reduce or eliminate such impacts;

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

WHEREAS, the Board finds that:

The use in California of methanol-fueled vehicles and engines can result in a reduction in air pollution in this state;

The specification of emission standards and certification test procedures for methanol-fueled vehicles and engines is necessary to allow for the sale and use of methanol-fueled vehicles and engines in California;

The adoption of an effective certification program for methanol-fueled vehicles and engines will ensure that these vehicles and engines will meet the applicable California model year emission standards necessary to address the serious air pollution problem in this state;

It is technologically feasible and cost-effective for methanol-fueled vehicles and engines to comply with the emission standards and certification test procedures set forth in Attachments A through K;

WHEREAS, the Board further finds:

The use of methanol-fueled vehicles in place of vehicles using petroleum-based fuels will result in significant reductions in ozone, reductions in ambient levels of formaldehyde, and

State of California
AIR RESOURCES BOARD

Resolution 89-30

March 9, 1989

Agenda Item No.: 89-4-1

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

WHEREAS, 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 many parts of 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 emission standards and test procedures to control air pollution caused by motor vehicles;

WHEREAS, the Board has adopted Title 13, California Code of Regulations (CCR), Section 1956.8 and the incorporated "California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy-Duty Diesel-Powered Engines and Vehicles" and "California Exhaust Emission Standards and Test Procedures for 1987 and Subsequent Model Heavy-Duty Gasoline-Powered Engines and Vehicles"; Title 13, CCR, Section 1960.1 and the incorporated "California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles"; Title 13, CCR, Section 1965 and the incorporated "California Motor Vehicle Emission Control Label Specifications"; Title 13, CCR, Section 1976 and the incorporated "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Liquefied Petroleum Gas- or Gasoline-Powered Motor Vehicles"; and Title 13, CCR, Section 2290 and the incorporated "Specifications for Fill Pipes and Openings of Motor Vehicle Fuel Tanks";

WHEREAS, the staff has proposed amendments to Section 1956.8 and 1960.1 of Title 13, California Code of Regulations and the documents incorporated by reference therein, which would provide for the exhaust emission testing and certification of methanol-fueled vehicles and engines, and which would specify formaldehyde emission standards and test procedures for methanol-fueled vehicles and engines;

WHEREAS, the staff has proposed amendments to Section 1965 of Title 13, California Code of Regulations and the documents incorporated by reference therein, which would make emission control label specifications applicable to all classes of methanol-fueled vehicles and engines;

Measure	Control	Estimated[a] Reductions	Adoption	Implementation
11. Aerospace Coatings:	Lower exemption limits and expand applicability of rule.	0.5	1990-91	1991-95
12. Wood Furniture & Cabinet Coatings:	Reduce low-solvent coating limits.	1.0	1990-91	1991
13. Polyester Resin Operations:	Reduce styrene resin limits.	1.0	1990-91	1991-92
14. Adhesives:	Require low-solvent adhesives.	1.0	1990-91	1990-92
15. Magnet Wire Coatings:	Expand scope of rule to transformers, and require motors, armitures to use low-solvent coatings.	0.5	1991-92	1990
16. Aerospace, Metal Parts, Plastic Products Coatings:	Strengthen transfer efficiency.	2.0	1991-92	1992-93
17. Marine Vessel Housekeeping:	Explore transferring operations outside California coastal waters.	b.	b.	
18. Publicly-Owned Waste Water Treatment Plants:	Explore requiring headworks to be controlled.	b.	b.	
	TOTAL:	**18.7**		

a. Estimates are preliminary and are in tons per day of reactive organic compounds.

b. Insufficient information is available to project emission reduction or implementation and adoption dates.

Attachment A

Table B. Contingency Stationary Source Control Measures Schedule (March 1989)

Measure	Control	Estimated[a] Reductions	Adoption	Implementation
1. Marine Vessel Lightering:	Require control during marine vessel to marine vessel transfer of gasoline and crude oil.	3.0	1989	1991
2. Large Appliance and Metal Furniture Coatings:	Reduce solvent limits for wash primers.	<0.5	1989	1990
3. Miscellaneous Metal Parts and Products:	Reduce solvent limits for washer primers; redefine high gloss coatings; review other specialty coatings limits.	0.5	1989	1990
4. Plastic Parts & Product Coatings:	Redefine high gloss coatings definition.	<0.5	1989	1990
5. Refinery Waste Water Treatment Plants:	Require improved control of API separators, DAF units & ponds.	2.2	1989-90	1990-92
6. General Solvent and Surface Coatings	Redefine complying solvent to be 420g/l VOC.	2.0	1989-90	1990-91
7. Container, Closure & Coil Coatings:	Require low-solvent coatings for drum reconditioners.	0.5	1989-90	1990-91
8. Graphic Arts Coating Operations:	Improve compliance by requiring the use of stack monitors.	<0.5	1989-91	1992
9. Architectural Coatings:	a) TRG recommendations	b	1989	1990
	b) Develop additional limits for bridge and storage tank coatings.	0.5	1990	1990-91
10. Refinery Process:	a) Reduce exemptions.	<0.5	1989-90	1989-92
	b) Require improved controls on compressors, pressure relief valves and process unit turnarounds.	2.0	1990	1990-92

Attachment A

Table A. Adopted stationary source contingency measures.

Measure	Control[a]	Estimated[b] Reductions	Adoption	Implementation
1. Bulk Gasoline Distribution:	Lower allowable limits from 0.55 to 0.08 lbs VOC/1000 gal. for gasoline distribution at terminals. Requires control by carbon adsorption, incineration or high efficiency compressor.	1.7	1987	1988
2. New Source Review:	Increase onsite offset ratio from 1:1 to 1.1:1.	0.2	1984	1984
3. Floppy and Rigid Disc Manufacturing:	Require carbon adsorption control for coating operations.	0.3	1985	1987
4. Cutback Asphalt:	Strengthen existing limits by prohibiting the use of medium cure asphalt.	1.6	1987	1988
5. Miscellaneous Metal Parts, Plastic Parts and Large Appliances - Metal Furniture:	Strengthen existing limits by lowering facility exemption to 20 gal/yr from 500 gal/year.[c]	1.0	1985	1987
6. Marine Coatings:	Require low solvent coatings for the painting of large marine vessels.	1.0	1988	1989-92
7. Marine Loading:	Require 95% control of loading of gasoline and crude oil.	5.7[d]	1988	1989-91
8. Solvent Cleaning Operations:	Require additional operational controls.	1.0	1988	1990
9. Solvent Clean-up:	Require minimization and recovery of clean-up solvents at all coating and painting operations.	2.0 - 3.0	1988	1989-90
	TOTAL	**14.5 - 15.5**		

FOOTNOTES:
a. All coating limitations are expressed as lbs. of VOC, excluding water.
b. Estimates are annual average tons per day (tpd) of reactive organic emissions.
c. Limits are: Baked Coatings = 2.3 lb/gal; Air-Dried Coatings = 2.8 lb/gal.
d. Emissions as high as 50 tons on a single day have been estimated for 1987 with the typical high day emissions calculated to be 26 tpd. Emission reductions on these days are estimated to be 47.5 and 24.7 tpd respectively.

Attachment A

to control emissions from consumer products by January 1, 1992; and present to the Board proposed regulations to control emissions from utility engines by November 15, 1991.

BE IT FURTHER RESOLVED, that the Executive Officer shall work with the District, the Association of Bay Area Governments, and the Metropolitan Transportation Commission to develop the air quality plan to achieve the state standards as required by the California Clean Air Act and AB 3971.

BE IT FURTHER RESOLVED, that by September 1989, a progress report on the adoption of the measures specified in Attachment A and the development of additional control measures necessary to attain the ozone and CO NAAQS and on progress in responding to the planning requirements of the California Clean Air Act be presented to the Board.

BE IT FURTHER RESOLVED, that the staff shall continue to work with the District regarding the recommendations contained in the 1988 Joint ARB/EPA Evaluation Report and shall report to the Board on the status of the District's actions in response to that evaluation at the September 1989 meeting.

I hereby certify that the above is a true and correct copy of Resolution 89-31, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

4. An improved understanding of the relationship of emissions of ozone precursors (oxide of nitrogen and hydrocarbons) and air quality both within the Bay Area and in downwind air basins.

WHEREAS, the District is currently working toward the adoption of measures to control emissions from the following: metal parts and products, adhesives, polyester resin operations, wood furniture and cabinet coatings, refinery fugitives emissions, lightering operations, architecture coatings, commercial bakeries, and automobile refinishing;

WHEREAS, a schedule to adopt contingency measures, set forth as Attachment A, has been developed by the District and will be considered for approval by the District Board on March 16, 1989;

WHEREAS, the California Clean Air Act requires the Board to consider the adoption of measures to control emissions from utility engines by November 15, 1991 and consumer solvents by January 1, 1992;

WHEREAS, the Board finds that:

1. Although emissions in the Bay Area have been significantly reduced since 1980 and air quality has improved, the Bay Area has not attained the NAAQS as anticipated in the District's 1982 Plan,

2. Several measures committed to in the 1982 Plan have not been adopted, including commercial bakeries and auto refinishing rules,

3. The Bay Area Air Quality Management District must establish a new schedule for the adoption of control measures that were committed to in the 1982 Plan but have not yet been implemented, and

4. A revised air quality management plan and additional control measures beyond what was included in the 1982 Plan will be needed to achieve state and national standards.

NOW, THEREFORE BE IT RESOLVED, that the Board urges the District Board to approve the schedule set forth in Attachment A.

BE IT FURTHER RESOLVED, that the Executive Officer shall forward to the EPA the schedule for the adoption of the measures set forth in Attachment A at such time as it is approved by the District Board.

BE IT FURTHER RESOLVED, that the Executive Officer shall work with the District to assure the timely adoption of the measures set forth in Attachment A, including the adoption of the commercial bakeries and auto refinishing rules by September 30, 1989, and to develop additional measures to achieve the NAAQS.

BE IT FURTHER RESOLVED, that the Executive Officer shall present to the Board by July 1989 a plan for development of measures to control emissions from consumer products, to be followed by a series of proposed regulations

State of California
AIR RESOURCES BOARD

Resolution 89-31

March 10, 1989

Agenda Item No.: 89-5-2

WHEREAS, Health and Safety Code Section 39602 designates the Air Resources Board (ARB or Board) as the state agency responsible for the preparation of the State Implementation Plan (SIP) required by the Clean Air Act (42 U.S.C. Secs. 7401 et seq.) and responsible for coordinating the activities of all districts necessary to comply with that Act;

WHEREAS, the Bay Area Air Quality Management District (District), on December 15, 1982, adopted an air quality management plan which contained measures and commitments to adopt additional measures to control carbon monoxide (CO) emissions and emissions of ozone precursors and which was intended to provide for attainment of the national ambient air quality standards (NAAQS) for CO and ozone by December 1987;

WHEREAS, the 1982 Plan included provisions to adopt contingency measures for ozone and CO if emission reduction targets were not met;

WHEREAS, the 1982 Plan was forwarded by the ARB to the EPA and approved by the EPA on December 28, 1983;

WHEREAS, federal law requires that measures committed to in the SIP be adopted and implemented on schedule;

WHEREAS, the EPA has notified the Governor that the SIP for the Bay Area failed to attain the NAAQS for CO and ozone and must be revised;

WHEREAS, the ARB and the District have begun a new planning effort to attain the state ambient air quality standards as required by the California Clean Air Act, authored by Assemblyman Sher (Stats 1988, ch 1568) and by AB 3971, authored by Assemblyman Cortese (Stats 1988, ch 1569);

WHEREAS, this planning effort will require:

1. Adoption of new control measures and programs to reduce emissions from new and existing stationary, mobile, area, and indirect sources,

2. Adoption of transportation control measures,

3. An assessment of pollutant transport from the Bay Area to the Sacramento and San Joaquin Valleys and to the North Central Coast Air Basin and establishment of mitigation requirements if transport is identified, and

ITEM NO.:
DATE: April 13, 1989

State of California

AIR RESOURCES BOARD

ITEM: Research Proposal No. 1636-145 entitled "Methanol Fuel Additive Demonstration"

RECOMMENDATION: Adopt Resolution 89-32 approving Proposal No. 1636-145 for an amount not to exceed $339,348.

SUMMARY: The objective of this project is to demonstrate a fuel additive package for neat methanol (M100) that will avert any potential problems with flame luminosity, ignition limits, cold starting, lubricity, and other safety considerations (odor, color, taste) when methanol fuel is used in light-duty and heavy-duty vehicles. This is a joint-funded study sponsored by the ARB and the South Coast Air Quality Management District (SCAQMD). The SCAQMD has committed $100,000 towards this study.

The proponent will identify additives that exhibit the most promise to alleviate concerns identified with commercial use of methanol fuel in motor vehicles. Following the identification, the proponent will experiment with combinations of different additives to develop additive packages which address the maximum number of concerns with widespread usage of methanol. These additive packages will be evaluated by conducting engine testing and short-term vehicle demonstrations, and by conducting 10,000 mile demonstrations in dedicated methanol and flexible fuel vehicles. Finally the proponent will conduct a long-term demonstration (20,000 miles) using the dedicated methanol fuel vehicle.

Three proposals were received in response to the ARB's Request for Proposals. The proposal from Southwest Research Institute is recommended for funding by the Research Screening Committee. The principal investigator will be Dr. E. Robert Fanick.

State of California

AIR RESOURCES BOARD

Resolution 89-32
April 13, 1989

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 1636-145, entitled "Methanol Fuel Additive Demonstration," has been submitted by Southwest Research Institute; 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 1636-145, entitled "Methanol Fuel Additive Demonstration," submitted by Southwest Research Institute, for a total amount not to exceed $339,348.

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 1636-145, entitled "Methanol Fuel Additive Demonstration," submitted by Southwest Research Institute, for a total amount not to exceed $339,348.

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 $339,348.

I hereby certify that the above is a true and correct copy of Resolution 89-32, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

ITEM NO.:
DATE: April 13, 1989

State of California

AIR RESOURCES BOARD

ITEM: Research Proposal No. 1645-145 entitled "Assessment of Combustion Sources that Emit Polychlorinated Dioxins and Furans, Polycyclic Aromatic Hydrocarbons, and Other Toxic Compounds"

RECOMMENDATION: Adopt Resolution 89-33 approving Proposal No. 1645-145 for an amount not to exceed $274,831

SUMMARY: The objectives of this study are to: (1) identify combustion sources in California which have the potential to emit polychlorinated dioxins and furans (dioxins), polycyclic aromatic hydrocarbons (PAHs), and other toxic compounds; and (2) perform comprehensive source tests on selected sources to correlate emissions of dioxins, PAHs, and other toxic compounds with operational and combustion parameters. The ARB and the EPA have identified several emission source categories with potential to emit dioxins and PAHs, several of which are in California. However, ARB staff has insufficient information to adequately assess the potential for these source categories to emit dioxins, PAHs, and other toxic compounds.

The ARB has identified dioxins as a toxic air contaminant (TAC), which requires an assessment of statewide emissions, potential public health risk, and need to control (Section 39650 et seq. of the California Health & Safety Code). PAHs are under review for possible identification as TACs, and several other compounds have been either identified as TACs or are being considered. Results of this study will be used to assist in the identification and control regulation activities for these TACs.

Four proposals were received in response to the ARB's Request for Proposals. The proposal from Midwest Research Institute is recommended for funding by the Research Screening Committee. The principal investigator will be Dr. Clarence Haile.

State of California

AIR RESOURCES BOARD

Resolution 89-33
April 13, 1989

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 1645-145, entitled "Assessment of Combustion Sources that Emit Polychlorinated Dioxins and Furans, Polycyclic Aromatic Hydrocarbons, and Other Toxic Compounds," has been submitted by Midwest Research Institute; 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 1645-145, entitled "Assessment of Combustion Sources that Emit Polychlorinated Dioxins and Furans, Polycyclic Aromatic Hydrocarbons, and Other Toxic Compounds," submitted by Midwest Research Institute, for a total amount not to exceed $274,831.

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 1645-145, entitled "Assessment of Combustion Sources that Emit Polychlorinated Dioxins and Furans, Polycyclic Aromatic Hydrocarbons, and Other Toxic Compounds," submitted by Midwest Research Institute, for a total amount not to exceed $274,831.

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 $274,831.

I hereby certify that the above is a true and correct copy of Resolution 89-33, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

ITEM NO.:
DATE: April 13, 1989

State of California

AIR RESOURCES BOARD

ITEM: Research Proposal No. 1655-145 entitled "Chemical Analysis of Aerosol Samples from the Carbonaceous Species Methods Comparison Study"

RECOMMENDATION: Adopt Resolution 89-34 approving Proposal No. 1655-145 for an amount not to exceed $79,554.

SUMMARY:

The objective of this project is to provide chemical analysis of organic compounds on aerosol filters that were collected during the Carbonaceous Species Methods Comparison Study (CSMCS) at Glendora in August, 1986. Portions of the filters will be subjected to liquid chromatography, gas chromatography/mass spectrometry, and Fourier transform infrared spectroscopy. This combination of analytical methods will provide information on the chemical makeup of the aerosol samples, such as carbonyl, carboxyl and nitro groups. This project will provide information on the proportion of particle carbon coming from primary versus secondary sources as well as fossil versus contemporary carbon in the fine particle samples collected during the CSMCS. These data are needed for the design of PM10 control strategies.

One proposal was received in response to the ARB's Request for Proposals. The proposal from Global Geochemistry is recommended for funding by the Research Screening Committee and the staff. The principal investigator will be Dr. Ian Kaplan.

State of California

AIR RESOURCES BOARD

Resolution 89-34
April 13, 1989

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 1655-145, entitled "Chemical Analysis of Aerosol Samples from the Carbonaceous Species Methods Comparison Study," has been submitted by Global Geochemistry Corporation; 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 1655-145, entitled "Chemical Analysis of Aerosol Samples from the Carbonaceous Species Methods Comparison Study," submitted by Global Geochemistry Corporation, for a total amount not to exceed $79,554.

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 1655-145, entitled "Chemical Analysis of Aerosol Samples from the Carbonaceous Species Methods Comparison Study," submitted by Global Geochemistry Corporation, for a total amount not to exceed $79,554.

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 $79,554.

I hereby certify that the above is a true and correct copy of Resolution 89-34, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

ITEM NO.:
DATE: April 13, 1989

State of California

AIR RESOURCES BOARD

ITEM: Research Proposal No. 1684-146 entitled "Quantification of Evaporative Running Loss Emissions from Gasoline-Powered Passenger Cars in California"

RECOMMENDATION: Adopt Resolution 89-35 approving Proposal No. 1684-146 for an amount not to exceed $300,000.

SUMMARY: The objective of this project is to quantify evaporative running loss emissions from gasoline-powered passenger cars representative of vehicles operating in California. Evaporative running loss emissions are defined as all evaporative emissions generated while a vehicle is being driven. These emissions are, potentially, a major source of hydrocarbon emissions which are not now accounted for in California's emissions inventories. The contractor is expected to devise a methodology for testing vehicles and developing evaporative running loss emission factors which can be incorporated in California's emissions inventory program to account for these emissions.

The proponent would develop a test plan for the Air Resources Board approval. Thirty vehicles equipped with California emission control systems, which have been continuously registered in the State, would be procured by a subcontractor in Anaheim, California and shipped to the proponent's test facility in Indiana. The required amount of California gasoline would also be shipped to Indiana. A total of 64 emission tests would be performed. The data would be analyzed by a subcontractor to identify vehicle characteristics that affect running losses, factors for fuel volatility and alternate driving cycles, and to identify possible subcategories and/or correlations which may be used to evaluate strategies for application of the running loss emission factors.

Three proposals were received in response to the ARB's Request for Proposals. The proposal from

State of California

AIR RESOURCES BOARD

Resolution 89-35
April 13, 1989

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 1684-146, entitled "Quantification of Evaporative Running Loss Emissions from Gasoline-Powered Passenger Cars in California," has been submitted by Automotive Testing Laboratories, Inc.; 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 1684-146, entitled "Quantification of Evaporative Running Loss Emissions from Gasoline-Powered Passenger Cars in California," submitted by Automotive Testing Laboratories, Inc., for a total amount not to exceed $300,000.

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 1684-146, entitled "Quantification of Evaporative Running Loss Emissions from Gasoline-Powered Passenger Cars in California," submitted by Automotive Testing Laboratories, Inc., for a total amount not to exceed $300,000.

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 $300,000.

I hereby certify that the above is a true and correct copy of Resolution 89-35, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

ITEM NO.:
DATE: April 13, 1989

State of California

AIR RESOURCES BOARD

ITEM: Research Proposal No. 1687-146 entitled "Engineering Analysis and Experimental Studies of Medical Waste Incineration"

RECOMMENDATION: Adopt Resolution 89-36 approving Proposal No. 1687-146 for an amount not to exceed $150,058.

SUMMARY: The ARB and other regulatory agencies have been conducting source tests of medical waste incinerators; results show that some incinerators emit significant amounts of dioxins and other toxic compounds. Most source tests have been conducted to establish baseline emissions rather than to evaluate possible operational parameters that can affect emissions. Therefore, staff is not able to make specific regulatory recommendations.

The objective of this project is to develop a better understanding of the operational and design parameters that affect emissions from medical waste incineration and to identify possible control strategies. Available emissions data would be analyzed to estimate the impacts of design and operation on emissions. Data gaps that limit the development of complete design and operation guidelines would be identified, and pilot-scale experimental studies and field tests would be conducted to fill these data gaps. Theoretical engineering analyses developed by the contractor previously for hazardous and municipal waste incinerator systems would be modified as required to account for the special characteristics of medical waste incineration.

The ARB will co-fund this project equally with both the U.S. EPA and Taiwan EPA. All work would be performed in California.

The contractor will be Energy and Environmental Research Corporation. The principal investigator will be Dr. William Randall Seeker.

State of California

AIR RESOURCES BOARD

Resolution 89-36
April 13, 1989

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 1687-146, entitled "Engineering Analysis and Experimental Studies of Medical Waste Incineration," has been submitted by Energy and Environmental Research Corporation, 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 1687-146, entitled "Engineering Analysis and Experimental Studies of Medical Waste Incineration," submitted by Energy and Environmental Research Corporation, for a total amount not to exceed $150,058.

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 1687-146, entitled "Engineering Analysis and Experimental Studies of Medical Waste Incineration," submitted by Energy and Environmental Research Corporation, for a total amount not to exceed $150,058.

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 $150,058.

I hereby certify that the above is a true and correct copy of Resolution 89-36, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

ITEM NO.:
DATE: April 13, 1989

State of California

AIR RESOURCES BOARD

ITEM: Research Proposal No. 1672-145 entitled "Southern California Air Quality Study (SCAQS) Interpretive Data Analysis: Toxic Air Contaminants"

RECOMMENDATION: Adopt Resolution 89-37 approving Proposal No. 1672-145 for an amount not to exceed $17,940

SUMMARY: During the 1987 Southern California Air Quality Study (SCAQS), Daniel Grosjean and Associates, Inc. (DGA) recorded ambient concentrations of two candidate toxic air contaminants (TACs), perchloroethylene (PERC) and methyl chloroform (TCA). These were measured at each site every 30 to 60 minutes, as part of another monitoring effort. The purpose of this project is to develop and report the DGA data base for TCA and PERC.

The ARB has included both PERC and TCA in its "Status of Toxic Air Contaminant Identification" list of February, 1989, with PERC in Category II-A, and TCA in Category III. Information from the proposed study would be used by ARB staff to assist in the development of a control plan for PERC (if it is identified as a TAC), and an exposure assessment report needed for identification of TCA as a TAC (if it enters the review process).

The data obtained from DGA could be correlated with other parameters developed during SCAQS, such as other pollutant concentrations and meteorological parameters. For example, data analysis could reveal whether observed levels can be correlated with large known emission sources; or if an area source behavior appears, due to many widely distributed sources.

This proposal was received in response to a Request for Proposals, under the category SCAQS Interpretive Data Analysis, in the subcategory "Sources, Transformation, Transport and Fate of Toxic Air Contaminants". The DGA proposal was

State of California

AIR RESOURCES BOARD

Resolution 89-37
April 13, 1989

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 1672-145, entitled "Southern California Air Quality Study (SCAQS) Interpretive Data Analysis: Toxic Air Contaminants," has been submitted by Daniel Grosjean and Associates, Inc.; 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 1672-145, entitled "Southern California Air Quality Study (SCAQS) Interpretive Data Analysis: Toxic Air Contaminants," submitted by Daniel Grosjean and Associates, Inc., for a total amount not to exceed $17,940.

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

> Proposal Number 1672-145, entitled "Southern California Air Quality Study (SCAQS) Interpretive Data Analysis: Toxic Air Contaminants," submitted by Daniel Grosjean and Associates, Inc., for a total amount not to exceed $17,940.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $17,940.

I hereby certify that the above is a true and correct copy of Resolution 89-37, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

ITEM NO.:
DATE: April 13, 1989

State of California

AIR RESOURCES BOARD

ITEM: Research Proposal No. 1681-146 entitled "Indoor Pollutant Concentrations and Exposures"

RECOMMENDATION: Adopt Resolution 89-44 approving Proposal No. 1681-146 for an amount not to exceed $459,975.

SUMMARY: The objective of this project is to obtain information regarding indoor concentrations of air pollutants and Californians' actual exposure to them. California Health and Safety Code Section 39660.5 requires the ARB to consider indoor exposures to candidate toxic air contaminants (in addition to ambient exposures) in assessing the risk posed by those substances. However, little information is available regarding indoor, non-occupational exposures to these and other indoor pollutants of concern.

In this project, the investigators will monitor indoor, outdoor, and personal exposure concentrations of 32 organic compounds listed in the ARB's Toxic Air Contaminants Identification List. Many of the compounds classified in Groups IIB and III of that list are of particular interest to the ARB because risk assessments for those compounds are anticipated in the future. The investigators will collect air samples using stainless steel canisters and two different types of organic resins in order to trap compounds of different volatilities.

The investigators will monitor approximately 150 homes and 180 residents of those homes for a 24-hour period in one season. The homes will be selected based on a probability sample of homes in San Jose or the San Joaquin Valley area. The investigators will use questionnaires to gather information on the activities of the subjects during the monitoring period and on potential sources of pollutants to which the subjects may have been exposed.

The data obtained from this project will enable the ARB to assess more accurately the risk posed by exposure to toxic air contaminants in

State of California

AIR RESOURCES BOARD

Resolution 89-38
April 13, 1989

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 1673-145, entitled "Southern California Air Quality Study Interpretive Data Analysis: Analysis of Hydrocarbon and Carbonyl Data" has been submitted by Sonoma Technology, Inc. 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 1673-145, entitled "Southern California Air Quality Study Interpretive Data Analysis: Analysis of Hydrocarbon and Carbonyl Data" submitted by Sonoma Technology, Inc. for a total amount not to exceed $69,152.

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 1673-145, entitled "Southern California Air Quality Study Interpretive Data Analysis: Analysis of Hydrocarbon and Carbonyl Data" submitted by Sonoma Technology, Inc. for a total amount not to exceed $69,152.

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 $69,152.

I hereby certify that the above is a true and correct copy of Resolution 89-38, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

ITEM NO.:
DATE: April 13, 1989

State of California

AIR RESOURCES BOARD

ITEM: Research Proposal No. 1673-145 entitled "Southern California Air Quality Study Interpretive Data Analysis: Analysis of Hydrocarbon and Carbonyl Data"

RECOMMENDATION: Adopt Resolution 89-38 approving Proposal No. 1673-145 for an amount not to exceed $69,152.

SUMMARY: This study is one of several intended to analyze and interpret the data from the 1987 Southern California Air Quality Study (SCAQS). This and other related projects will provide an analysis of SCAQS data base by methods other than gridded, source-oriented models. Issues related to the Board's regulatory needs are addressed.

This project would characterize the spatial and temporal distribution of volatile organic compounds and toxic air contaminants. This information will be used to identify major inconsistencies between emission inventory data for volatile organic compounds and ambient data. The observed carbonyl concentrations will be compared to photochemical model predictions. The contribution of natural and biogenic emissions will also be assessed.

The reliability of photochemical modeling results depend greatly upon the accuracy of the emission inventory for volatile organics. This project would provide an estimate of this accuracy.

The contractor will be Sonoma Technology, Inc. and the principal investigator will be Mr. Fred Lurmann.

State of California

AIR RESOURCES BOARD

Resolution 89-39
April 13, 1989

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 1663-145 entitled "Diagnostic Analysis of Wind Observations Collected During the Southern California Air Quality Study," has been submitted by Systems Applications, Incorporated; 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 1663-145, entitled "Diagnostic Analysis of Wind Observations Collected During the Southern California Air Quality Study," submitted by Systems Applications, Incorporated, for a total amount not to exceed $39,142.

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 1663-145, entitled "Diagnostic Analysis of Wind Observations Collected During the Southern California Air Quality Study," submitted by Systems Applications, Incorporated, for a total amount not to exceed $39,142.

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 $39,142.

I hereby certify that the above is a true and correct copy of Resolution 89-39, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

ITEM NOS.: 14 & 15
DATE: April 13, 1989

State of California

AIR RESOURCES BOARD

ITEM: 1989-90 RESEARCH PLAN AND INDOOR AIR QUALITY/PERSONAL EXPOSURE ASSESSMENT FIVE-YEAR STUDY PLAN.

RECOMMENDATION: Adopt Resolutions 89-45 and 89-46 approving the 1989-90 Research Plan, dated March, 1989, and the Indoor Air Quality/Personal Exposure Assessment Five-Year Study Plan, dated March, 1989.

SUMMARY: In establishing the State's approach to clean air, the Legislature: has declared that an effective research program is an integral part of the broad-based statewide effort to combat air pollution in California; has directed the Air Resources Board to administer and coordinate all air pollution research funded, in whole or in part, with state funds; has directed the Air Resources Board to establish objectives for air pollution research; and has directed the Air Resources Board to appoint a Research Screening Committee to give advice and recommendations with respect to air pollution research projects funded by the State.

In order to comply with these mandates from the Legislature, the Board meets, each year, with its Research Screening Committee, to review the Board's research program, as outlined in the 1989-90 Research Plan. This Plan is prepared by the staff, with guidance from the Research Screening Committee.

The 1989-90 Research Plan contains a section describing the Board's goals and objectives and related extramural research projects, a section listing recently completed research projects, and a section describing each of the research projects proposed for the next fiscal year. These projects are divided into six study areas:

- Diesels and Motor Vehicles;
- Toxic Air Contaminants;
- Stationary Source Emissions Inventory and Control;
- Regional Air Quality Studies;
- Health Effects; and
- Vegetation Effects.

For each study area, there is a prioritized list of research projects proposed for the next fiscal year, a figure which relates these projects to ongoing and future work, and a detailed discussion of each proposed project. The discussions include a summary of the research problem, relationship to previous work, description of the proposed approach, and identification of benefits to be provided by the study.

This year's 1989-90 Research Plan features projects to support the Board's activities to reduce emissions from motor vehicles; support the introduction of clean burning fuels; add to our knowledge of the sources, fate and effects of toxic air contaminants; provide bases for controlling stationary source emissions; better characterize the effects of agricultural burning; improve our ability to analyze regional air quality problems; better define the effects of exposure to air pollutants on human health; and better define the extent of air pollution damage to all forms of vegetation.

The Board also conducts a special research program to obtain information regarding indoor air quality and personal exposures of Californians to air pollutants. Health and Safety Code Section 39660.5 requires the Board to consider indoor exposures to toxic pollutants in assessing the risk posed by them. However, little information is available regarding indoor exposures. The information obtained through the Indoor Air Quality/Personal Exposure Assessment Five-Year Study Plan will be used by staff to develop more accurate risk assessments, especially for toxic pollutants considered under the Board's Toxic Air Contaminants Program.

State of California

AIR RESOURCES BOARD

Resolution 89-40
April 13, 1988

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 1677-146, entitled "Peroxyacetyl Nitrate and Methanol from FTIR Spectral Records During the 1986 Carbonaceous Species Methods Comparison Study," 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 Research Screening Committee has reviewed and recommends for funding:

> Proposal Number 1677-146, entitled "Peroxyacetyl Nitrate and Methanol from FTIR Spectral Records During the 1986 Carbonaceous Species Methods Comparison Study," submitted by the University of California, Riverside, for a total amount not to exceed $19,593.

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 1677-146, entitled "Peroxyacetyl Nitrate and Methanol from FTIR Spectral Records During the 1986 Carbonaceous Species Methods Comparison Study," submitted by the University of California, Riverside, for a total amount not to exceed $19,593.

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 $19,593.

I hereby certify that the above is a true and correct copy of Resolution 89-40, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

ITEM NO.:
DATE: April 13, 1989

State of California

AIR RESOURCES BOARD

ITEM: Research Proposal No. 1677-146 entitled "Peroxyacetyl Nitrate and Methanol from FTIR Spectral Records During the 1986 Carbonaceous Species Methods Comparison Study"

RECOMMENDATION: Adopt Resolution 89-40 approving Proposal No. 1677-146 for an amount not to exceed $19,593.

SUMMARY: The objective of this study is to derive peroxyacetyl nitrate (PAN), methanol, and dimethyl sulfate concentrations from long-path FTIR spectra which were recorded during the Carbonaceous Species Methods Comparison Study (CSMCS) held in August 1986 at Citrus College in Glendora. The data are instantaneous concentrations recorded every 15 minutes for a period of nine consecutive days. Although the FTIR spectra were originally taken to obtain concentrations of formaldehyde, nitric acid and ammonia, the spectra also contain potentially valuable information for other compounds, including PAN, methanol, and dimethyl sulfate.

The data for methanol and dimethyl sulfate from this project will represent the first detailed and accurate set of baseline data for the South Coast Air Basin which may be used in the future to assess the air quality impact of methanol as an alternative fuel. The spectroscopic PAN data provide the only means to validate the PAN measurements made by another group. The derived values from the FTIR spectra will permit a detailed evaluation and comparison of PAN data measured by other techniques.

The contractor will be the Statewide Air Pollution Research Center at the University of California, Riverside, and the principal investigator will be Dr. Ernesto Tuazon.

ITEM NO.:
DATE: April 13, 1989

State of California

AIR RESOURCES BOARD

ITEM: Research Proposal No. 1663-145 entitled "Diagnostic Analysis of Wind Observations Collected During the Southern California Air Quality Study"

RECOMMENDATION: Adopt Resolution 89-39 approving Proposal No. 1663-145 for an amount not to exceed $39,142.

SUMMARY: This is one of several studies to analyze and interpret the data from the 1987 Southern California Air Quality Study (SCAQS). This and other related projects will provide an analysis of the SCAQS data base by methods other than gridded, source-oriented models. Issues related to the Board's regulatory needs will be addressed.

This research effort will generate hourly three-dimensional gridded wind fields for each of the 17 SCAQS intensive-measurement days, and develop transport patterns in the South Coast Air Basin.

The results of this project will facilitate source-receptor transport path analysis and transport flux calculations being performed by other ARB contractors.

The contractor for this study will be Systems Applications, Incorporated, and the principal investigators will be Dr. Robert C. Kessler and Ms. Sharon G. Douglas.

State of California

AIR RESOURCES BOARD

Resolution 89-41
April 13, 1989

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 1619-142, entitled "Carbonaceous Species Methods Comparison Study, Interlaboratory Round Robin, Interpretation of Results," has been submitted by G2 Environmental, Inc.; 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 1619-142, entitled "Carbonaceous Species Methods Comparison Study, Interlaboratory Round Robin, Interpretation of Results," submitted by G2 Environmental, Inc., for a total amount not to exceed $19,994.

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 1619-142, entitled "Carbonaceous Species Methods Comparison Study, Interlaboratory Round Robin, Interpretation of Results," submitted by G2 Environmental, Inc., for a total amount not to exceed $19,994.

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 $19,994.

I hereby certify that the above is a true and correct copy of Resolution 89-41, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-42
April 13, 1989

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 1689-146 entitled "Low Level Carbon Monoxide Exposure in Sensitive Subjects Exposed at High Altitude," has been submitted by the University of California, Irvine; 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 1689-146, entitled "Low Level Carbon Monoxide Exposure in Sensitive Subjects Exposed at High Altitude," submitted by the University of California, Irvine, for a total amount not to exceed $236,779.

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 1689-146, entitled "Low Level Carbon Monoxide Exposure in Sensitive Subjects Exposed at High Altitude," submitted by the University of California, Irvine, for a total amount not to exceed $236,779.

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 $236,779.

I hereby certify that the above is a true and correct copy of Resolution 89-42, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-43
April 13, 1989

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 1688-146, entitled "Neural Basis for Symptomatic and Physiological Effects of Ozone," has been submitted by the University of California, San Francisco; 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 1688-146, entitled "Neural Basis for Symptomatic and physiological Effects of Ozone," submitted by the University of California, San Francisco, for a total amount not to exceed $41,856.

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 1688-146, entitled "Neural Basis for Symptomatic and Physiological Effects of Ozone," submitted by the University of California, San Francisco, for a total amount not to exceed $41,856.

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 $41,856.

I hereby certify that the above is a true and correct copy of Resolution 89-43, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

ITEM NO.:
DATE: April 13, 1989

State of California

AIR RESOURCES BOARD

ITEM: Research Proposal No.1688-146 entitled "Neural Basis for Symptomatic and Physiological Effects of Ozone"

RECOMMENDATION: Adopt Resolution 89-43 approving Proposal No. 1688-146 for an amount not to exceed $41,856.

SUMMARY: The objective of this project is to determine if acute exposures to ozone produce cough in normal and sensitive human subjects. Cough, eye irritation and chest discomfort are the common complaints of people exposed to smog, as existent in Los Angeles area.

The proponent will expose 18 human subjects to varying concentrations of ozone and evaluate their sensitivity to cough elicited by inhalation of capsaicin aerosol. In addition, pulmonary functional changes will be determined.

This study will help in understanding the importance of symptomatology experienced by people under smoggy conditions and also establish a correlation between the symptoms and the observed changes in pulmonary function upon which the existing ozone standards are based.

The contractor will be the University of California, San Francisco. The principal investigator will be Dr. Homer Boushey.

State of California

AIR RESOURCES BOARD

Resolution 89-44
April 13, 1989

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 1681-146, entitled "Indoor Pollutant Concentrations and Exposures," has been submitted by the Research Triangle Institute; 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 1681-146, entitled "Indoor Pollutant Concentrations and Exposures," submitted by the Research Triangle Institute, for a total amount not to exceed $459,975.

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 1681-146, entitled "Indoor Pollutant Concentrations and Exposures," submitted by the Research Triangle Institute, for a total amount not to exceed $459,975.

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 $459,975.

I hereby certify that the above is a true and correct copy of Resolution 89-44, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-45
April 13, 1989

WHEREAS, the Legislature has declared that an effective research program is an integral part of the broad-based statewide effort to combat air pollution in California, pursuant to Health and Safety Code Section 39700;

WHEREAS, the Air Resources Board has been directed to administer and coordinate all air pollution research funded, in whole or in part, with state funds, pursuant to Health and Safety Code Section 39703;

WHEREAS, the Air Resources Board has been directed to establish objectives for air pollution research in California, pursuant to Health and Safety Code Section 39703;

WHEREAS, the Air Resources Board has been directed to appoint a Research Screening Committee to give advice and recommendations with respect to all air pollution research projects funded by the state, pursuant to Health and Safety Code Section 39705;

WHEREAS, the Research Screening Committee has reviewed and approved a 1989-90 Research Plan, dated April, 1989, for air pollution research in California;

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39703 and 39705, hereby concurs in the recommendation of the Research Screening Committee and approves the 1989-90 Research Plan, dated April, 1989, for air pollution research in California.

I hereby certify that the above is a true and correct copy of Resolution 89-45 as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-46
April 13, 1989

WHEREAS, the Legislature has declared that effective research programs are an integral part of the broad-based statewide effort to combat air pollution in California, pursuant to Health and Safety Code Section 39700.

WHEREAS, the Air Resources Board has been directed to establish objectives for air pollution research in California, pursuant to Health and Safety Code Section 39703;

WHEREAS, the Air Resources Board conducts a special research program to obtain indoor air quality and personal exposure information needed to conduct indoor exposure assessments for toxic pollutants, pursuant to Health and Safety Code Section 39660.5;

WHEREAS, the Air Resources Board has been directed to appoint a Research Screening Committee to give advice and recommendations with respect to all air pollution research projects funded by the state, pursuant to Health and Safety Code Section 39705;

WHEREAS, the Research Screening Committee has reviewed and approved the Indoor Air Quality/Personal Exposure Assessment Five-Year Study Plan, dated March, 1989;

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Sections 39703 and 39705, hereby concurs in the recommendation of the Research Screening Committee and approves the Indoor Air Quality/Personal Exposure Assessment Five-Year Study Plan, dated March, 1989.

I hereby certify that the above is a true and correct copy of Resolution 89-46 as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

ITEM NOS.: 14 & 15
DATE: April 13, 1989

State of California

AIR RESOURCES BOARD

ITEM: 1989-90 RESEARCH PLAN AND INDOOR AIR QUALITY/PERSONAL EXPOSURE ASSESSMENT FIVE-YEAR STUDY PLAN.

RECOMMENDATION: Adopt Resolutions 89-45 and 89-46 approving the 1989-90 Research Plan, dated March, 1989, and the Indoor Air Quality/Personal Exposure Assessment Five-Year Study Plan, dated March, 1989.

SUMMARY:

In establishing the State's approach to clean air, the Legislature: has declared that an effective research program is an integral part of the broad-based statewide effort to combat air pollution in California; has directed the Air Resources Board to administer and coordinate all air pollution research funded, in whole or in part, with state funds; has directed the Air Resources Board to establish objectives for air pollution research; and has directed the Air Resources Board to appoint a Research Screening Committee to give advice and recommendations with respect to air pollution research projects funded by the State.

In order to comply with these mandates from the Legislature, the Board meets, each year, with its Research Screening Committee, to review the Board's research program, as outlined in the 1989-90 Research Plan. This Plan is prepared by the staff, with guidance from the Research Screening Committee.

The 1989-90 Research Plan contains a section describing the Board's goals and objectives and related extramural research projects, a section listing recently completed research projects, and a section describing each of the research projects proposed for the next fiscal year. These projects are divided into six study areas:

- o Diesels and Motor Vehicles;
- o Toxic Air Contaminants;
- o Stationary Source Emissions Inventory and Control;
- o Regional Air Quality Studies;
- o Health Effects; and
- o Vegetation Effects.

For each study area, there is a prioritized list of research projects proposed for the next fiscal year, a figure which relates these projects to ongoing and future work, and a detailed discussion of each proposed project. The discussions include a summary of the research problem, relationship to previous work, description of the proposed approach, and identification of benefits to be provided by the study.

This year's 1989-90 Research Plan features projects to support the Board's activities to reduce emissions from motor vehicles; support the introduction of clean burning fuels; add to our knowledge of the sources, fate and effects of toxic air contaminants; provide bases for controlling stationary source emissions; better characterize the effects of agricultural burning; improve our ability to analyze regional air quality problems; better define the effects of exposure to air pollutants on human health; and better define the extent of air pollution damage to all forms of vegetation.

The Board also conducts a special research program to obtain information regarding indoor air quality and personal exposures of Californians to air pollutants. Health and Safety Code Section 39660.5 requires the Board to consider indoor exposures to toxic pollutants in assessing the risk posed by them. However, little information is available regarding indoor exposures. The information obtained through the Indoor Air Quality/Personal Exposure Assessment Five-Year Study Plan will be used by staff to develop more accurate risk assessments, especially for toxic pollutants considered under the Board's Toxic Air Contaminants Program.

89-47
Void
No Resolution

State of California
AIR RESOURCES BOARD

Resolution 89-48

April 13, 1989

Agenda Item No.: 89-6-2

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

WHEREAS, the Legislature found in the Air Toxics "Hot Spots" Information and Assessment Act of 1987 ("the Act"; Health and Safety Code Section 44300 et seq.) that facilities manufacturing or using hazardous substances may be exposing nearby populations to toxic air releases on a routine basis and that it is in the public interest to ascertain the nature and quantity of hazardous releases from specific sources which may create air toxics "hot spots";

WHEREAS, the Act sets forth a program to develop air toxics emission inventories and to assess the risk to public health from exposure to these emissions;

WHEREAS, Health and Safety Code Section 44340 requires the operator of every facility subject to the Act to prepare and submit to the appropriate district a proposed comprehensive emission inventory plan beginning August 1, 1989;

WHEREAS, Health and Safety Code Section 44342 requires the Board to develop criteria and guidelines for site-specific air toxics emission inventory plans on or before May 1, 1989;

WHEREAS, a district may approve the proposed plans submitted by facility operators only if they meet the requirements set forth in these criteria and guidelines.

WHEREAS, Health and Safety Code Section 44342 requires that the Board design the guidelines and criteria to ensure that, in collecting data to be used for emission inventories, actual measurement is utilized whenever necessary to verify emission estimates to the extent technologically feasible;

WHEREAS, the Board staff, in consultation with representatives of the air pollution control and air quality management districts ("districts") and the Department of Health Services, has developed a proposed emission inventory criteria and guidelines regulation, which has been discussed with the public at four consultation meetings;

WHEREAS, the California Environmental Quality Act and Board regulations require that no project which may have significant adverse environmental impacts be adopted as originally proposed if feasible alternatives or mitigation measures are available to reduce or eliminate such impacts;

WHEREAS, the staff has proposed changes to the original proposal in response to comments received from affected public agencies, industry representatives and other interested persons and has presented the modified version of the criteria and guidelines regulation to the Board for consideration;

WHEREAS, a public hearing and other administrative proceedings have been held in accordance with the provisions of Chapter 3.5 (commencing with Section 11340), Part 1, Division 3, Title 2 of the Government Code and the Board has considered the testimony presented by interested persons and the staff;

WHEREAS, the Board finds that:

1. The proposed criteria and guidelines for site-specific air toxics emission inventory plans comply with the specifications described in Health and Safety Code Section 44342. Specifically, the guidelines:

   a. set forth requirements for a facility diagram which identifies actual and potential emission points and provides the necessary data to identify emission characteristics;

   b. specify requirements and methods for source testing and measurement, and permit the use of estimation techniques such as emission factors, modeling, and mass balance analysis when appropriate to yield emission estimates to specified degrees of accuracy;

   c. permit the use of pooled source test data for similar facilities and the use of existing data when its accuracy and relevance can be assured;

   d. specify applicable reporting periods and standardized format for reports and data; and

   e. eliminate overlap with the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 (Pub.L. 99-499) and Environmental Protection Agency regulations set forth in 40 CFR Part 372 to the extent feasible.

2. The criteria and guidelines ensure that the emission inventory plan will produce, from the list of substances compiled and maintained pursuant to Health and Safety Code Section 44321, a comprehensive characterization of the full range of hazardous materials that are released, or that may be released, to the surrounding air from a facility.

3. The criteria and guidelines ensure that, in collecting data to be used for emission inventories, actual measurement is utilized whenever necessary to verify emission estimates to the extent technologically feasible.

4. The degree of accuracy requirements set forth in the regulation are based upon state-of-the-art levels of detectability and measurement and on current knowledge of the potency of the substances being quantified, and are not intended as de minimis reporting levels for health effects purposes.

5. The criteria and guidelines will result in the collection of data useful to the districts in assessing and controlling toxic air emissions and to support the Board's program to identify and control toxic air contaminants pursuant to Health and Safety Code Sections 39650 et seq.

6. The economic impact of the proposed regulation may be significant for some small businesses where source testing is required; the proposed alternatives to source testing suggested for small businesses, as well as the availability of pooled source testing, will mitigate this economic impact to the extent feasible in consideration of the need to obtain accurate emission data.

7. This regulatory action will not have a significant adverse impact on the environment and is likely to benefit air quality by stimulating a reduction in emissions of both toxic and criteria pollutants and by providing information which will be used by the Board and others for control purposes.

8. In order to require submittal of the inventory plans by the August statutory deadline, these guidelines and criteria must be available to the facility operators and the districts as expeditiously as practicable after approval by the Board and should therefore be adopted as an emergency measure necessary for the immediate preservation of the public health, safety, and welfare. Such emergency adoption will assure that the guidelines are available for immediate use by the facilities and the districts in preparing and reviewing the inventory plans and reports. If the regulation is not adopted as an emergency measure, the August 1 submittal date and all of the subsequent dates set forth in the Act are likely not to be met, resulting in a significant delay in providing the public with knowledge about the nature and quantity of routine toxic releases into the air by specific sources of hazardous emissions, and of the health impacts of such releases.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves Sections 93300-93347, Title 17, California Code of Regulations, including Appendices A through D thereof, as set forth in Attachment A hereto, as modified in accordance with the Board's direction.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to make the modifications to attachment A in accordance with the Board's direction and to adopt Sections 93300-93347, Title 17, California Code of Regulations 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 directs the Executive Officer to adopt the regulations referenced above as emergency regulations in accordance with the procedures set forth in Government Code Section 11346.1, and to complete the procedures set forth in Government Code Sections 11346.4 through 11346.8 to formally adopt the regulations as expeditiously as practicable.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to forward the adopted regulations to the districts for their use in reviewing the emission inventory plans and reports submitted by facility operators, and requests the districts to make the regulations available to the facility operators.

BE IT FURTHER RESOLVED that in order to provide consistency to facility operators in the collection and compilation of emission data for the purpose of ascertaining and measuring the hazardous air releases from their facilities, which may be located in different districts, and in consideration of the fact that pursuant to Health and Safety Code Sections 44340(c) and 44365(b) districts may establish more stringent criteria and requirements for approval of emission inventory plans and reports, the Board urges, and requests the Executive Officer to facilitate, coordination among districts as appropriate when developing and implementing any such additional requirements and in considering proposals for pooled source testing.

BE IT FURTHER RESOLVED that the Board hereby directs the Executive Officer to develop procedures to be considered by the Board for the biennial updates of emission inventories required by Health and Safety Code Section 44344 and for addressing toxic substances subsequently added to the list of substances set forth in Appendix A of the regulations.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to develop and bring to the Board for consideration more stringent degrees of accuracy in reporting quantities of substances present in or released from a facility as measurement or estimation methods improve and as better health effects information becomes available.

I hereby certify that the above is a true and correct copy of Resolution 89-48, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider the Adoption of Emission Inventory Crtieria and Guidelines Pursuant to the Air Toxics "Hot Spots" Information and Assessment Act of 1987.

Agenda Item No.: 89-6-2

Public Hearing Date: April 13, 1989

Issuing Authority: Air Resources Board

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

Response: N/A

Certified: Cary Allsen
Board Secretary

Date: 9/28/89

ITEM NO.:
DATE: April 13, 1989

State of California

AIR RESOURCES BOARD

ITEM: Research Proposal No. 1619-142 entitled "Carbonaceous Species Methods Comparison Study, Interlaboratory Round Robin: Interpretation of Results"

RECOMMENDATION: Adopt Resolution 89-41 approving Proposal No. 1619-142 for an amount not to exceed $19,994.

SUMMARY:

The objective of this project is to analyze laboratory results that were obtained from thirteen groups in measurement of total, organic, and elemental carbon, in an interlaboratory round-robin of twenty samples as part of the Carbonaceous Species Methods Comparison Study. The contractor will interpret the results from the groups and attempt to account for any reported differences.

The results of the project will provide guidance to the ARB on how best to analyze carbonaceous aerosol particles, which constitute a major fraction of the PM10 found in urban areas.

The contractor for this study will be G2 Environmental, Inc., and the principal investigator will be Dr. Jitendra Shah.

State of California
AIR RESOURCES BOARD

Resolution 89-49

April 14, 1989

Agenda Item No.: 89-7-1

WHEREAS, the Air Resources Board conducts a special research program to obtain the information on indoor air quality and personal exposure needed to conduct indoor exposure assessments for toxic pollutants pursuant to Health and Safety Code Section 39660.5;

WHEREAS, the Board has previously reviewed information obtained by staff regarding indoor air quality and risks associated with indoor exposure to pollutants in May 1987 and February 1988;

WHEREAS, the Board finds that the people of the State of California spend, on the average, about 86 percent of their time indoors;

WHEREAS, the Board finds that indoor exposures to some air pollutants, including some of those regulated through the Board's Toxic Air Contaminants Program and the Ambient Air Quality Standards Program, are sometimes greater than outdoor exposures;

WHEREAS, the Board finds that health risk of substantial but unknown magnitude is posed by exposures to indoor air pollution;

WHEREAS, the Board finds that a number of government agencies are making efforts to address exposures to indoor air pollution, but no single state or federal agency has explicit authority to fully address non-occupational indoor exposures;

WHEREAS, the Board finds that, notwithstanding the efforts of such agencies, additional effort is warranted; and

WHEREAS, the Board finds specifically that federal agencies have substantial authority to control, and to coordinate the control of, indoor sources of pollution, but that authority is not currently being fully utilized to address indoor pollution.

NOW, THEREFORE, BE IT RESOLVED, that the Board concurs with the findings and recommendations of the staff report entitled "Reducing Exposures to Indoor Air Pollutants in California: Existing Authorities and Recommended Actions," dated April 1989, and that the Board hereby:

A. Accepts and endorses the findings and recommendations of said report;

B. Directs staff to develop, in conjunction with other State agencies, a State plan for action to assure reduction, and where feasible prevention, of exposure to indoor air pollutants, and that such plan should rely on existing authorities to the extent feasible, include memoranda of understanding among appropriate State agencies, and include explicit goals, objectives, target dates, and progress review periods;

C. Directs staff to develop, for Board consideration, health-based indoor air quality guidelines for non-occupational indoor environments, in order to identify safe indoor exposure levels for Californians when such levels can be identified, and to provide guidance in reducing indoor exposures to pollutants for which safe levels of exposure cannot be identified;

D. Directs staff to assist the Department of Health Services and other appropriate State and local agencies in developing indoor air quality education programs;

E. Directs staff to continue indoor air quality research at a priority level consistent with the apparent risk of indoor exposures and available resources; and

F. Encourages the U.S. Congress and relevant federal agencies to take additional actions to control, and to coordinate the control of, sources of indoor pollution.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to take appropriate and necessary actions to carry out these recommendations.

I hereby certify that the above is a true and correct copy of Resolution 89-49, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

89-50
Void
No Resolution

State of California

AIR RESOURCES BOARD

Resolution 89-51
June 9, 1989

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 177-28 entitled "Validity of Current Aerosol Models for Calculating Gas-Aerosol Equilibrium, Water Content and Size Distributions, and Relative Contributions of Various Source Types to Visibility Degradation", has been submitted by the California Institute of Technology; and

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

WHEREAS, the South Coast Air Quality Management District staff has reviewed and recommended that their Board co-fund this proposal with the Air Resources Board; and

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

> Proposal Number 177-28, entitled "Validity of Current Aerosol Models for Calculating Gas-Aerosol Equilibrium, Water Content and Size Distributions, and Relative Contributions of Various Source Types to Visibility Degradation," submitted by the California Institute of Technology, for a total amount not to exceed $180,000 with co-funding by the Board of the South Coast Air Quality Management District.

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 177-28, entitled "Validity of Current Aerosol Models for Calculating Gas-Aerosol Equilibrium, Water Content and Size Distributions, and Relative Contributions of Various Source Types to Visibility Degradation," submitted by the California Institute of Technology, for a total amount not to exceed $180,000 with co-funding by the Board of the South Coast Air Quality Management District.

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 $180,000 with co-funding by the Board of the South Coast Air Quality Management District.

I hereby certify that the above is a true and correct copy of Resolution #89-51, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

ITEM NO.: 1
DATE: June 9, 1989

State of California

AIR RESOURCES BOARD

ITEM: Research Proposal No. 177-28 entitled "Validity of Current Aerosol Models for Calculating Gas-Aerosol Equilibrium, Water Content and Size Distributions, and Relative Contributions of Various Source Types to Visibility Degradation"

RECOMMENDATION: Adopt Resolution 89-51 approving Proposal No. 177-28 for an amount not to exceed $196,234 with co-funding by the Board of the South Coast Air Quality Management District.

SUMMARY: This is one of several studies to analyze and interpret the data from the 1987 Southern California Air Quality Study (SCAQS) by methods other than airshed models. Issues related to the Board's regulatory needs will be addressed.

This major research effort will test critical components of atmospheric models of aerosol processes against observations made during the SCAQS program, and provide insight into the factors that govern aerosol formation and visibility degradation in the South Coast Air Basin.

The results of this project will provide guidance to ARB on how air pollution control strategies could be devised to reduce both PM_{10} concentrations and visibility degradation in the South Coast Air Basin and other nonattainment areas.

The South Coast Air Quality Management District Board has voted to co-fund this project because of their interest in assessing the validity of current models for nitrate-containing aerosol that will be used in developing the 1991 plan required by the California Clean Air Act.

The contractor for this study will be the California Institute of Technology, and the principal investigators will be Professors Glen R. Cass and John H. Seinfeld.

BUDGET SUMMARY

California Institute of Technology

"Validity of Current Aerosol Models for Calculating Gas-Aerosol Equilibrium, Water Content and Size Distributions, and Relative Contributions of Various Source Types to Visibility Degradation"

DIRECT COSTS

1.	Labor	$57,000	
2.	Consultants & Subcontracts	38,317	
3.	Equipment	-0-	
4.	Travel & Subsistence	-0-	
5.	Computer Usage	10,000	
6.	Reproduction	-0-	
7.	Mail & Phone	-0-	
8.	Supplies	-0-	
9.	Other*	6,000	
	Total Direct Costs		$111,317

INDIRECT COSTS

Includes Labor Overhead, Benefits, Material Overhead, General & Administrative Expense, and Profit	$ 68,683

TOTAL PROJECT COSTS	$180,000

*Supplies and expenses (publication costs, copying, etc.)

ITEM NO.:
DATE: April 13, 1989

State of California

AIR RESOURCES BOARD

ITEM: Research Proposal No. 1689-146 entitled "Low Level Carbon Monoxide Exposure in Sensitive Subjects Exposed at High Altitude"

RECOMMENDATION: Adopt Resolution 89-42 approving Proposal No. 1689-146 for an amount not to exceed $236,779.

SUMMARY: The objective of this project is to resolve residual existing uncertainties regarding the high altitude standard for carbon monoxide. The existing high altitude standard for carbon monoxide is based on calculations derived from a theoretical model. However, the calculations have been shown to contain an erroneous factor, hence there are uncertainties about the standard. Also, experimental data are needed to validate the model.

The investigator will evaluate 25 human subjects with stable angina (a group sensitive to carbon monoxide effects) both at sea level and simulated high altitude before, during and after exposure to carbon monoxide. The parameters to be measured include changes in the time of onset of angina and the critical variables that appear in the equation used to calculate the high altitude standard.

This study will help to: 1) confirm the need for the high altitude standard for carbon monoxide; 2) validate the model used to calculate the standard; and 3) measure the variables fitting into the model. The contractor will be the University of California, Irvine. The principal investigator will be Michael T. Kleinman.

89-52
Missing
Resolution

State of California
AIR RESOURCES BOARD

Resolution 89-53

July 13, 1989

Agenda Item No.: 89-13-3

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

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

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

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

WHEREAS, in California, methylene chloride (dichloromethane, hereinafter "methylene chloride") is emitted from many activities including paint stripping, use of aerosols and degreasers, and the manufacture of polyurethane foam; and studies establish that methylene chloride will not break down in the atmosphere at a rate that would significantly reduce the resulting public exposure;

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

WHEREAS, DHS concluded in its evaluation that methylene chloride is an animal carcinogen and a potential human carcinogen; that health effects other than cancer are not expected to occur at existing or expected ambient levels of methylene chloride; that the unit risk from a lifetime continuous exposure to 0.29 ppb (1 ug/m^3) of methylene chloride ranges from 0.3 x 10^{-6} to 3 x 10^{-6}; and that the most likely estimate of the unit risk based on application of the PBPK model high-to-low dose adjustment, is 1 x 10^{-6} per (1 ug/m^3), which is equivalent to 4 x 10^{-6} per ppb;

WHEREAS, for the reasons set forth in its evaluation, DHS treats methylene chloride-induced carcinogenesis as a nonthreshold phenomenon, because there are several short-term studies suggesting that methylene chloride is mutagenic and because DHS found no evidence that there is a carcinogenic threshold level for methylene chloride;

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

WHEREAS, in accordance with Section 39661 of the Health and Safety Code, the SRP reviewed the staff report, including the scientific procedures and methods used to support the data in the report, the data itself, and the conclusions and assessments on which the report was based, considered the public comments received regarding the report, and on April 18, 1989, adopted for submittal to the Board findings which included the following:

1. Methylene chloride has been identified as an animal carcinogen and should be regarded as a potential human carcinogen.

2. Methylene chloride is emitted into the air by a variety of stationary sources in California.

3. Based on its gas-phase reactivity with hydroxyl radicals, methylene chloride has an atmospheric lifetime estimated to range from 80 to 250 days.

4. Approximately 20.3 million people in California are estimated to be exposed to a population-weighted mean methylene chloride concentration of 1.1 to 2.4 parts per billion.

5. Adverse health effects other than cancer are not known to occur at predicted concentrations of methylene chloride in ambient outdoor air.

6. Based on available scientific information, a methylene chloride exposure level below which carcinogenic effects are not expected to occur cannot be identified.

7. Based on an interpretation of available scientific evidence, DHS staff estimated risks using both the applied dose and a physiologically based pharmacokinetic model (PBPK). The range of lifetime excess cancer risk from exposure to 1 ppb (3.5 ug/m^3) of atmospheric methylene chloride based on the upper 95% confidence limit is from 9×10^{-8}/ppb (PBPK model without surface area correction) to 10×10^{-6}/ppb

(applied dose). This includes EPA's application of the PBPK model which would estimate a risk of 1 x 10^{-6}/ppb (with a surface area correction). DHS uses a PBPK model with a high-to-low dose adjustment which generates a risk of 4 x 10^{-6}/ppb, which, based on available data, is the most plausible estimate of the upper limit of risk. These upper bound excess lifetime risks are health-protective estimates; the actual risk may be below these values.

8. Exposure to the range of mean ambient concentrations (weighted by population) of 1.1 to 2.4 ppb for a population of 20.3 million people, could result in up to 2 to 500 excess lifetime cancers, based on the upper-bound of the 95 percent confidence interval of the models.

WHEREAS, the SRP found the staff report to be without serious deficiency, and the SRP agreed with the staff recommendation that methylene chloride should be listed by the Air Resources Board as a toxic air contaminant, and found that based on available scientific information, a methylene chloride exposure level below which carcinogenic effects are not expected to occur cannot be identified;

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 Government Code;

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

Methylene chloride is an animal carcinogen and a potential human carcinogen;

Health effects other than cancer are not anticipated at existing or expected methylene chloride exposure levels in ambient outdoor air;

That DHS and the SRP agree that the most plausible estimate of the unit risk based on application of the PBPK model high-to-low dose adjustment, is 1 x 10^{-6} per (1 ug/m^3), which is equivalent to 4 x 10^{-6} per ppb;

There is not sufficient available scientific evidence to support the identification of a threshold exposure level for methylene chloride; Methylene chloride is an air pollutant which, because of its carcinogenicity, 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

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 the proposed regulatory amendment to Section 93000, Titles 17 and 26, California Code of Regulations, as set forth in Attachment A.

I hereby certify that the above is a true and correct copy of Resolution 89-53, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

Attachment A

Amend Titles 17 and 26, California Code of Regulations, 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 specified "None identified."

Substance	Threshold Determination
Benzene (C_6H_6)	None identified
Ethylene Dibromide ($BrCH_2CH_2Br$; 1,2-dibromoethane)	None identified
Ethylene Dichloride ($ClCH_2CH_2Cl$; 1,2-dichloroethane	None identified
Hexavalent Chromium (Cr(VI))	None identified
Asbestos [asbestiform varieties of serpentine (chrysotile) riebeckiate (crocidolite) cummingtonite-grunerite (amosite), tremolite, actinolite, and anthophyllite]	None identified

Dibenzo-p-dioxins and Dibenzofurans chlorinated in the 2,3,7 and 8 positions and containing 4,5,6,or 7 chlorine atoms	None identified
Cadmium (metallic cadmium and cadmium compounds)	None identified
Carbon Tetrachloride (CCl_4; tetrachloromethane)	None identified
Ethylene Oxide (1,2-epoxyethane)	None identified
Methylene Chloride (CH_2Cl_2, Dichloromethane)	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

Resolution 89-54

May 12, 1989

Agenda Item No.: 89-9-2

WHEREAS, the Air Resources Board ("Board") and the federal Environmental Protection Agency have established health-based ambient air quality standards for ozone, and these standards are frequently exceeded 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 achieve and maintain the 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 local air pollution control and air quality management districts;

WHEREAS, The statewide Technical Review Group, consisting of staff representatives of EPA, the Board, and local Air Pollution Control Districts, has developed and approved a proposed Suggested Control Measure for control of emissions of volatile organic compounds from the application of architectural coatings (the "Suggested Control Measure") and has forwarded the Suggested Control Measure to the Board for consideration;

WHEREAS, The Technical Review Group has developed and approved the Suggested Control Measure as a revision to a 1985 model rule for architectural coatings, which is the basis for most of the architectural coatings rules of air pollution control districts and air quality management districts in the state;

WHEREAS, adoption of changes to the 1985 model rule embodied in the Suggested Control Measure will improve the clarity and enforceability of architectural coatings rules, and will provide a basis for statewide uniformity in architectural coatings rules;

WHEREAS, implementation of new standards in the Suggested Control Measure will reduce the emissions of volatile organic compounds from the application of architectural coatings;

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 Board has held a duly noticed public meeting to consider approval of the Technical Review Group's Suggested Control Measure for architectural coatings and has heard and considered the comments presented by representatives of the Board, Technical Review Group, districts, affected industries, and other interested persons and agencies;

WHEREAS, the Board finds that:

The application of architectural coatings in the state emits more than 150 tons per day of volatile organic compounds to the atmosphere, and the volume of these emissions is growing;

The emissions of volatile organic compounds from the application of architectural coatings contribute to the exceedance in many areas of the state of both state and national ambient air quality standards for ozone;

The control and reduction of emissions of volatile organic compounds is necessary to the attainment and maintenance of the state and national ambient air quality standards for ozone;

To effectively control the emission of volatile organic compounds from architectural coatings applied at widely dispersed locations, and to minimize the regulatory burden on the architectural coatings industry, architectural coatings standards must be uniform among districts which need archictectural coatings rules;

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

Based on the comments received, it is appropriate to modify the Suggested Control Measure as approved by the TRG, as reflected in Attachment A.

No significant adverse environmental impacts associated with the 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 hereby approves the Suggested Control Measure for control of emissions of volatile organic compounds from the application of architectural coatings as set forth in Attachment A.

BE IT FURTHER RESOLVED that the Executive Officer is directed to return the Suggested Control Measure as modified to the TRG for its approval, and following TRG approval to forward the Suggested Control Measure to the air pollution control districts and air quality management districts for consideration for adoption in regulatory form.

BE IT FURTHER RESOLVED that the Board strongly encourages each air pollution control and air quality management district to adopt the Suggested Control Measure as approved, without modification, so that statewide uniformity in architectural coatings standards can be achieved.

BE IT FURTHER RESOLVED that the Executive Officer is directed to provide assistance to any district requesting assistance in adopting, interpreting, or implementing the Suggested Control Measure.

I hereby certify that the above is a true and correct copy of Resolution 89-54, as adopted by the Air Resources Board.

Patricia Hutchens for
Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider the Adoption of a Regulatory Amendment Identifying Methylene Chloride as a Toxic Air Contaminant

Agenda Item No.: 89-13-3

Public Hearing Date: July 13, 1989

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: Judith M. Lounsbury
Board Secretary

Date: 4/26/90

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OCT 15 1990

RESOURCES AGENCY OF CALIFORNIA

State of California
AIR RESOURCES BOARD

Resolution 89-55

May 11, 1989

Agenda Item No.: 89-8-4

WHEREAS, on November 17, 1988, the Air Resources Board (the Board) conducted a public hearing to consider the adoption of two new regulations which would establish statewide limits for the sulfur content and aromatic hydrocarbon content of motor vehicle diesel fuel;

WHEREAS, following the public hearing, on November 17, 1988, the Board adopted Resolution 88-59, in which the Board approved the adoption of Sections 2255 and 2256, Title 13, California Code of Regulations, as set forth in Attachments A and B thereto, and the amendment of Section 2252, Title 13, California Code of Regulations, as set forth in Attachment C thereto, with the modifications set forth or described in Attachment D thereto, and with additional modifications identified in the Resolution;

WHEREAS, Resolution 88-59 directed the Executive Officer to incorporate into Attachments A, B, and C the modifications approved by the Board therein, to conduct a workshop on such modifications, and either to adopt the regulatory actions in Attachments A, B, and C as modified after making them available to the public for a comment period of 15 days, with such minor modifications as may be desirable and necessary, or to present the regulations to the Board for final consideration and adoption, as he determines is most appropriate;

WHEREAS, following a staff workshop on draft language, the Executive Officer made available to the public for a 15-day written comment period modified texts of new Sections 2255 and 2256, Title 13, California Code of Regulations, as set forth in Attachments 1 and 2 hereto, and amendments to Section 2252, as set forth in Attachment 3 hereto, with the changes to the originally proposed text clearly indicated;

WHEREAS, the Board has considered the public comments made during the 15-day availability period;

WHEREAS, the Board finds that:

The reference fuel specifications for API gravity, viscosity, distillation range in Section 2256(g)(3) as proposed should be modified as set forth in Attachment 4 in order to assure the practicality of producing such fuel for test purposes; and

The modifications in Attachments 1, 2, 3, and 4 are necessary and appropriate to provide additional flexibility in meeting the

regulatory requirements, tailor the requirements more closely to the present financial ability of the affected industry to comply, and clarify the intent of the provisions.

NOW, THEREFORE, BE IT RESOLVED that the recitals and findings contained in Resolution 88-59 are incorporated herein.

BE IT FURTHER RESOLVED, that the Board hereby adopts Section 2255, and amends Section 2252, Title 13, California Code of Regulations, as set forth in Attachments 1 and 3 hereto.

BE IT FURTHER RESOLVED, that the Board hereby approves the adoption of Section 2256, Title 13, California Code of Regulations, as set forth in Attachment 3 hereto, with the modifications contained in Attachment 4 hereto, and directs the Executive Officer to adopt the regulation after making it available to the public for a 15-day period for comment on the modifications contained in Attachment 4, with such minor modifications as may be appropriate, provided that the Executive Officer shall present the regulation to the Board for further consideration if he determines that this is warranted in light of written comments received.

I hereby certify that the above is a true and correct copy of Resolution 89-55, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

Attachment A

May 1989

ARB-CAPCOA Suggested Control Measure for Architectural Coatings

RULE _____ ARCHITECTURAL COATINGS

(a) APPLICABILITY

This rule is applicable to any person who supplies, sells, offers for sale, applies, or solicits the application of any architectural coating, or who manufactures any architectural coating for use within the District.

(b) DEFINITIONS

(1) Appurtenances: Accessories to an architectural structure, including, but not limited to: hand railings, cabinets, bathroom and kitchen fixtures, fences, rain-gutters and down-spouts, window screens, lamp-posts, heating and air conditioning equipment, other mechanical equipment, large fixed stationary tools and concrete forms.

(2) Architectural Coatings: Coatings applied to stationary structures and their appurtenances, to mobile homes, to pavements, or to curbs.

(3) Below-Ground Wood Preservatives: Coatings formulated to protect below-ground wood from decay or insect attack and which contain a wood preservative chemical registered by the California Department of Food and Agriculture.

(4) Bituminous Coatings: Black or brownish coating materials which are soluble in carbon disulfide, which consist mainly of hydrocarbons, and which are obtained from natural deposits or as residues from the distillation of crude oils or of low grades of coal.

(5) Bond Breakers: Coatings applied between layers of concrete to prevent the freshly poured top layer of concrete from bonding to the layer over which it is poured.

(6) Clear Wood Finishes: Clear and semi-transparent coatings, including lacquers and varnishes, applied to wood substrates to provide a transparent or translucent solid film.

(7) Concrete Curing Compounds: Coatings applied to freshly poured concrete to retard the the evaporation of water.

(8) Dry Fog Coatings (Mill White Coatings): Coatings formulated only for spray application such that overspray droplets dry before subsequent contact with other surfaces.

(9) Exempt Solvents: Compounds identified as exempt under the definition of Volatile Organic Compounds, Subsection (b)(38).

(10) Fire-Retardant Coatings: Coatings which have a flame spread index of less than 25 when tested in accordance with ASTM Designation E-84-87, "Standard Test Method for Surface Burning Characteristics of Building Material," after application to Douglas fir according to the manufacturer's recommendations.

(11) Form-Release Compounds: Coatings applied to a concrete form to prevent the freshly poured concrete from bonding to the form. The form may consist of wood, metal, or some material other than concrete.

(12) Graphic Arts Coatings (Sign Paints): Coatings formulated for and hand-applied by artists using brush or roller techniques to indoor and outdoor signs (excluding structural components) and murals, including lettering enamels, poster colors, copy blockers, and bulletin enamels.

(13) High-Temperature Industrial Maintenance Coatings: Industrial Maintenance Coatings formulated for and applied to substrates exposed continuously or intermittently to temperatures above 400 degrees Fahrenheit.

(14) Industrial Maintenance Anti-Graffiti Coatings: Two-component clear industrial maintenance coatings formulated for and applied to exterior walls and murals to resist repeated scrubbing and exposure to harsh solvents.

(15) Industrial Maintenance Coatings: High performance coatings formulated for and applied to substrates in industrial, commercial, or institutional situations that are exposed to one or more of the following extreme environmental conditions:

(i) immersion in water, wastewater, or chemical solutions (aqueous and non-aqueous solutions), or chronic exposure of interior surfaces to moisture condensation;
(ii) acute or chronic exposure to corrosive, caustic or acidic agents, or to chemicals, chemical fumes, chemical mixtures, or solutions;
(iii) repeated exposure to temperatures in excess of 250 F;
(iv) repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial solvents, cleansers, or scouring agents; or
(v) exterior exposure of metal structures.

Industrial Maintenance Coatings are not for residential use or for use in areas of industrial, commercial, or institutional facilities such as office space and meeting rooms.

(16) Lacquers: Clear wood finishes formulated with nitrocellulose or synthetic resins to dry by evaporation without chemical reaction, including clear lacquer sanding sealers.

(9) Exempt Solvents: Compounds identified as exempt under the definition of Volatile Organic Compounds, Subsection (b)(38).

(10) Fire-Retardant Coatings: Coatings which have a flame spread index of less than 25 when tested in accordance with ASTM Designation E-84-87, "Standard Test Method for Surface Burning Characteristics of Building Material," after application to Douglas fir according to the manufacturer's recommendations.

(11) Form-Release Compounds: Coatings applied to a concrete form to prevent the freshly poured concrete from bonding to the form. The form may consist of wood, metal, or some material other than concrete.

(12) Graphic Arts Coatings (Sign Paints): Coatings formulated for and hand-applied by artists using brush or roller techniques to indoor and outdoor signs (excluding structural components) and murals, including lettering enamels, poster colors, copy blockers, and bulletin enamels.

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(ii) acute or chronic exposure to corrosive, caustic or acidic agents, or to chemicals, chemical fumes, chemical mixtures, or solutions;
(iii) repeated exposure to temperatures in excess of 250 F;
(iv) repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial solvents, cleansers, or scouring agents; or
(v) exterior exposure of metal structures.

Industrial Maintenance Coatings are not for residential use or for use in areas of industrial, commercial, or institutional facilities such as office space and meeting rooms.

(16) Lacquers: Clear wood finishes formulated with nitrocellulose or synthetic resins to dry by evaporation without chemical reaction, including clear lacquer sanding sealers.

(17) Magnesite Cement Coatings: Coatings formulated for and applied to magnesite cement decking to protect the magnesite cement substrate from erosion by water.

(18) Mastic Texture Coatings: Coatings formulated to cover holes and minor cracks and to conceal surface irregularities, and applied in a thickness of at least 10 mils (dry, single coat).

(19) Metallic Pigmented Coatings: Coatings containing at least 0.4 pounds of metallic pigment per gallon of coating as applied.

(20) Multi-Colored Coatings: Coatings which exhibit more than one color when applied and which are packaged in a single container and applied in a single coat.

(21) Opaque Stains: All stains that are not classified as semi-transparent stains.

(22) Opaque Wood Preservatives: All wood preservatives not classified as clear or semi-transparent wood preservatives or as below-ground wood preservatives.

(23) Pre-treatment Wash Primers: Coatings which contain a minimum of 1/2% acid by weight, applied directly to bare metal surfaces to provide necessary surface etching.

(24) Primers: Coatings formulated and applied to substrates to provide a firm bond between the substrate and subsequent coats.

(25) Residential Use: Use in areas where people reside or lodge including, but not limited to single and multiple family dwellings, condominiums, mobile homes, apartment complexes, motels, and hotels.

(25) Roof Coatings: Coatings formulated for application to exterior roofs and for the primary purpose of preventing penetration of the substrate by water, or reflecting heat and reflecting ultraviolet radiation. Metallic pigmented roof coatings which qualify as metallic pigmented coatings shall not be considered to be in this category, but shall be considered to be in the metallic pigmented coatings category.

(27) Sanding Sealers: Clear wood coatings formulated for and applied to bare wood for sanding and to seal the wood for subsequent application of varnish. To be considered a sanding sealer a coating must be clearly labelled as such.

(28) Sealers: Coatings formulated for and applied to a substrate to prevent subsequent coatings from being adsorbed by the substrate, or to prevent harm to subsequent coatings by materials in the substrate.

(29) Semi-Transparent Stains: Coatings formulated to change the color of a surface but not conceal the surface.

(30) Semi-Transparent Wood Preservatives: Wood preservative stains formulated and used to protect exposed wood from decay or insect attack by the addition of a wood preservative chemical registered by the California Department of Food and Agriculture, which change the color of a surface but do not conceal the surface, including clear wood preservatives.

(31) Shellacs: Clear or pigmented coatings formulated solely with the resinous secretions of the lac beetle (laccifer lacca), thinned with alcohol, and formulated to dry by evaporation without a chemical reaction.

(32) Solicit: To require for use or to specify, by written or oral contract.

(33) Swimming Pool Coatings: Coatings formulated and used to coat the interior of swimming pools and to resist swimming pool chemicals.

(34) Swimming Pool Repair Coatings: Chlorinated rubber based coatings used for the repair and maintenance of swimming pools over existing chlorinated rubber based coatings.

(35) Traffic Coatings: Coatings formulated for and applied to public streets, highways, and other surfaces including, but not limited to curbs, berms, driveways, and parking lots.

(36) Undercoaters: Coatings formulated and applied to substrates to provide a smooth surface for subsequent coats.

(37) Varnishes: Clear wood finishes formulated with various resins to dry by chemical reaction on exposure to air.

(38) Volatile Organic Compounds (VOC): Compounds of carbon which may be emitted to the atmosphere during the application of and/or subsequent drying or curing of coatings subject to this rule, except methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, 1,1,1-trichloroethane, methylene chloride, trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), chlorodifluoromethane (CFC-22), trifluoromethane (CFC-23), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), and chloropentafluorethane (CFC-115).

(39) Waterproofing Sealers: Colorless coatings which are formulated and applied for the sole purpose of protecting porous substrates by preventing the penetration of water and which do not alter surface appearance or texture.

(30) Semi-Transparent Wood Preservatives: Wood preservative stains formulated and used to protect exposed wood from decay or insect attack by the addition of a wood preservative chemical registered by the California Department of Food and Agriculture, which change the color of a surface but do not conceal the surface, including clear wood preservatives.

(31) Shellacs: Clear or pigmented coatings formulated solely with the resinous secretions of the lac beetle (laccifer lacca), thinned with alcohol, and formulated to dry by evaporation without a chemical reaction.

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(39) Waterproofing Sealers: Colorless coatings which are formulated and applied for the sole purpose of protecting porous substrates by preventing the penetration of water and which do not alter surface appearance or texture.

(c) STANDARDS

(1) Except as provided in Subsections (c)(2), (c)(3), and (c)(4), no person shall, within the District, supply, offer for sale, sell, apply, or solicit the application of any architectural coating which, at the time of sale or manufacture, contains more than 250 grams of volatile organic compounds per liter of coating (less water and exempt solvents, and excluding any colorant added to tint bases), or manufacture, blend, or repackage such a coating for use within the District.

(2) Except as provided in Subsections (c)(3) and (c)(4), no person shall, within the District, supply, offer for sale, sell, apply, or solicit the application of any architectural coating listed in the Table of Standards which contains volatile organic compounds (less water and exempt solvents, and excluding any colorant added to tint bases) in excess of the corresponding limit specified in the table, after the corresponding date specified, or manufacture, blend, or repackage such a coating for use within the district.

Table of Standards
(grams of VOC per liter)

	Effective Dates			
	9/1/84	9/1/89	9/1/92	9/1/94
Below-Ground Wood Preservatives	--	600	350	
Bond Breakers	--	750	350 (9/1/90)	
Clear Wood Finishes				
Lacquer	--	680		
Sanding Sealers		550	350	
Varnish	500	350		
Concrete Curing Compounds	--	350		
Dry Fog Coatings		400		
Fire-Retardant Coatings				
Clear	--	650		
Pigmented	--	350		
Form-Release Compounds	--	250		
Graphic Arts (Sign) Coatings	--	500		
Industrial Maintenance Coatings	--	420	340	
Industrial Maintenance Anti-Graffitti Coatings	--	600	340	
High Temperature Industrial Maintenance Coatings	--	650	550	420
Magnesite Cement Coatings	--	600	450	
Mastic Texture Coatings	--	300		
Metallic Pigmented Coatings	--	500		
Multi-Color Coatings	--	580	420	
Opaque Stains	400	350		
Opaque Wood Preservatives	400	350		
Pre-treatment Wash Primers	--	780	780	420
Primers Sealers & Undercoaters	400	350		
Roof Coatings	--	300		
Semi-transparent Stains	--	350		
Semi-transparent and Clear Wood Preservatives	--	350		
Shellac				
Clear	--	730		
Pigmented	--	550		
Swimming Pool Coatings	--	650	340 (9/1/92)	
Repair and Maintenance Coatings	--	650	340 (9/1/97)	
Traffic Paints				
Public streets & highways	415	250		
Other surfaces	250	250		
Black traffic coatings	--	250		
Waterproofing Sealers	--	400		

Table of Standards
(grams of VOC per liter)

	Effective Dates			
	9/1/84	9/1/89	9/1/92	9/1/94
Below-Ground Wood Preservatives	--	600	350	
Bond Breakers	--	750	350 (9/1/90)	
Clear Wood Finishes				
Lacquer	--	680		
Sanding Sealers		550	350	
Varnish	500	350		
Concrete Curing Compounds	--	350		
Dry Fog Coatings		400		
Fire-Retardant Coatings				
Clear	--	650		
Pigmented	--	350		
Form-Release Compounds	--	250		
Graphic Arts (Sign) Coatings	--	500		
Industrial Maintenance Coatings	--	420	340	
Industrial Maintenance Anti-Graffitti Coatings	--	600	340	
High Temperature Industrial Maintenance Coatings	--	650	550	420
Magnesite Cement Coatings	--	600	450	
Mastic Texture Coatings	--	300		
Metallic Pigmented Coatings	--	500		
Multi-Color Coatings	--	580	420	
Opaque Stains	400	350		
Opaque Wood Preservatives	400	350		
Pre-treatment Wash Primers	--	780	780	420
Primers Sealers & Undercoaters	400	350		
Roof Coatings	--	300		
Semi-transparent Stains	--	350		
Semi-transparent and Clear Wood Preservatives	--	350		
Shellac				
Clear	--	730		
Pigmented	--	550		
Swimming Pool Coatings	--	650	340 (9/1/92)	
Repair and Maintenance Coatings	--	650	340 (9/1/97)	
Traffic Paints				
Public streets & highways	415	250		
Other surfaces	250	250		
Black traffic coatings	--	250		
Waterproofing Sealers	--	400		

(3) If anywhere on the container of any coating listed on the Table of Standards, on any sticker or label affixed thereto, or in any sales or advertising literature, any representation is made that the coating may be used as, or is suitable for use as a coating for which a lower VOC standard is specified in the table or in Subsection (c)(1), then the lowest VOC standard shall apply. This requirement does not apply to the representation of the following coatings in the manner specified:

(i) High-Temperature Industrial Maintenance Coatings, which may be represented as metallic pigmented coatings for use consistent with the definition of high temperature industrial maintenance coatings;
(ii) Lacquer Sanding Sealers, which may be recommended for use as sanding sealers in conjunction with clear lacquer topcoats;
(iii) Metallic Pigmented Coatings, which may be recommended for use as primers, sealers, undercoaters, roof coatings, or industrial maintenance coatings; and
(iv) Shellacs.

(4) Sale of a coating manufactured prior to the effective date of the corresponding standard in the Table of Standards, and not complying with that standard, shall not constitute a violation of Subsection (c)(2) until three years after the effective date of the standard, nor shall application of such a coating.

(5) All VOC-containing materials shall be stored in closed containers when not in use. In use includes, but is not limited to: being accessed, filled, emptied, maintained or repaired.

(d) ADMINISTRATIVE REQUIREMENTS

(1) Each container of any coating subject to this rule shall display the date on which the contents were manufactured or a code indicating the date of manufacture. Each manufacturer of such coatings shall file with the Air Pollution Control Officer and the Executive Officer of the California Air Resources Board, an explanation of each code.

(2) Each container of any coating subject to this rule shall display a statement of the manufacturer's recommendation regarding thinning of the coating. This recommendation shall not apply to the thinning of architectural coatings with water. The recommendation shall specify that the coating is to be employed without thinning or diluting under normal environmental and application conditions unless any thinning recommended on the label for normal environmental and application conditions does not cause a coating to exceed its applicable standard.

(3) Each container of any coating subject to this rule and manufactured after (one year from the date of adoption) shall display the maximum VOC content of the coating, as applied, and after any thinning as recommended by the manufacturer. VOC content shall be displayed as grams of VOC per liter of coating (less water and exempt solvent, and excluding any colorant added to tint bases). VOC content displayed may be calculated using product formulation data, or may be determined using the test method in Subsection (f)(1).

(4) Beginning (one year from the date of adoption), the labels of all industrial maintenance coatings shall include the statement "Not for Residential Use," or "Not for Residential Use in California," prominently displayed.

(e) EXEMPTIONS

The requirements of this rule do not apply to:

(1) Architectural coatings manufactured for use outside of the District or for shipment to other manufacturers for repackaging.

(2) Architectural coatings supplied in and applied from containers having capacities of one liter or less, which were offered in containers of such capacities prior to (the date of adoption of this rule).

(3) Architectural coatings sold in non-refillable aerosol containers having capacities of one liter or less.

(4) Emulsion-type bituminous pavement sealers.

(f) TEST METHODS

(1) Volatile Organic Compounds: Measurement of volatile organic compounds in architectural coatings shall be conducted and reported in accordance with EPA Test Method 24 (40 CFR 60, Appendix A), or an equivalent method approved by the air pollution control officer.

(3) Each container of any coating subject to this rule and manufactured after (one year from the date of adoption) shall display the maximum VOC content of the coating, as applied, and after any thinning as recommended by the manufacturer. VOC content shall be displayed as grams of VOC per liter of coating (less water and exempt solvent, and excluding any colorant added to tint bases). VOC content displayed may be calculated using product formulation data, or may be determined using the test method in Subsection (f)(1).

(4) Beginning (one year from the date of adoption), the labels of all industrial maintenance coatings shall include the statement "Not for Residential Use," or "Not for Residential Use in California," prominently displayed.

(e) EXEMPTIONS

The requirements of this rule do not apply to:

(1) Architectural coatings manufactured for use outside of the District or for shipment to other manufacturers for repackaging.

(2) Architectural coatings supplied in and applied from containers having capacities of one liter or less, which were offered in containers of such capacities prior to (the date of adoption of this rule).

(3) Architectural coatings sold in non-refillable aerosol containers having capacities of one liter or less.

(4) Emulsion-type bituminous pavement sealers.

(f) TEST METHODS

(1) Volatile Organic Compounds: Measurement of volatile organic compounds in architectural coatings shall be conducted and reported in accordance with EPA Test Method 24 (40 CFR 60, Appendix A), or an equivalent method approved by the air pollution control officer.

State of California

AIR RESOURCES BOARD

Resolution 89-56
June 9, 1989

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 178-29 entitled "Interim Oversight for Materials Exposure Sites", has been submitted by C-E Environmental, Inc.; 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 178-29, entitled "Interim Oversight for Materials Exposure Sites," submitted by C-E Environmental, Inc., for a total amount not to exceed $8,952.

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

> Proposal Number 178-29, entitled "Interim Oversight for Materials Exposure Sites," submitted by C-E Environmental, Inc., for a total amount not to exceed $8,952.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $8,952.

I hereby certify that the above is a true and correct copy of Resolution #89-56, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

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

C-E Environmental, Inc.

"Interim Oversight for Materials Exposure Sites"

BUDGET ITEMS:

1.	Labor	$2,958	
2.	Consultants & Subcontracts	-0-	
3.	Equipment	-0-	
4.	Travel & Subsistence	785	
5.	Computer Usage	-0-	
6.	Reproduction	-0-	
7.	Mail & Phone	-0-	
8.	Supplies	225	
9.	Other*	-0-	
	Total Direct Costs		$3,968
	INDIRECT COSTS		
	Includes Labor Overhead, Benefits, Material Overhead, General & Administrative Expense, and Profit		$4,984
	TOTAL PROJECT COSTS		$8,952

*Supplies and expenses (publication costs, copying, etc.)

ITEM NO.: 2
DATE: June 9, 1989

State of California

AIR RESOURCES BOARD

ITEM: Research Proposal No. 178-29 entitled "Interim Oversight for Materials Exposure Sites"

RECOMMENDATION: Adopt Resolution 89-56 approving Proposal No. 178-29 for an amount not to exceed $8,952.

SUMMARY: The purpose of this project is to provide interim service at the Air Resources Board materials exposure sites until a contractor is selected, in the next fiscal year, to carry out the materials damage program under the Atmospheric Acidity Protection Act.

The proponent will prepare approximately 100 material coupons for field exposure. The coupons will be cleaned, equilibrated, weighed and photographed prior to deployment. The sets of previously deployed material coupons, which are currently in place at the exposure sites, will be collected. The collected coupons will be photographed and placed in storage in light-excluding boxes in a temperature and humidity-controlled room for analyses at a later date. The sites will be revisited after four months to collect another set of material coupons and to conduct maintenance of exposure racks as needed. The collected coupons also will be photographed and stored for further analyses. At the end of the six-month period, the contractor will provide to the ARB a spreadsheet documenting weights of material coupons prior to deployment.

The study will be conducted by C-E Environmental, Inc. and the principal investigator will be Mr. Robert Hillestad.

State of California
AIR RESOURCES BOARD

Resolution 89-57

June 9, 1989

Agenda Item No.: 89-11-4

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

WHEREAS, the Legislature in 1988 enacted the California Clean Air Act of 1988 (the "Act"; Stats. 1988, ch. 1568) to address the problem of air pollution in California;

WHEREAS, in the California Clean Air Act the Legislature declared that attainment of the Board's health-based ambient air quality standards is necessary to protect public health, particularly of children, older people, and those with respiratory diseases and directed that these standards be attained at the earliest practicable date;

WHEREAS, the California Clean Air Act directs the Board to perform numerous tasks related to both vehicular and nonvehicular sources of air pollution;

WHEREAS, Section 39612 of the Health and Safety Code authorizes the Board to require air pollution control and air quality management districts ("districts"), beginning July 1, 1989, to impose additional permit fees on nonvehicular sources which emit 500 tons per year or more of any nonattainment pollutant or its precursors in order to recover costs of additional state programs related to nonvehicular sources authorized or required by the Act;

WHEREAS, the Board staff held consultation meetings with industry, and has met and conferred with representatives of local districts and with their assistance has developed a proposed fee program which specifies the amount of fees to be collected by each district for transmission to the Board;

WHEREAS, the proposed fee regulations have been designed to provide the Board with net revenues of two million one hundred thirty-five thousand dollars ($2,135,000) in fiscal year 1989-90 to cover budgeted expenses of implementing nonvehicular source related activities under the Act, plus a ten percent contingency, or two hundred thirteen thousand five hundred dollars ($213,500), to cover unanticipated shortfalls in fees collected;

WHEREAS, the proposed fee regulations provide that any excess fees collected shall be carried over and considered when setting fees in future years;

WHEREAS, the proposed fee regulations specify by district the amount to be transmitted to the Board for deposit in the Air Pollution Control Fund in Fiscal Year 1989-90 and authorize each district to assess additional fees to recover the administrative costs to the district of collecting the fees;

WHEREAS, pursuant to Section 39612 of the Health and Safety Code the proposed fee program for Fiscal Year 1989-90 are based on emissions of nonattainment pollutants or their precursors, as provided in the Act, using the most current statewide emission data available from the districts, which are for calendar year 1987;

WHEREAS, the California Environmental Quality Act and Board regulations require that no project which may have significant adverse environmental impacts be adopted as originally proposed if feasible alternatives or mitigation measures are available to reduce or eliminate such impacts; and

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 regulations are needed to implement the nonvehicular source related programs established pursuant to the California Clean Air Act; and

The proposed regulations are based on annual emissions of nonattainment pollutants from facilities that emit 500 tons per year or more of any nonattainment pollutant or its precursors based on the most recent statewide data available;

The proposed fee regulations will not have a significant adverse economic impact on either the affected sources, on other businesses or private persons affected, or on the districts, which are authorized to recover the administrative costs of collecting the fees; and

WHEREAS, the Board has determined, pursuant to the requirements of the California Environmental Quality Act and the Board's regulations, that this regulatory action will not have any significant adverse impact on the environment.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves Sections 90800-90803, Title 17, California Code of Regulations, as set forth in Attachment A hereto.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to adopt Sections 90800-90803, Title 17, California Code of Regulations, 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 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 directs the Executive Officer to forward the attached regulations to the affected 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 program to implement the provisions of the California Clean Air Act in 1990, and to reconsider at that time the renewal and modification, as necessary, of the fee program in order to reflect changes in program needs and capabilities, base year emissions, and such other factors as may influence funding requirements of the Act.

I hereby certify that the above is a true and correct copy of Resolution 89-57, as adopted by Air Resources Board.

Cary Allison, Board Secretary

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider the Adoption of Permit Fee Regulations for Nonvehicular Sources Pursuant to the California Clean Air Act

Agenda Item No.: 89-11-4

Public Hearing Date: June 9, 1989

Response Date: August 9, 1989

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: 9/1/89

State of California
AIR RESOURCES BOARD

Resolution 89-58

June 9, 1989

Agenda Item No.: 89-11-3

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

WHEREAS, in the Atmospheric Acidity Protection Act of 1988 (Stats. 1988, ch. 1518, Health and Safety Code Sections 39900-39911), the Legislature declared that the deposition of atmospheric acidity resulting from other than natural sources is occurring in various regions in California, and that the continued deposition of this acidity, alone or in combination with other man-made pollutants and naturally occurring phenomena, could have potentially significant adverse effects on public health, the environment and the economy;

WHEREAS, in Section 39904 of the Health and Safety Code, the Legislature directed the Board to adopt and implement the Atmospheric Acidity Protection Program to determine the nature and extent of potential damage to public health and the State's ecosystems which may be expected to result from atmospheric acidity, and to develop measures which may be needed for the protection of public health and sensitive ecosystems within the state;

WHEREAS, Section 39906 of the the Health and Safety Code authorizes the Board to require local air pollution control and air quality management districts ("districts") to impose additional permit and variance fees on nonvehicular sources which emit 500 tons per year or more of sulfur oxides or nitrogen oxides to recover the costs of acid deposition monitoring and research which is required to provide districts and the Board with the necessary basis for evaluating the public health and environmental impact of the emissions of acid deposition precursors from large nonvehicular sources and for determining the feasibility and cost of control measures and air quality management strategies to mitigate the efforts of those emissions;

WHEREAS, the Air Resources Board staff, in consultation with representatives of the local districts, has developed the proposed fee regulations for fiscal year 1989-90;

WHEREAS, in accordance with Health and Safety Code Section 39909, the proposed fee regulations have been designed to provide the Board net revenues in fiscal year 1989-90 in an amount which is lesser of one million five hundred thousand dollars ($1,500,000) or the amount appropriated from state funds for acid deposition research and monitoring by the Legislature and include a ten percent contingency adjustment to cover unanticipated shortfalls in fees collected;

WHEREAS, any excess fees collected shall be considered when setting fees in future years;

WHEREAS, the proposed fee regulations specify by district the amount to be transmitted to the Board for deposit in the Air Pollution Control Fund in fiscal year 1989-90 and authorize each district to assess additional fees to recover the administrative costs of collecting the fees;

WHEREAS, the proposed emissions fee regulations are based on the most current annual emissions data available from the districts, which are for calendar year 1987;

WHEREAS, the California Environmental Quality Act and Board regulations require that no project which may have significant adverse environmental impacts be adopted as originally proposed if feasible alternatives or mitigation measures are available to reduce or eliminate such impacts;

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

WHEREAS, the Board finds that:

The funds to be collected pursuant to the proposed fee regulations are needed to implement the acid deposition research and monitoring program established pursuant to the Atmospheric Acidity Protection Act;

The proposed regulations are based on the most current data available for annual emissions of sulfur or nitrogen oxides from sources emitting 500 tons or more of either pollutant;

The proposed fee regulations will not have a significant adverse economic impact on affected sources of sulfur or nitrogen oxides, on other businesses or private persons affected, or on the districts, which are authorized to recover their administrative costs of collecting the fees; 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 90620-90623, Title 17, California Code of Regulations, as set forth in Attachment A.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to adopt Sections 90620-90623, Title 17, California Code of Regulations, 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 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 gives notice of its intention to review the status of the acid deposition research and monitoring program in 1990, and to reconsider at that time the renewal and modification, as necessary, of the fee program in order to reflect changes in program needs

State of California

AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Adoption of Regulations Regarding the Atmospheric Acidity Protection Program

Agenda Item No.: 89-11-3

Public Hearing Date: June 9, 1989

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: October 18, 1989

State of California
AIR RESOURCES BOARD

Resolution 89-59

June 8, 1989

Agenda Item No.: 89-10-3

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

WHEREAS, the Legislature enacted the California Clean Air Act of 1988 (the "Act", Stats. 1988, c. 1568) declaring that it is necessary that the state ambient air quality standards be attained by the earliest practicable date to protect the public health, particularly the health of children, older people, and those with respiratory diseases;

WHEREAS, in order to attain these standards, the Act mandates a comprehensive program of emission reduction measures and planning requirements for the state and the local air pollution control districts ("districts") in areas where the standards are not attained;

WHEREAS, as the initial step in the program to attain the state standards, the Act directs the Board in Section 39607(e) of the Health and Safety Code to establish criteria for designating an air basin nonattainment, attainment, or unclassified for the state ambient air quality standards set forth in Section 70200 of Title 17 of the California Code of Regulations (ozone, carbon monoxide, sulfur dioxide, sulfates, nitrogen dioxide, PM-10, lead, hydrogen sulfide, and visibility reducing particles);

WHEREAS, Section 39607(e) also provides that the Board, in developing these criteria, shall consider instances where there is poor or limited ambient air quality data, highly irregular or infrequent violations, or projections of substantial growth in population or industrial activity;

WHEREAS, in consultation with the local air pollution control districts and in consideration of comments received from public agencies, industry representatives, and interested persons, staff has prepared proposed criteria for the designation of areas as nonattainment, attainment, or unclassified;

WHEREAS, the proposed criteria specify the bases for making designations for the various pollutants, including the bases for determining the geographic extent of a designation area;

WHEREAS, the proposed criteria also provide for the annual review of the area designations, as required by the Act;

WHEREAS, the California Environmental Quality Act and Board regulations require that no project which may have significant adverse environmental impacts be adopted as originally proposed if feasible alternatives or mitigation measures are available to reduce or eliminate such impacts; and,

WHEREAS, a public hearing and other administrative proceedings have been held in accordance with the provisions of Chapter 3.5 (commencing with Section 11340), Part 1, Division 3, Title 2 of the Government Code and the Board has considered the testimony presented by interested persons and the staff.

WHEREAS, the Board finds that:

The proposed criteria for designating areas as nonattainment, attainment, or unclassified comply with the specifications described in Section 39607(e) of the Health and Safety Code; The proposed criteria are necessary for the designation of areas within the state as nonattainment, attainment, or unclassified for the various pollutants listed in Section 70200 of Title 17 of the California Code of Regulations as required be Section 39608 of the Health and Safety Code;

The proposed criteria assure that area designation will be based on appropriate and reliable air quality information; and

This regulatory action will not have a significant adverse impact on the environment and, because it is the first of a multiple step program designed to achieve and maintain the state ambient air quality standards, may ultimately result in environmental benefits.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves Sections 70300-70306, Title 17, California Code of Regulations, including Appendices 1 through 4 thereof, as set forth in Attachment A hereto.

BE IT FURTHER RESOLVED that the Board intends that the use of three calendar years of data, as specified in the regulations, shall apply only to the designation of areas and not for demonstrating attainment of the standards that is required in the plans prepared pursuant to Sections 40910 through 40926 of the Health and Safety Code.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to form a work group comprising of representatives of the Board staff, districts, industry, and other interested persons to examine possible alternatives to the definitions and standards in the criteria, including the use of one violation in three years to determine nonattainment, the designation of areas where there are no or limited data, and the appropriate use of

transport and related data; and requests that the Executive Officer report back to the Board within one year with any recommendations for modifications to the criteria that may result from the efforts of the work group.

I hereby certify that the above is a true and correct copy of Resolution 89-59, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

STATE OF CALIFORNIA GEORGE DEUKMEJIAN, *Governor*

AIR RESOURCES BOARD
1102 Q STREET
P.O. BOX 2815
SACRAMENTO, CA 95812

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider the Adoption of Area Designation Criteria Pursuant to the Califoria Clean Air Act of 1988

Agenda Item No.: 89-10-3

Public Hearing Date: June 8, 1989

Response Date: N/A

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: 9/5/89

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Office of the Secretary
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Resources Agency of California

State of California
AIR RESOURCES BOARD

Resolution 89-60

June 9, 1989

Agenda Item No.: 89-11-2

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

WHEREAS, the Legislature enacted the California Clean Air Act of 1988 (the "Act," Stats. 1988, ch. 1568) declaring that it is necessary that the state ambient air quality standards be attained by the earliest practicable date to protect the public health, particularly the health of children, older people, and those with respiratory diseases;

WHEREAS, in order to attain these standards, the Act mandates a comprehensive program of emission reduction measures and planning requirements for the state and the local air pollution control districts ("districts") in areas where the standards are not attained;

WHEREAS, the Act directs the Board in Section 39608(a) of the Health and Safety Code, in consultation with the local air pollution control districts ("districts"), to identify and classify, on or before September 30, 1989, each air basin as attainment, nonattainment, or unclassified on a pollutant-by-pollutant basis pursuant to criteria established by the Board under Section 39607(e) of the Health and Safety Code;

WHEREAS, the Board has approved criteria for the designations pursuant to Section 39607(e) which are contained in Sections 70300-70306, Title 17, California Code of Regulations;

WHEREAS, in consultation with the districts and in consideration of comments received from public agencies, industry representatives, and interested persons, staff has prepared proposed designations for each area in the state on a pollutant-by-pollutant basis;

WHEREAS, the proposed designations of areas as attainment, nonattainment, or unclassified are based on the criteria approved by the Board;

WHEREAS, the California Environmental Quality Act and Board regulations require that no project which may have significant adverse environmental impacts be adopted as originally proposed if feasible alternatives or mitigation measures are available to reduce or eliminate such impacts; and,

WHEREAS, a public hearing and other administrative proceedings have been held in accordance with the provisions of Chapter 3.5 (commencing with

Section 11340), Part 1, Division 3, Title 2 of the Government Code and the Board has considered the testimony presented by interested persons and the staff.

WHEREAS, the Board finds that:

The proposed designations comply with the requirements of Section 39608 of the Health and Safety Code;

The proposed designations of areas as attainment, nonattainment, or unclassified for air pollutants listed in Section 70200 of Title 17 of the California Code of Regulations are consistent with the designation criteria as approved by the Board in Sections 70300 through 70306 of Title 17 of the California Code of Regulations; and

This regulatory action will not have a significant adverse impact on the environment and should ultimately result in environmental benefits because it is part of a multi-step program designed to achieve and maintain the state ambient air quality standards.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves Sections 60200 through 60209, Title 17, California Code of Regulations, as set forth in Attachment A hereto.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to adopt Sections 60200 through 60209, Title 17, California Code of Regulations, 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 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 89-60, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

STATE OF CALIFORNIA GEORGE DEUKMEJIAN, *Governor*

AIR RESOURCES BOARD
1102 Q STREET
P.O. BOX 2815
SACRAMENTO, CA 95812

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider the Adoption of Area Designations Pursuant to the Califoria Clean Air Act of 1988

Agenda Item No.: 89-11-2

Public Hearing Date: June 9, 1989

Response Date: N/A

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: 9/1/89

State of California

AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider the Adoption of Amendments to Regulations Regarding Exhaust Emission Standards, Test Procedures and Durability Requirements Applicable to Passenger Cars and Light-Duty Trucks for the Control of Hydrocarbon, Carbon Monoxide and Benzene Emissions

Agenda Item No.: 89-10-2

Public Hearing Date: June 8, 1989

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: Judith M Lowenburg
Board Secretary

Date: 4/18/90

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RESOURCES AGENCY OF CALIFORNIA

State of California
AIR RESOURCES BOARD

Resolution 89-61

June 8, 1989

Agenda Item No.: 89-10-2

WHEREAS, Sections 39002 and 39003 of the Health and Safety Code, charge the Air Resources Board (the "Board") with the responsibility for systematically attacking the serious air pollution problem caused by motor vehicles;

WHEREAS, Sections 39600 and 39601 of the Health and Safety Code authorize 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 many parts of the state;

WHEREAS, in Section 43000.5 of the Health and Safety Code, enacted as part of the California Clean Air Act of 1988 (Stats. 1988, ch. 1568), the Legislature has declared that while significant reductions in vehicle emissions have been achieved in recent years, continued growth in population and vehicle miles traveled throughout the state have the potential not only to prevent attainment of the state standards, but in some cases to result in worsening of air quality;

WHEREAS, in Section 43000.5 of the Health and Safety Code, the Legislature further declared that the attainment and maintenance of the state air quality standards will necessitate the achievement of substantial reductions in new vehicle emissions and substantial improvements in the durability of vehicle emissions systems;

WHEREAS, Sections 43013, 43101 and 43104 of the Health and Safety Code authorize the Board to adopt emission standards and test procedures applicable to new motor vehicles which it finds to be necessary cost-effective and technologically feasible;

WHEREAS, Section 43018 of the Health and Safety Code, enacted as part of the California Clean Air Act of 1988, directs the Board endeavor to achieve the maximum degree of emission reduction possible from motor vehicles to accomplish the attainment of the state standards at the earliest practicable date;

WHEREAS, Section 43018 of the Health and Safety Code further directs the Board to take whatever actions are necessary, cost-effective and technologically feasible in order to achieve, no later than December 31, 2000, a reduction in the actual emissions of reactive organic gases and oxides of nitrogen of 55% and 15%, respectively, from motor vehicles based on emissions in 1987, and to achieve the maximum feasible reductions in particulates, carbon monoxide and toxic air contaminants from vehicular sources;

WHEREAS, Section 43018 of the Health and Safety Code further directs the Board to achieve the specified emission reductions by requiring the most cost-effective combination of control measures for motor vehicles and motor vehicle fuels, and for this purpose specifically requires the Board to consider, no later than November 15, 1989, revisions to light-duty vehicle exhaust emission standards and revisions to the standards for new vehicle certification and durability to reflect current driving conditions and useful vehicle life;

WHEREAS, Section 39667 of the Health and Safety Code requires the Board to adopt emission standards for new motor vehicles to achieve the maximum reduction in public exposure to toxic air contaminants based upon the most advanced technology feasible for the model year;

WHEREAS, the Board has adopted "California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles," incorporated by reference in Section 1960.1, Title 13, California Code of Regulations ("CCR"), which currently specify exhaust emission standards of 0.41 grams per mile (g/mi) hydrocarbon (HC) or 0.39 g/mi non-methane hydrocarbon (NMHC) and 7.0 g/mi carbon monoxide (CO) for passenger cars, 0.41 g/mi HC or 0.39 g/mi NMHC and 9.0 g/mi CO for light-duty trucks (0-3750 lbs. LVW), and 0.50 g/mi HC and 9.0 g/mi CO for larger light-duty trucks (3751-5750 lbs. LVW);

WHEREAS, in Section 93000, Title 17, CCR, the Board has identified benzene, a compound emitted by motor vehicles, as a toxic air contaminant and has listed for evaluation pursuant to Health and Safety Code Sections 39650 et seq. other constituents of motor vehicle hydrocarbon emissions including 1,3 butadiene and formaldehyde;

WHEREAS, the staff has proposed amendments to the exhaust emission standards to lower the standards for passenger cars and light-duty trucks (0-3750 lbs. LVW.) to 0.25 g/mi NMHC and 3.4 g/mi CO applicable for 50,000 miles and 0.31 g/mi NMHC and 4.2 g/mi CO applicable for 100,000 miles, and for the larger light-duty trucks (3751-5750 lbs. LVW) to 0.32 g/mi NMHC and 4.4 g/mi CO applicable for 50,000 miles and 0.40 g/mi NMHC and 5.5 g/mi CO applicable for 100,000 miles;

WHEREAS, the proposed NMHC emission standards will result in reductions in emissions of toxic air contaminants including benzene, 1,3 butadiene and formaldehyde;

WHEREAS, the staff has proposed that the standards be phased-in over a three year period beginning with the 1993 model year and that during the first two years of certification to the new standards manufacturers would be subject to less stringent in-use compliance standards;

WHEREAS, staff has proposed a delay of two years in the compliance schedule for vehicles produced by small volume manufacturers;

WHEREAS, the staff has proposed amendments to Sections 1960.5 and 2061, Title 13, CCR, and the incorporated "Guidelines for Certification of 1983 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles" (hereinafter the "AB 965 Program") to reduce by fifty percent the credits available to manufacturers under the program for certification of federally certified light-duty vehicles for sale in California;

WHEREAS, the staff has proposed an amendment to Section 2112, Title 13, CCR, and the incorporated "California In-Use Emissions-Related Recall Procedures for 1982 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, Medium-Duty Vehicles, Heavy-Duty Vehicles and Engines, and Motorcycles" to provide that in-use compliance period for vehicles subject to the 100,000 mile NMHC and CO standards is 75,000 miles;

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 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 1, Division 3, Title 2 of the Government Code;

WHEREAS, the Board finds that:

The proposed NMHC and CO exhaust emission standards for passenger cars and light-duty trucks (0-5750 lbs. LVW) are necessary to achieve the maximum reduction in emissions from motor vehicles in order to attain state ambient air quality standards at the earliest practicable date;

The proposed NMHC standards are necessary to achieve, by December 31, 2000, a 55% reduction in emissions of

reactive organic gases from motor vehicles (based on a 1987 baseline);

The proposed NMHC and CO standards are necessary to achieve the maximum feasible reductions in emissions of CO and toxic air contaminants from vehicular sources;

The proposed NMHC and CO standards with 100,000 mile applicability will result in substantial improvements in the durability and performance of emission control systems;

The proposed standards are technologically feasible for implementation in the period from 1993 to 1995;

Staging full implementation of the proposed standards over a period of three years, from 1993 to 1995 inclusive, will provide sufficient lead time to enable manufacturers to comply with the more stringent standards at the time of certification and will allow manufacturers to spread the costs of recertifying vehicles to the new standards over the three year period;

The proposed standards are cost-effective and, together with existing and anticipated standards and regulations for all classes of motor vehicles and for motor vehicle fuels, reflect the most cost-effective combination of control measures to reduce air pollution caused by motor vehicles;

The proposed interim in-use standards applicable for the first two years an engine family is certified to the proposed standards is necessary because some manufacturers will require additional time after initial implementation of the proposed standards to evaluate the durability of emission control systems and make the changes necessary to assure compliance with the standards in customer use;

The proposed alternative durability testing for the 100,0000 mile standards, which requires mileage accumulation of at least 75,000 miles, will provide manufacturers with additional flexibility in designing certification programs where alternative testing programs provide a durability demonstration equivalent to a demonstration based on accumulation of 100,000 miles;

The proposed in-use compliance period is necessary to assure consistency with Health and Safety Code Sections 43105 and 43106;

Some small volume manufacturers of passenger cars and light-duty trucks will require up to two additional years beyond 1993 to develop or acquire from outside sources the technology necessary to meet the proposed exhaust emission standards;

The use of certification emissions and durability test vehicles designed to meet applicable California exhaust emission standards is necessary to assure the relevancy of data used to support certification because of the significant difference which will exist between state and federal emission standards upon implementation of the proposed state standards;

Requiring manufacturers to demonstrate compliance with the Inspection and Maintenance ("Smog Check") requirements as a condition of certification will eliminate inconvenience and other problems for consumers caused by vehicles which as designed improperly fail Smog Check;

It is necessary to adjust the credits allowed under the AB 965 Program to account for the decrease in model unavailability and to allow offsetting for hydrocarbon emissions as a result of the proposed hydrocarbon exhaust emission standards;

WHEREAS, the Board further finds:

The proposed amendments will result in reductions of ambient levels of ozone as a result of reductions in emissions of HC, and of CO, both as an effect of the lower standards and increased emission control system durability;

The proposed NMHC standards will result in the reduction of toxic air contaminants such as benzene, a known human carcinogen, 1, 3 butadiene and formaldehyde; and

There will be no significant adverse environmental impacts as a result of the adoption of the proposed amendments.

NOW, THEREFORE BE IT RESOLVED, that the Board hereby approves the proposed amendments to Sections 1960.1, 1960.5, 2061 and 2112, Title 13, California Code of Regulations, and the incorporated documents, as set forth in Attachments A through C hereto.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to adopt Sections 1960.1, 1960.5, 2061 and 2112, Title 13, California Code of Regulations, and the incorporated documents, as set forth in Attachments A through C, after making

them available to the public for a period of at least 15 days, provided that the Executive Officer shall consider such written comments as may be submitted during this period, shall make 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 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 89-61, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

89-62
Missing
Resolution

ITEM NO.: 1
DATE: July 13, 1989

State of California

AIR RESOURCES BOARD

ITEM: Research Proposal No. 1673-145B entitled "Perform Ozone and PM Case Study Analyses"

RECOMMENDATION: Adopt Resolution 89-63 approving Proposal No. 1673-145B for an amount not to exceed $24,992.

SUMMARY: This is one of several studies to analyze and interpret the data from the 1987 Southern California Air Quality Study (SCAQS). This and other related projects will provide an analysis of the SCAQS data base by methods other than gridded, source-oriented models. Issues related to the Board's regulatory needs will be addressed.

This research effort will describe in detail the three-dimensional evolution of two ozone episodes and three PM episodes, including the transport and transformation processes that lead to maximum pollutant concentrations in the South Coast Air Basin.

The results of this project will improve the technical basis for design and assessment of air pollution control strategies in Los Angeles.

The contractor for this study will be Sonoma Technology Inc., and the principal investigator will be Dr. Paul T. Roberts.

State of California

AIR RESOURCES BOARD

Resolution 89-63
July 13, 1989

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 1673-145B entitled "Perform Ozone and PM Case Study Analyses," has been submitted by Sonoma Technology Inc.; 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 1673-145B, entitled "Perform Ozone and PM Case Study Analyses," submitted by Sonoma Technology Inc., for a total amount not to exceed $24,992.

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 1673-145B, entitled "Perform Ozone and PM Case Study Analyses," submitted by Sonoma Technology Inc., for a total amount not to exceed $24,992.

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 $24,992.

I hereby certify that the above
Is a true and correct copy of
Resolution 89-63, as adopted
the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

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

Sonoma Technology Inc.

"Perform Ozone and PM Case Study Analyses"

DIRECT COSTS

1.	Labor	$ 7,633
2.	Consultants & Subcontracts	-0-
3.	Equipment	-0-
4.	Travel & Subsistence	135
5.	Computer Usage	700
6.	Reproduction	500
7.	Mail & Phone	200
8.	Supplies	-0-
9.	Other	-0-
	Total Direct Costs	$ 9,168

INDIRECT COSTS *

Includes Labor Overhead, Employee Benefits, Material Overhead, General and Administrative Expense and Fee, or Profit $15,824

TOTAL PROJECT COSTS $24,992

*No federal audit within the preceding 12 months. Rates are comparable to those of other firms of similar size and type that have DCAA-approved overhead rates.

ITEM NO.: 2
DATE: July 13, 1989

State of California

AIR RESOURCES BOARD

ITEM: Research Proposal No.1690-147 entitled "Analysis of the 1987 Southern California Air Quality Study (SCAQS) Atmospheric Tracer Data"

RECOMMENDATION: Adopt Resolution 89-64 approving Proposal No. 1690-147 for an amount not to exceed $77,660.

SUMMARY: The major objective of this project is to analyze SF_6 and perfluorocarbon tracer data collected during the SCAQS study. The investigator will test the ability of wind models to correctly simulate the transport of pollutants in the basin. In addition, retention time of tracers in the study area will be used to evaluate the importance of day-to-day carryover of pollutants in the basin.

This information is needed to identify emission control measures that would bring the South Coast Air Basin into attainment of Federal and State ambient air quality standards.

The contractor is the California Institute of Technology, and the principal investigator is Dr. Fred Shair.

State of California

AIR RESOURCES BOARD

Resolution 89-64
July 13, 1989

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 1690-147, entitled "Analysis of the 1987 Southern California Air Quality Study (SCAQS) Atmospheric Tracer Data," has been submitted by the California Institute of Technology for a total amount not to exceed $77,660; 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 1690-147, entitled "Analysis of the 1987 Southern California Air Quality Study (SCAQS) Atmospheric Tracer Data", submitted by the California Institute of Technology for a total amount not to exceed $77,660.

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 1690-147, entitled "Analysis of the 1987 Southern California Air Quality Study (SCAQS) Atmospheric Tracer Data", submitted by the California Institute of Technology for a total amount not to exceed $77,660

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 $77,660.

I hereby certify that the above
Is a true and correct copy of
Resolution 89-64, as adopted by
the Air Resources Board.

Cary Allison, Board Secretary

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

Resolution 89-64

"Analysis of the 1987 Southern California Air Quality Study (SCAQS)
Atmospheric Tracer Data"

California Institute of Technology

DIRECT COSTS

1.	Labor	$ 35,088	
2.	Equipment	$ 7,180	
3.	Travel and Subsistence	$ 500	
4.	Supplies	$ 2,000*	
	Total Direct Costs		$44,768

INDIRECT COSTS & BENEFITS

Includes Labor Overhead, Employee Benefits, Material Overhead, General & Administrative Expense	$32,892

TOTAL PROJECT COST $77,660

* Supplies:
Expendable supplies for computer, computer graphics, preparation of software and reports.

ITEM NO.: 3
DATE: July 13, 1989

State of California

AIR RESOURCES BOARD

ITEM: Research Proposal No. 182-30 entitled "Long-term Studies of Lakes and Watersheds in the Sierra Nevada: Patterns and Processes of Surface Water Acidification".

RECOMMENDATION: Adopt Resolution 89-65 approving Proposal No. 182-30 for an amount not to exceed $399,996.

SUMMARY: The purpose of this study is to determine the impacts of acid deposition on high-elevation watersheds throughout the Sierra Nevada. This 30-month study calls for the continued monitoring of deposition and surface waters, in addition to the characterization of the processes that allow watersheds to neutralize incoming acids. This study is designed to help the Board set deposition standards to protect dilute lakes and streams from damage due to acid deposition.

This research and monitoring project includes continued monitoring of five watersheds studied as part of the Kapiloff Program. The five-year plan for the Atmospheric Acidity Protection Program (AAPP) calls for the collection of long-term data at existing sites and the addition of two sites located in the northern Sierra Nevada. Sampling of rain, snow, lake and stream biology, chemistry and geology will take place on a regular schedule at each site.

The results of this project will improve our understanding of the natural variation in lakes and their watersheds and how episodic acidification may affect surface water chemistry and biological populations. This study will be coupled to other planned AAPP studies to collect data to be used in modeling the response of dilute waters to acid deposition.

State of California

AIR RESOURCES BOARD

Resolution 89-65
July 13, 1989

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 39900 through 39911; and

WHEREAS, an unsolicited research proposal, Number 182-30 entitled "Long-term Studies of Lakes and Watersheds in the Sierra Nevada: Patterns and Processes of Surface Water Acidification", has been submitted by the University of California, Santa Barbara; 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 182-30, entitled "Long-term Studies of Lakes and Watersheds in the Sierra Nevada: Patterns and Processes of Surface Water Acidification", submitted by the University of California, Santa Barbara, for a total amount not to exceed $399,996.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39904, hereby accepts the recommendation of the Scientific Advisory Committee on Acid Deposition and approves the following:

> Proposal Number 182-30, entitled "Long-term Studies of Lakes and Watersheds in the Sierra Nevada: Patterns and Processes of Surface Water Acidification", submitted by the University of California, Santa Barbara, for a total amount not to exceed $399,996.

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 $399,996.

I hereby certify that the above is a true and correct copy of Resolution 89-65, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

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

University of California, Santa Barbara

"Long-term Studies of Lakes and Watersheds in the Sierra Nevada: Patterns and Processes of Surface Water Acidification"

DIRECT COSTS

1.	Labor	$ 177,331
2.	Consultants & Subcontracts	-0-
3.	Equipment	$ 43,300[1]
4.	Travel & Subsistence	$ 34,565[2]
5.	Computer Usage	$ 11,025
6.	Reproduction/Publication	$ 2,100
7.	Mail & Phone	$ 3,500
8.	Field Supplies	$ 23,455[3]
9.	Lab Supplies	$ 21,720[4]
10.	Other	$ 9,000[5]

Total Direct Costs $325,996

INDIRECT COSTS

Includes Labor Overhead, Employee Benefits, Material Overhead, General and Administrative Expense $ 74,000

TOTAL PROJECT COSTS $399,996

1 Equipment: electronic data loggers; humidity and radiation sensors; pH and conductivity meters; sampler for spectrophotometer; IC columns and pump; rain gauges; oxygen meter

2 Travel & Subsistence: Mileage and per diem to seven study sites in the Sierra Nevada over a 30 month period.

3 Field supplies: electronic data loggers accessories (including power supplies, housings, readers and memory), meteorological instruments, temperature probes, pumps and nets.

4 Lab supplies: pH and conductivity electrodes, attachments for IC, bottles, filters, pipettes, reagents.

5 Aerial photos, helicopter transport of equipment, etc.

State of California
AIR RESOURCES BOARD

Resolution 89-66

August 15, 1989

WHEREAS, Section 39602 of the Health and Safety Code designates the Air Resources Board (ARB or Board) as the state air pollution control agency for all purposes set forth in federal law and as the state agency responsible for the preparation of the State Implementation Plan (SIP) required by the federal Clean Air Act (hereinafter "the Act"; 42 USC Sections 7401 et seq.);

WHEREAS, the Board is directed to coordinate the activities of the air pollution control districts necessary to comply with that Act;

WHEREAS, Sections 110 and 172(a) and (b)(2) of the Act as amended in 1977 require that all national ambient air quality standards ("NAAQS") be attained as expeditiously as practicable through the implementation of all reasonably available stationary source, mobile source, and transportation control measures and through the adoption of such other measures as may be necessary to insure attainment and maintenance of such standards;

WHEREAS, Section 172(b)(3) of the Act requires that reasonable further progress (i.e., annual incremental reductions in emissions of the applicable pollutant(s)) be provided for in the SIP through the application of reasonably available control technology to existing sources of air pollution;

WHEREAS, Section 172(b)(4) of the Act requires the SIP to include a comprehensive inventory of actual emissions from all sources;

WHEREAS, Section 172(b)(7) and (10) of the Act requires the SIP to identify and commit the financial and personnel resources necessary to carry out its provisions, and further requires the SIP to contain written evidence that the government agencies responsible for implementing the SIP have adopted the necessary requirements and schedules and timetables for compliance and are committed to implement and enforce the SIP elements for which they are responsible;

WHEREAS, Section 176(c) prohibits the federal government and the metropolitan planning organization (i.e., the Southern California Association of Governments (SCAG) in the South Coast Air Basin) from approving any activity, project, program, or plan which does not conform to the approved SIP;

WHEREAS, Environmental Protection Agency (EPA) regulations require conformity procedures to be included in the SIP in order to assure conformity of federal agency and metropolitan planning organization actions with the SIP;

WHEREAS, Section 40460 of the Health and Safety Code requires the South Coast Air Quality Management District (the District), with the active participation of the SCAG and the counties and cities within the South Coast Air Basin, to adopt a plan to achieve and maintain state and national ambient air quality standards;

WHEREAS, the plan and subsequent revisions comprise the air quality management plan of the region and the federally required SIP for the South Coast Air Basin;

WHEREAS, Section 40462 of the Health and Safety Code requires the plan to contain deadlines for compliance with the federally mandated attainment of primary ambient air quality standards, and deadlines and schedules to attain the state ambient air quality standards by the earliest date achievable through the application of all reasonably available control measures and technologies, including Best Avaliable Control Technology, indirect source controls, transportation control measures, and the use of cleaner burning fuels;

WHEREAS, Section 40463 of the Health and Safety Code requires that the plan be formally reviewed every two years and revised to reflect advances in technology, control strategies, and administrative practices;

WHEREAS, the California Clean Air Act of 1988 (AB 2595; Stats. 1988, ch. 1568) requires the District to make every effort to attain the federal and state ambient air quality standards as soon as practicable and sets forth additional planning requirements and grants additional authority to the District and the ARB to carry out these efforts;

WHEREAS, Sections 40469 and 41500 of the Health and Safety Code require the Board to determine if the Plan approved by the District and the SCAG is adequate to attain the state ambient air quality standards;

WHEREAS, Sections 40469 and 41650 of the Health and Safety Code require the Board to determine if the Plan is adequate to meet federal primary NAAQS and all other requirements of the Act;

WHEREAS, Section 40469(a) of the Health and Safety Code requires the Board, within 120 days of receipt of the Plan, to adopt and submit to the EPA those portions of the Plan that it determines meet the requirements of the Act;

WHEREAS, Section 172(a) of the Act required attainment of the NAAQS for ozone and carbon monoxide by December 31, 1987, and attainment of the NAAQS for nitrogen dioxide by December 31, 1982;

WHEREAS, the Act requires attainment of the NAAQS for PM10 by June 30, 1992;

WHEREAS, the District and SCAG adopted a revision to the Plan in 1982, which could not demonstrate attainment of the ozone and carbon monoxide standards by the December 31, 1987 deadline, but did present an analysis of a long-range strategy that could provide attainment in 20 years;

WHEREAS, because the Plan did not demonstrate attainment of the NAAQS by the required deadlines, the EPA was ordered to disapprove the attainment demonstration of the 1982 Revision (Abramowitz v. EPA (9th Cir. 1987) 832 F.2d 1071) and did so on January 22, 1988 (53 Fed. Reg. 1760);

WHEREAS, the District Board adopted a policy to attain all state and federal ambient air quality standards by 2007;

WHEREAS, the District and SCAG labored five years to prepare the Plan and conducted over 200 public workshops and ten public hearings throughout the South Coast Air Basin on the 1989 draft Plan;

WHEREAS, the 1989 Air Quality Management Plan (hereinafter "the Plan") was adopted by the District and SCAG, along with the Final Environmental Impact Report, at a joint public hearing on March 17, 1989, and transmitted to the ARB on May 1, 1989;

WHEREAS, the Act and EPA regulations require that revisions to the SIP be adopted after a public hearing for which reasonable notice to the public has been provided;

WHEREAS, the California Environmental Quality Act (CEQA) and ARB regulations provide that no activity which may have significant adverse environmental impacts may be approved as originally proposed if feasible mitigation measures or alternatives are available to reduce or eliminate such impacts, and further require that the ARB adopt a monitoring and reporting program to track those mitigation measures which are incorporated into any activity for which it is responsible;

WHEREAS, on June 22 and 23, 1989, the Board conducted a public hearing in Los Angeles upon 30 days notice and provided all interested persons with the opportunity to comment on the Plan;

WHEREAS, on June 23 the Board closed the public testimony portion of the proceedings and continued the hearing until August in order to allow the District and SCAG to respond to the Board's request that the District elaborate on its process to address the socio-economic impacts of the Plan's control measures and that SCAG elaborate on its process to obtain the support and commitment of local governments to implement the land use and transportation measures for which they are responsible;

WHEREAS, the District and SCAG adopted and forwarded their reports on these two subjects to ARB staff on August 4, 1989 and formally presented their responses to the Board at the August 15 hearing;

WHEREAS, the Board has concluded the public hearing on the Plan, and all other administrative requirements have been complied with in accordance with the Act and applicable provisions of state law;

WHEREAS, the Board has reviewed and considered the Plan, the EIR, and the supplemental responses to the Board regarding implementation of the Plan submitted by the District and the SCAG, as well as the significant issues raised and oral and written comments presented by interested persons and board staff;

WHEREAS, based upon the Plan, the EIR, the information presented by the District, SCAG, and the staff, and the written and oral public testimony received prior to and at the hearing, the Board finds:

1. That state and national health based ambient air quality standards for carbon monoxide, nitrogen dioxide, ozone, and PM10 are regularly and significantly exceeded in the South Coast Air Basin.

2. That the Plan identifies measures needed for attainment of the NAAQS by the year 2007 and provides for reasonable further progress in the interim, and that the control programs set forth in three Tiers in the Plan are based on the concepts of full application of existing control technology, further adaptation of technology, and the pursuit of technological breakthroughs.

3. That Tier I of the Plan contains commitments to adopt all reasonably available stationary source, mobile source, and transportation control measures identified, and Tiers II and III of the Plan contain commitments to develop further other potentially feasible measures identified which will apply existing and anticipated control technologies.

4. That the 1989 Plan includes an extensive set of controls on motor vehicles developed by the ARB and due to be revised in April 1990.

5. That the Plan contains emission reduction goals in Tier II which require the development and widespread deployment of low emitting and extremely low emitting motor vehicles by the years 2000 and 2007, respectively, and that in order to achieve these goals, the ARB must develop and adopt regulations that will ensure that sufficient low emission vehicles and clean fuels are used in the South Coast Air Basin.

6. That the emission reductions achievable by full implementation of all Tier I, II, and III measures committed to or proposed in the Plan are necessary to attain the national and state standards for carbon monoxide and nitrogen dioxide and the national standards for ozone and PM10.

7. That the Plan does not identify emission reductions sufficient to result in attainment of the state standards for ozone, PM10, and visibility.

8. That most of the measures in Tier I, as set forth in Attachment A hereto, are technologically feasible and legally enforceable.

9. That some of the measures in Tier I and the longer term control measures in Tiers II and III of the Plan, as set forth in Attachment B hereto, do not contain either adequate legally enforceable commitments or technical demonstrations of feasibility to comply fully with the Act's requirements.

10. That the District and SCAG have acknowledged these problems in the Plan, which contains commitments to an ongoing process to develop these measures further and to secure additional legal commitments from the government agencies responsible for implementing them.

11. That the District and SCAG have indicated that each local implementing agency shall have the flexibility to design the details of its final rules and programs provided these actions are consistent with the emission reduction targets specified in the Plan, and have stated that as a matter of priority, attention will be given to expanding the opportunities for public participation during implementation of the Plan.

12. That the Plan commits the District to pursuit of emission reduction targets and control measures which require technological advancements and the assistance and cooperation of other government agencies, industry, and the public.

13. That the District has committed to careful study of each emission reduction measure to identify the social and economic impacts of the measure and to consider methods of minimizing adverse or undesireable impacts.

14. That SCAG and the District have indicated that jurisdictions representing a substantial majority of the population of the basin have considered the AQMP and indicated their overall support for the Plan.

15. That SCAG and the District have reaffirmed their commitment to work with local government to obtain commitments to adopt legally enforceable measures and to assist local government in implementing the plan.

16. That the District has determined that it will, to the extent it has legal authority, consider adopting rules necessary to implement those measures in the Plan for which legally enforceable local government commitments are not forthcoming.

17. That the Plan affirms the District's obligation to seek attainment of all state standards as expeditiously as practicable and contains a commitment to develop a revised Plan by 1991, which will reflect the additional obligations and authority imposed upon and granted to the District and ARB, as required by the California Clean Air Act.

18. That the Plan contains a commitment by the District to develop technologically feasible and legally enforceable Tier II and III solvent strategies, which will require assistance from the ARB in order to ensure that actions necessary to adopt and implement these measures are defined in the 1991 Plan Update.

19. That the Plan contains a commitment by the District to develop technologically feasible and legally enforceable measures to reduce emissions from stationary source fuel combustion, which will require assistance from the ARB in order to ensure that actions necessary to adopt and implement these measures are defined in the 1991 Plan Update.

20. That the emissions inventory portions of the Plan are complete, accurate, and current; and that the growth projections for population and employment are acceptable for inclusion in the Plan.

21. That the air quality modeling utilized in developing the Plan is the best currently available and that the emission carrying capacities for the NAAQS for CO, ozone, NO2, and PM10, and for the state standards for CO and NO2, have been developed in accordance with the requirements of Health and Safety Code Section 40463 and are acceptable for inclusion in the Plan.

22. That the technological, economic, and environmental feasibility and acceptability of the "electric future" presented in Tier III of the Plan requires further study and refinement as part of the development of the 1991 Plan update by the District and interested parties and will require the full participation of the California Energy Commission, the Public Utilities Commission, the ARB, and affected public utilities.

23. That the Final Environmental Impact Report (EIR) prepared and certified for the Plan meets the requirements of CEQA, and that environmental documentation for individual measures should be prepared as each measure is considered for adoption.

24. That adoption of the Plan by the Board will result in some adverse environmental impacts which cannot be mitigated to insignificant levels, that the alternatives and mitigation measures set forth in the EIR have been adequately addressed for purposes of this planning activity, and that the District's findings and supporting statements of fact for each significant effect, as set forth in Attachment 1 to the District's Resolution 89-13, entitled "1989 Air Quality Management Plan Findings of Fact and Statement of Overriding Considerations", (hereinafter "Attachment 1"), dated March 13, 1989, are hereby incorporated by reference herein as the findings which this Board is required to make pursuant to Public Resources Code Section 21081.

25. That the negative impacts identified in the EIR are acceptable when balanced against the specific economic, social, and other benefits set forth in the EIR and summarized in Attachment 1, which is

hereby incorporated by reference herein as this Board's statement of overriding considerations required by Title 14, California Code of Regulations Section 15093.

26. That the modeling and emission carrying capacities for the state standards for ozone, PM10, and visibility are not included in the Plan, but that modeling and estimation methods for determining the emission carrying capacities for these pollutants will be developed and utilized in preparing the 1991 Air Quality Management Plan update.

27. That the Plan contains a commitment by SCAG to seek additional funding for the transportation projects and transportation control measures set forth in the 1989 Regional Mobility Plan and incorporated into the Plan as Appendix IV-H.

28. That procedures from the 1982 AQMP have been included in the Plan to assure that emissions increases and growth which may occur due to expansion in sewage treatment facility capacity, roadway capacity, and residential development are consistent with and conform to the air quality assumptions contained in the Plan, and that the District and SCAG have submitted updated conformity procedures to the ARB for review.

29. That the Plan contains a list of contingency measures (e.g. time of day and seasonal controls) which will be evaluated and pursued in the event the measures set forth in Tiers I, II, and III are not adequate to provide for attainment of the standards in the projected timeframe.

30. That the District and SCAG recognize the need to address further the critical issues of energy, economic impacts, growth, and transportation, and the Plan commits the District and SCAG to the establishment of task forces and working groups to address each of these issues.

31. That because the Plan contains all currently available and reasonably foreseeable controls, the ARB cannot add additional measures to provide for more rapid attainment of the standards.

NOW, THEREFORE, BE IT RESOLVED, that the Board commends the District and SCAG for their monumental effort to develop a plan to improve the air quality, public health, and quality of life in the South Coast Air Basin.

BE IT FURTHER RESOLVED, that the Board approves the 1989 Air Quality Management Plan as submitted by the District and SCAG with the conditions and clarifications set forth below, and directs the Executive Officer to submit those provisions of the plan which are necessary to meet Clean Air Act requirements to the Environmental Protection Agency as a revision to the California State Implementation Plan as expeditiously as practicable and not later than August 28, 1989.

BE IT FURTHER RESOLVED, that the Board directs the Executive Officer to submit to the EPA, along with the Plan, Attachments A and B to this resolution, which identify the EPA action requested for each control measure in the Plan.

BE IT FURTHER RESOLVED, that the Board requests the District and SCAG to obtain legally enforceable commitments to adopt and implement those measures set forth in Attachment B which are to be implemented by other government agencies which have not yet adopted them, in accordance with the schedules specified in the Plan.

BE IT FURTHER RESOLVED, that the Board requests the District to adopt and implement those measures in Attachment B for which legally enforceable commitments to do so are necessary from other government agencies but where such commitments are not forthcoming within the time periods specified in the Plan as indicated in the Plan.

BE IT FURTHER RESOLVED, that the Board approves the commitment of the District and SCAG to pursue control measures requiring technological advancements and requests the District and SCAG to proceed with those measures in accordance with the schedules specified in the Plan.

BE IT FURTHER RESOLVED, that the Board requests the District, in developing and adopting rules and regulations to implement the Plan, to carry out its commitment to assess thoroughly the socio-economic impacts of such rules and regulations, and directs the Executive Officer to monitor and assist the District in this effort.

BE IT FURTHER RESOLVED, that the Board requests the District, with the active cooperation of SCAG, to prepare and submit semi-annual reports to the Board, beginning with a report on February 1, 1990, which indicate in detail the progress made in obtaining legally enforceable commitments and in developing the measures referenced in the above three paragraphs.

BE IT FURTHER RESOLVED, that the Board requests the District to develop an improved air quality model for estimating the basin carrying capacities for the state ambient air quality standards for ozone, PM10, and visibility as part of the 1991 AQMP Update and further requests the Executive Officer to assist the District in this effort.

BE IT FURTHER RESOLVED, that the Board endorses the goal set forth in the Plan of ensuring the development and widespread use of low emitting and extremely low emitting vehicles by the years 2000 and 2007, respectively, and directs the Executive Officer to develop measures, in accordance with the procedures set forth below, which will result in the use of sufficient low emission vehicles and clean fuels in the South Coast Air Basin to achieve the Tier II emission reduction goals for such measures.

BE IT FURTHER RESOLVED, that the Board directs the Executive Officer, after consulting with the California Energy Commission, the District, the energy providers, and the vehicle manufacturers, to hold a public meeting by December 1989 to evaluate the measures available to accomplish the low emission vehicle and clean fuels goal, including but not limited to fuel

pool averaging and low emission vehicle standards, as recommended by the Governor's Advisory Board on Air Quality and Fuels, and to notice a public hearing by September 1990 to consider the adoption of regulations to implement such measures.

BE IT FURTHER RESOLVED, that the Board directs the Executive Officer to submit to the EPA by April 1990 a revised Motor Vehicle Plan which brings the Plan into conformity with recent legislative changes and Board actions on measures.

BE IT FURTHER RESOLVED, that the Board directs the Executive Officer to work with the District and affected industry to develop measures to control emissions from solvents and to include these measures in the 1991 AQMP Update.

BE IT FURTHER RESOLVED, that the Board directs the Executive Officer to work with the District, affected industry, and the interested public to develop measures to control emissions from internal combustion engines and stationary source fuel combustion and to include these measures in the 1991 AQMP Update.

BE IT FURTHER RESOLVED, that the Board endorses the establishment by the District and SCAG of the Energy Working Group to address the energy issues raised in the Plan and directs the Executive Officer to participate on this committee to develop the 1991 Plan update.

BE IT FURTHER RESOLVED, that the Board accepts responsibility for considering, adopting, and implementing feasible measures to mitigate any adverse environmental impacts of those control measures identified in the Plan as within the authority of the ARB, i.e. mobile source and motor vehicle fuel measures, including methanol, and will prepare the environmental documents, programs, and findings required by CEQA and ARB regulations during the rulemaking process.

BE IT FURTHER RESOLVED, that the Board has reviewed and hereby approves the mitigation monitoring efforts undertaken by the District and SCAG pursuant to AB 3180 (Public Resources Code Section 21081.6) and directs the Executive Officer to report to the Board as appropriate on the progress made in developing mitigation measures to reduce any adverse impacts of the mobile source and fuel control measures identified in the Plan and in implementing each such mitigation measure, beginning not more than six months after the adoption of each control measure for which adverse environmental impacts are identified and for which specific mitigation measures are identified.

BE IT FURTHER RESOLVED, that the Board approves the conformity procedures set forth in the Plan for purposes of Sections 110(a)(2)(B), 176(c), and 316 of the Clean Air Act and directs the Executive Office to review the updated conformity procedures which were adopted by the District and SCAG as expeditiously as feasible so that, if acceptable, they may be submitted to the EPA as a replacement for the current procedures.

BE IT FURTHER RESOLVED, that the Board requests the District and SCAG to continue to evaluate the contingency measures listed in the Plan, as well as other measures which may be necessary to attain and maintain the state and national ambient air quality standards.

BE IT FURTHER RESOLVED, that the Board approves SCAG's commitment to seek additional funding for the projects and measures in the Regional Mobility Plan and requests SCAG to submit periodic progress reports to the Executive Officer regarding the success of its efforts.

BE IT FURTHER RESOLVED, that the Board accepts the District's commitment to prepare a 1991 AQMP Update as required by the California Clean Air Act and directs the Executive Officer to work with the District, as appropriate, on development of the update.

I hereby certify that the above is a true and correct copy of Resolution 89-66, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

Attachment A

CONTROL MEASURES FOR FULL APPROVAL

ARB Measures

Add Heavy Duty Gasoline Vehicles to Inspection and Maintenance (I/M)

New Low Emitting Fuel Buses

Establish New Diesel Fuel Quality Standard

Heavy Duty Vehicle Smoke Enforcement Program

Further Evaporative Control/Larger Canisters for All Gasoline Vehicles

Lower ROG and CO Standard for Gasoline Light Duty Vehicle

Lower PM Emission Standard for Medium Duty and Light Heavy Duty Diesel Trucks

Lower ROG, CO, and NOx Emission Standards for Medium Duty and Light Heavy Duty Trucks

Improved I/M and Elimination of Excess Emissions from Light and Medium Duty Trucks

Emission Standards for New Heavy Duty Construction Equipment

Lower Gasoline Vapor Pressure Standard

Lower NOx Standard for Gasoline Light Duty Vehicles

Lower NOx Standard for Heavy Duty Diesel Trucks

Retrofit Particle Traps on Heavy Duty Diesel Trucks

Emission Standards for Off-Road Motorcycles

Control of Emissions from Underarm Products

Control of Emissions from Domestic Products

Control of Emissions from Utility Equipment

District Measures

Further Emission Reductions from Wood Flatstock Coating

Further Emission Reductions from Can and Coil Coating

Further Emission Reductions from Aerospace Assembly and Component Coating

Further Emission Reductions from Automobile Assembly Coating

Further Emission Control on Architectural Coatings

Emission Charges on Architectural Coatings

Further Emission Reductions from Paper, Fabric and Film Coating

Further Emission Reductions from Graphic Art Operations

Substitute Solvents Used for Clean-Up of Surface Coating

Further Emission Reductions from Metal Cleaning and Degreasing

Control of Emissions from Rigid and Flexible Disc Manufacturing Operation

Control of Emissions from Expanding Plastics and Blowing Foam Manufacturing

Further Emission Reductions from Perchloroethylene Dry Cleaning

Further Emission Reductions from Petroleum Dry Cleaning Operation

Control of Emissions from Solvent Waste

Further Control of Emissions from Adhesives

Control of Emissions from Gasoline Transfer: Fail-Safe Phase-1 Vapor Recovery

Control of Emissions from Gasoline Transfer

Control of Emissions from Open Sumps, Pits and Wastewater Separators

Control of Emissions from Pleasure Boat Fueling Operations

Control of Emissions from Cyclic Steam Production Wells

Control of Emissions from Crude Oil Pipeline Heaters

Control of Emissions from Petroleum Refinery Fluid Catalytic Cracking Units

Control of Emissions from Petroleum Coke Calcining Operations

Control of Emissions from Gas Fired Petroleum Refinery Process Heaters

Improved Control of Emissions Petroleum Refinery Fluid Catalytic Cracking Units

Control of Emissions from Petroleum Refinery Flares

Further Emission Reductions from Valves, Pumps, Compressors

Control of Emissions from Oil Field Steam Generators

Control of Emissions from Large Commercial Bakeries

Control of Emissions from Internal Combustion Engines

Control of Emissions from Commercial Charbroiling

Further Emission Reductions from Rubber Products Manufacturing

Control of Emissions from Afterburners

Control of Emissions from Woodworking Operations

Control of Emissions from Small Boilers and Process Heaters

Control of Emissions from Stationary Gas Turbines

Control of Emissions from Electric Power Generation Boilers

Control of Emissions from Starter Fluid

Control of Fugitive Emissions from Publicly Owned Treatment Works

Control of Emissions from Livestock Waste

Installation of Best Available Retrofit Control Technology

Uniform Commercial Quality Standard on Sulfur Content of Gaseous Fuels

Lower Limits on Sulfur Content of Stationary Liquid Fuels

Control of Ammonia Emissions from Stationary Sources

New Source Review

Phase-Out Stationary Source Fuel Oil and Solid Fossil Fuel Use

Emission Minimization Management Plan

Use of Radial Tires on Light Duty Motor Vehicles

Clean Fuels in New Fleet Vehicles

Banning of New Drive Through Facilities

Control of Emissions from Ship Berthing Facilities

Truck Dispatching, Rescheduling and Rerouting

Aircraft and Ground Service Vehicles

Airport Ground Access

Replacement of High Emitting Aircraft (EPA/FAA)

Paved Roads

Unpaved Roads and Parking Lots

Growth Management

Local Government Energy Conservation Program

Waste Recycling

Energy Pricing, Tax and Subsidy Incentives

Out-Of-Basin Transportation of Biodegradeable Solid Waste

Emissions Reductions from Swimming Pool Water Heating

Control of Emissions from Residential and Commercial Water Heating

Control of Fugitive Dust from Agriculture

Control of Fugitive Emissions from Construction of Roads and Buildings

Low Emission Materials for Building Construction

<u>Transportation Agencies Tier I Measures</u>

HOV Facilities

Transit Improvements

Diverting Port-Related Truck Traffic to Rail

Traffic Flow Improvements

Nonrecurrent Congestion Relief

Rail Consolidation to Reduce Grade Crossings

Freeway and Capacity Enhancements

High Speed Rail

Attachment B

CONTROL MEASURES FOR CONDITIONAL APPROVAL

ARB Tier I Measures

Retrofit Particle Traps on Heavy Duty Diesel Buses (Based on passage of enabling legislation)

District Tier I Measures

Emission Charges on Architectural Coatings

Further Emission Reductions from Perchloroethylene Dry Cleaning

Urban Bus System Electrification

Clean Fuel Retrofit of Transit Buses

Telecommunications

Vanpool Vehicle Purchase Incentives

Truck Dispatching, Rescheduling and Rerouting

Aircraft and Ground Service Vehicles

Airport Ground Access

Paved Roads

Waste Recycling

Local Governments Tier I Measures

Alternative Work Weeks and Flextime

Telecommunications

Employer Rideshare and Transit Incentives

Parking Management

Merchant Transportation Incentives

Auto Use Restrictions

State and Federal Agencies Tier I Measures

Control of Emissions from OCS Exploration, Development, and Production

Control of Emissions from Pesticide Application (EPA/CDFA)

Lower Emission Standards on New Jet Aircraft Engines (EPA/FAA)

Control of Fugitive Emissions from Marine Vessel Tanks (EPA/ARB)

Control on Switching Locomotives (EPA/ARB/FRA)

Replacement of High Emitting Aircraft (EPA/FAA)

Railroad Electrification (EPA/ARB/FRA)

Tier II Measures

Low Emitting Light and Medium Duty Vehicles

Low Emitting Freight Vehicles

Low Emitting Transit Buses

Stricter Emission Standards for Off-Road Vehicles

Low ROG Consumer Products

Low ROG Coating Applications

Emission Charges

More Stringent Control Technology

Tier III Measures

Non-Reactive Solvents for Surface Coatings and Solvent Use

Extremely Low Emitting Passenger Vehicles

Extremely Low Emitting Heavy Duty Vehicles

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Adoption of the 1989 South Coast Air Quality Management Plan

Agenda Item No.: 89-15-1

Public Hearing Date: August 14, 1989

Issuing Authority: Air Resources Board

Comments: All significant environmental issues pertaining to this item were consistent with those identified in the Final Environmental Impact Report (FEIR) prepared and certified by the South Coast Air Quality Management District. This FEIR and the District's Resolution No. 89-13, entitled "1989 Air Quality Management Plan Findings of Fact and Statement of Overriding Considerations", dated March 13, 1989, are incorporated by reference as findings which the Board is required to make pursuant to Public Resources Code Section 21081.

Response: N/A

Certified: _____
Board Secretary

Date: 9/12/89

State of California
AIR RESOURCES BOARD

Resolution 89-67

July 13, 1989

Agenda Item No.: 89-13-2

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

WHEREAS, Section 43013 of the Health and Safety Code authorizes the Board to adopt and implement motor vehicle standards in order to control air pollution caused by motor vehicles;

WHEREAS, the Legislature has declared in Section 43000.5 of the Health and Safety Code that, despite significant reductions in vehicle emissions which have been achieved in recent years, continued growth in population and vehicle miles traveled throughout California have the potential not only to prevent attainment of the state standards, but in some cases, to result in worsening of air quality;

WHEREAS the Legislature in 1988 enacted the California Clean Air Act of 1988 (the "Act"; Stats. 1988, ch. 1568) to address the problem of air pollution in California;

WHEREAS, the Act directs the Board to perform numerous tasks related to the control of mobile sources of air pollution in California;

WHEREAS, the Act specifies that to cover the costs of mobile source related programs authorized or required under the Act, the Board may collect motor vehicle fees up to a maximum of $4,500,000 in the 1989-90 fiscal year, and in subsequent years the total fees may increase but cannot exceed the annual increase in the California Consumer Price Index for the preceding year;

WHEREAS, the Board staff has developed a proposed motor vehicle fee regulation to cover the costs of mobile source related activities under the Act;

WHEREAS, the proposed fee regulations have been designed to provide the Board with revenues of four million five hundred thousand dollars ($4,500,000) to cover budgeted expenses of implementing mobile source related activities under the Act for the 1989-90 fiscal year;

WHEREAS, the proposed fee regulations have been designed to provide the Board in each succeeding fiscal year with an annual revenue increase equal to the annual increase in the California Consumer Price Index, in order to

cover annual expenses for mobile source related projects which, in each succeeding year, are expected to increase by at least an amount equal to the annual increase in the California Consumer Price Index;

WHEREAS, the proposed regulations establish procedures for annually calculating the fees on a per-vehicle or per-engine basis, specify the process by which each motor vehicle manufacturer will be billed, and provide that the certification of vehicles or engines by each manufacturer will be conditioned on payment of all motor vehicle fees for the previous year;

WHEREAS, the California Environmental Quality Act and Board regulations require that no project which may have significant adverse environmental impacts be adopted as originally proposed if feasible alternatives or mitigation measures are available to reduce or eliminate such impacts;

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

WHEREAS, the Board finds that:

The funds which would be collected pursuant to the proposed fee regulations are needed to implement the mobile source related programs established pursuant to the California Clean Air Act;

The proposed regulations provide an effective mechanism for assessing and collecting annual fees for motor vehicles;

The proposed fee regulations will not have a significant adverse economic impact on businesses or private persons affected by the regulations; and

WHEREAS, the Board has determined, pursuant to the requirements of the California Environmental Quality Act and the Board's regulations, that this regulatory action will not have any significant adverse impact on the environment.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves Sections 1990 through 1994, Title 13, California Code of Regulations, as set forth in Attachment A hereto.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to adopt Sections 1990 through 1994, Title 13, California Code of Regulations, 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 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 directs the Executive Officer to monitor the status of the program to implement the provisions of the California Clean Air Act, and to return to the Board at such time as a modification of the motor vehicle fee program becomes necessary in order to reflect changes in program needs and capabilities, or such other factors as may influence funding requirements of the Act.

I hereby certify that the above is a true and correct copy of Resolution 89-67, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Adoption of Regulations Regarding Annual New Motor Vehicle Fees Pursuant to the Provisions of the Clean Air Act of 1988

Agenda Item No.: 89-13-2

Public Hearing Date: July 13, 1989

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: 11/13/89

State of California
AIR RESOURCES BOARD

Resolution 89-68

August 10, 1989

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

WHEREAS, Health and Safety Code Section 39003 charges the Board to coordinate efforts throughout the state to attain and maintain state and national ambient air quality standards;

WHEREAS, Health and Safety Code Section 41500(b) directs the Board to review the rules and regulations of the local air pollution control districts ("districts") to determine whether they are sufficiently effective to achieve and maintain the state ambient air quality standards;

WHEREAS, Section 41504 of the Health and Safety Code authorizes the Board, if it finds after a public hearing that the rules and regulations of a district are not likely to achieve and maintain the state ambient air quality standards, to adopt rules or regulations for a local air pollution control district which it deems necessary to enable the district to achieve and maintain state ambient air quality standards;

WHEREAS, Health and Safety Code Section 39517 provides that a district shall be given notice and the opportunity to act before the Board adopts any rule or regulation for the district;

WHEREAS, the Board and the U.S. Environmental Protection Agency have established health-based ambient air quality standards for several air pollutants including ozone and particulate matter (PM10);

WHEREAS, in the California Clean Air Act of 1988 (the "Act;" Stats. 1988, ch. 1568, Section 1), the Legislature found that attainment of the health-based state ambient air quality standards is necessary to protect public health, particularly of children, older people, and those with respiratory diseases, and that it is therefore in the public interest that these standards be attained at the earliest practicable date;

WHEREAS, Health and Safety Code Section 40001 requires the district to adopt and enforce rules and regulations to achieve and maintain the state and national ambient air quality standards in all areas affected by emission sources under their jurisdiction;

WHEREAS, the Act provides that districts shall endeavor to achieve and maintain the state ambient air quality standards for ozone, carbon monoxide, sulfur dioxide, and nitrogen dioxide by the earliest practicable date (Health and Safety Code Section 40910);

WHEREAS, the San Joaquin Valley Air Basin has not attained the state or national standards for ozone and PM10, and the Board approved regulations on June 9, 1989 which formally designate the Air Basin as nonattainment for the state ambient air quality standards for ozone and PM10;

WHEREAS, in order to attain the state ambient air quality standards, the Act mandates a comprehensive program of emission reduction measures and planning requirements for the state and the local air pollution control districts in areas where the standards are not attained (Health and Safety Code Section 40910 et seq.); adopts, as a measure of progress towards attainment, an annual 5 percent emissions reduction requirement for nonattainment pollutants and their precursors (Health and Safety Code Section 40914); and specifically requires that a district attainment plan for areas with serious or severe air pollution include a permitting program designed to achieve no net increase in emissions of nonattainment pollutants or their precursors from all permitted new or modified stationary sources (Health and Safety Code Sections 40919 and 40920);

WHEREAS, at a public meeting of the Board April 7, 1988, Board staff presented substantial information on the deteriorating air quality in the Valley, the rapid growth of new stationary sources, and the inadequacy of the existing Valley district rules to prevent substantial emissions increases from new stationary sources;

WHEREAS, in response to this information, the San Joaquin Valley Basinwide Air Pollution Control Council ("BCC") and Board staff commenced efforts to develop more effective stationary source permitting rules and, in particular, to lower the existing threshold levels of 150 pounds per day of specified pollutants for the control technology requirements (generally referred to as Best Available Control Technology or "BACT") and of 250 pounds per day of specified pollutants for the emissions offset requirements;

WHEREAS, in December 1988 the Board received a petition from the City of Kingsburg and several citizens groups requesting the Board to exercise its oversight authority over the eight San Joaquin Valley districts with respect to their new and modified stationary source permitting rules;

WHEREAS, on February 3, 1989, the BCC approved a proposal for a revised rule for the Valley districts with a threshold for BACT requirements of zero by January 1, 1990, and with thresholds for emissions offset requirements of 150 pounds per day (80 for PM10) by January 1, 1990, and of zero by July 1, 1991;

WHEREAS, on March 10, 1989, the Board adopted Resolution 89-28 directing the Executive Officer to notify the eight Valley districts pursuant to Health and Safety Code Section 39517 to adopt amended rules incorporating the threshold levels for the Best Available Control Technology and emissions offset requirements and other appropriate amendments as proposed by the BCC as expeditiously as practicable;

WHEREAS, Resolution 89-28 further directed the Executive Officer to notify the districts to take immediate action to assure that any permits which might be issued to sources which had pending applications for authority to construct permits reflected the proposed reduced threshold requirements for BACT and offsets, and, with respect to sources which had been permitted but were not yet constructed or operating, to take any action which was available in light of any technical and legal considerations to assure that the permits reflected the proposed reduced threshold requirements for BACT and offsets;

WHEREAS, on May 3, 1989, the BCC approved a proposed rule and a schedule for the revisions of the rule for the review of new and modified stationary sources which would lower the threshold levels for the BACT and offsets requirements but which would apply only to sources whose applications for authority to construct permits were determined to be complete after the effective date of the rule revisions (approximately August 22, 1989);

WHEREAS, at a public hearing May 11, 1989, after receiving testimony from the BCC, the districts and interested persons, the Board encouraged the Valley districts to continue on their rulemaking schedules and also directed Board staff to notice a hearing pursuant to Health and Safety Code Section 41500 et seq. for the consideration of a regulation which would apply the lower threshold levels for BACT and emissions offsets to sources whose applications for authority to construct permits were pending or received after March 10, 1989 or who have received authority to construct permits but have not acquired vested rights to proceed;

WHEREAS, each Valley district has proposed revisions (adopted by the Fresno County district August 8, 1989) to its permitting rules which would apply the lower threshold levels only to projects whose applications for authority to construct permits were determined to be complete after the effective date of the rule revisions;

WHEREAS, in response to the Board's direction, staff has prepared a proposed regulation which would apply threshold levels of zero pounds per day for BACT and 150 pounds per day (80 pounds per day for PM10) for emissions offsets to sources whose applications for authority to construct permits were pending on or received after March 10, 1989, and to sources which have received their authority to construct permits or their renewals of authority to construct permits but have not yet acquired a vested right under California law to proceed in accordance with those permits.

WHEREAS, the proposed regulation does not apply to sources who have permits to operate or to sources whose application for an authority to construct permit is determined to be complete after the effective date of any amendments to the district's rules relating to the control technology or offset requirements adopted after August 7, 1989;

WHEREAS, the proposed regulation defines vested right as the right acquired by the holder of an authority to construct permit to proceed in accordance with the permit based on applicable California law and specifies that the district hearing boards shall make vested rights determinations upon request by a permit holder;

WHEREAS, the proposed regulation includes procedures for the districts to follow in implementing the regulation;

WHEREAS, the California Environmental Quality Act and Board regulations require that no project which may have significant adverse environmental impacts be adopted as originally proposed if feasible alternatives or mitigation measures are available to reduce or eliminate such impacts;

WHEREAS, a public hearing and other administrative proceedings have been held in accordance with the provisions of Section 41502 of the Health and Safety Code and Chapter 3.5 (commencing with Section 11340), Part 1, Division 3, Title 2 of the Government Code;

WHEREAS, the Board has heard and considered the testimony and written comments presented by Board staff, representatives of the Valley districts, affected businesses and industries, and other interested persons and agencies;

WHEREAS, the Board finds that:

The San Joaquin Valley Air Basin has not yet attained the state and national ambient air quality standards for ozone and particulate matter (PM10);

Emissions from existing stationary sources significantly contribute to concentrations of ozone and particulate matter in the San Joaquin Valley Air Basin and emissions from new stationary sources will add substantially to such concentrations;

The California Clean Air Act of 1988 requires that the state ambient air quality standards shall be attained as expeditiously as practicable, and it is not intended to delay the adoption of needed control measures until the attainment plans to be submitted in 1991 are approved;

Substantial emission reductions from existing levels are necessary to make the legally required progress toward

attainment of the standards in the Valley, and emission increases from new sources not yet operating would add significantly to the total reductions from existing sources which are necessary to make such progress;

Significant emissions reductions of ozone precursors and PM10 and its precursors may be realized from applying the lower threshold levels for BACT and offsets in the proposed regulation to sources which have applications for authority to construct permits pending or which have received their authority to construct permits but have not acquired vested rights to proceed in accordance with their permits;

Requiring the application of BACT to new and modified stationary sources to limit their emission increases is far more cost effective than requiring equivalent reductions from existing sources;

The existing threshold levels for control and offset requirements in the new and modified stationary source review rules of the Valley districts will not prevent substantial emission increases from new sources and will not likely achieve and maintain the state ambient air quality standards;

The revisions to the Valley rules proposed by the districts lower the threshold levels for BACT and offset requirements but are inadequate to provide for the attainment of the state ambient air quality standards because they only apply to sources whose applications for authority to construct permits are determined to be complete after the effective date of the rule revisions;

The Valley districts were given notice and an opportunity to act to revise their new and modified stationary source review rules pursuant to Health and Safety Code Section 39517 in Resolution 89-26;

The regulation proposed by the staff will prevent substantial emission increases from new sources which have not acquired vested rights to proceed with construction and will also provide a procedure by which a source with an authority to construct permit may establish a vested right under California law to proceed according to its permit;

The revisions to the Valley districts' regulations proposed by staff will have no significant adverse environmental impacts but will have a beneficial effect

on air quality in the Valley by limiting the emission increases associated with the permitting of new and modified sources; and

It is necessary to adopt this regulation as an emergency measure for the immediate preservation of the public health, safety and general welfare in order to minimize any delay or period of uncertainty which the proponents of projects granted their authority to construct permits under existing district rules may experience by allowing them to proceed under their permits, or, if necessary, to modify their permits expeditiously.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves Section 86000, Title 17, California Code of Regulations, as set forth in Attachment A hereto and as amended by the Board.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to adopt Section 86000, Title 17, California Code of Regulations, as an emergency measure for the immediate preservation of the public health, safety, and general welfare in accordance with the provisions of the Administrative Procedure Act set forth in Section 11346.1 of the Government Code, 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 modifications as may be appropriate in light of the comments received, and shall present the regulation to the Board for further consideration if he determines that this is warranted.

BE IT FURTHER RESOLVED that prior to adopting Title 17, California Code of Regulations, Section 86000, the Executive Officer shall, based on the record of the public hearing, including all of the comments presented for the hearing and during the 15-day comment period, adopt the written findings required by Section 41502(c) of the Health and Safety Code.

BE IT FURTHER RESOLVED that the Board further directs the Executive Officer to complete the procedures set forth in the Administrative Procedure Act, Sections 11346.4 to 11346.8 of the Government Code, inclusive, as expeditiously as practicable to formally adopt the regulation.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to transmit this resolution and the adopted regulation to each of the eight Valley district boards and air pollution control officers and to take all steps necessary to ensure that the regulation is being implemented as required by Health and Safety Code Section 41504.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to monitor the progress of each Valley district in adopting revisions to its new source review rules and to initiate proceedings before the Board in accordance with Sections 39517, 41502 and 41504 of the Health and Safety Code in the event appropriate revisions are not expeditiously adopted by each district board.

I hereby certify that the above is a true and correct copy of Resolution 89-68, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider the Adoption of a Regulation Amending the New and Modified Stationary Source Review Rules of the Eight San Joaquin Valley County Air Pollution Control Districts

Agenda Item No.: 89-14-1

Public Hearing Date: August 10, 1989

Response Date: N/A

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: 9/21/89

State of California

AIR RESOURCES BOARD

Resolution 89-69
September 15, 1989

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 39911;

WHEREAS, an unsolicited research proposal, Number 182-34 entitled "Effects of Acidity and Ozone on Airway Epithelium", has been submitted by the University of California, San Francisco;

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 182-34, entitled "Effects of Acidity and Ozone on Airway Epithelium", submitted by the University of California, San Francisco, for a total amount not to exceed $204,558.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39904, hereby accepts the recommendation of the Scientific Advisory Committee on Acid Deposition and approves the following:

> Proposal Number 182-34, entitled "Effects of Acidity and Ozone on Airway Epithelium", submitted by the University of California, San Francisco, for a total amount not to exceed $204,558.

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 $204,558.

I hereby certify that the above is a true and correct copy of Resolution #89-69, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-70
September 15, 1989

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 39911;

WHEREAS, an unsolicited research proposal, Number 184-34 entitled "The Application of the Alpine Lake Forecaster to Watersheds in the Sierra Nevada", has been submitted by the U.S. Geological Survey:

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 184-34, entitled "The Application of the Alpine Lake Forecaster to Watersheds in the Sierra Nevada", submitted by the U.S. Geological Survey, for a total amount not to exceed $83,791.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39904, hereby accepts the recommendation of the Scientific Advisory Committee on Acid Deposition and approves the following:

> Proposal Number 184-34, entitled "The Application of the Alpine Lake Forecaster to Watersheds in the Sierra Nevada", submitted by the U.S. Geological Survey, for a total amount not to exceed $83,791.

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 $83,791.

I hereby certify that the above is a true and correct copy of Resolution #89-70, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-71
September 15, 1989

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 39911;

WHEREAS, a solicited research proposal, Number 186-34 entitled "Pilot Studies to Develop Sensitive Markers for Detecting Health Effects of Acidic Atmospheres", has been submitted by University of Cincinnati;

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 186-34, entitled "Pilot Studies to Develop Sensitive Markers for Detecting Health Effects of Acidic Atmospheres", submitted by University of Cincinnati, for a total amount not to exceed $119,746.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39904, hereby accepts the recommendation of the Scientific Advisory Committee on Acid Deposition and approves the following:

> Proposal Number 186-34, entitled "Pilot Studies to Develop Sensitive Markers for Detecting Health Effects of Acidic Atmospheres", submitted by University of Cincinnati, for a total amount not to exceed $119,746.

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 $119,746.

I hereby certify that the above is a true and correct copy of Resolution #89-71, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-72
September 15, 1989

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 39911;

WHEREAS, a solicited research proposal, Number 189-34 entitled "Pilot Studies to Develop Sensitive Markers for Detecting Health Effects of Acidic Atmospheres," has been submitted by the University of California, Irvine.

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 189-34, entitled "Pilot Studies to Develop Sensitive Markers for Detecting Health Effects of Acidic Atmospheres," submitted by the University of California, Irvine, for a total amount not to exceed $122,924.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39904, hereby accepts the recommendation of the Scientific Advisory Committee on Acid Deposition and approves the following:

> Proposal Number 189-34, entitled "Pilot Studies to Develop Sensitive Markers for Detecting Health Effects of Acidic Atmospheres," submitted by the University of California, Irvine, for a total amount not to exceed $122,924.

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 $122,924.

I hereby certify that the above is a true and correct copy of Resolution #89-72, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-73
September 15, 1989

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 39911;

WHEREAS, a solicited research proposal, Number 193-34 entitled "Southern California Air Quality Study - Atmospheric Acidity Data Analysis", has been submitted by AV Projects 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:

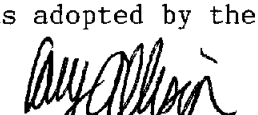
> Proposal Number 193-34, entitled "Southern California Air Quality Study - Atmospheric Acidity Data Analysis", submitted by AV Projects Inc., for a total amount not to exceed $145,292.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39904, hereby accepts the recommendation of the Scientific Advisory Committee on Acid Deposition and approves the following:

> Proposal Number 193-34, entitled "Southern California Air Quality Study - Atmospheric Acidity Data Analysis", submitted by AV Projects Inc., for a total amount not to exceed $145,292.

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 $145,292.

I hereby certify that the above is a true and correct copy of Resolution #89-73, as adopted by the Air Resources Board.



Cary Allison, Board Secretary

Resolution Missing

State of California

AIR RESOURCES BOARD

Resolution 89-75
September 15, 1989

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 39911;

WHEREAS, a solicited research proposal, Number 201-34 entitled "Wet Deposition Monitoring in the Alpine Zone in the Sierra Nevada", has been submitted by the University of California, Santa Barbara;

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 201-34, entitled "Wet Deposition Monitoring in the Alpine Zone in the Sierra Nevada", submitted by the University of California, Santa Barbara, for a total amount not to exceed $469,798.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39904, hereby accepts the recommendation of the Scientific Advisory Committee on Acid Deposition and approves the following:

> Proposal Number 201-34, entitled "Wet Deposition Monitoring in the Alpine Zone in the Sierra Nevada", submitted by the University of California, Santa Barbara, for a total amount not to exceed $469,798.

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 $469,798.

I hereby certify that the above is a true and correct copy of Resolution #89-75, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 89-76

November 8, 1989

Agenda Item No.: 89-18-1

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

WHEREAS, the Legislature in 1988 enacted the California Clean Air Act of 1988 (Stats. 1988, ch. 1568) to address the problem of air pollution in California;

WHEREAS, in the California Clean Air Act the Legislature declared that attainment of the Board's health-based ambient air quality standards is necessary to protect public health, particularly of children, older people, and those with respiratory diseases, and directed that these standards be attained at the earliest practicable date;

WHEREAS, Section 41712 of the Health and Safety Code directs the Board to adopt regulations to achieve the maximum feasible reduction in reactive organic compounds emitted by consumer products, if the Board determines that adequate data exists for it to adopt the regulations, and if the regulations are technologically and commercially feasible and necessary;

WHEREAS, the California Environmental Quality Act and Board regulations require that no project which may have significant adverse environmental impacts be adopted as originally proposed if feasible alternatives or mitigation measures are available to reduce or eliminate such impacts;

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

WHEREAS, the Board finds that:

Consumer products represent one of the few remaining emission sources that have not been controlled in order to attain and maintain national and state ambient air quality standards;

Emissions from all forms of consumer products are expected to increase steadily in the future;

Antiperspirants and deodorants are forms of consumer products which contribute to concentrations of ozone and PM_{10} in California;

The national and state ambient air quality standards for these pollutants are violated in California;

Reducing the volatile organic compound content of antiperspirants and deodorants will reduce the ambient concentrations of ozone and PM_{10} in California;

There exists adequate data to adopt the proposed regulations;

The proposed regulations will achieve the maximum feasible reduction in emissions from antiperspirants and deodorants;

The proposed regulations are necessary to attain and maintain the state and national ambient air quality standards and to meet the requirements of the California Clean Air Act;

Antiperspirant and deodorant forms currently exist that comply with the proposed regulations;

The cost-effectiveness ratios for reducing emissions from antiperspirants and deodorants through the proposed volatile organic content limits are within the range of other control measures adopted to reduce emissions of these pollutants;

The proposed regulations are technologically and commercially feasible.

WHEREAS, the Board further finds that:

The proposed regulations will result in a significant reduction in volatile organic compound emissions, and concomitant reductions in ozone and PM_{10} levels, and will encourage manufacturers to develop substitute aerosol propellants which may then be available to reduce the volatile organic compound emissions from other consumer products;

If substitute propellants are developed and used in antiperspirants and deoderants they will not increase the rate of stratospheric ozone depletion because the regulations prohibit the use of any compound that has an ozone depletion potential greater than 0.00;

If substitute propellants are developed and used in antiperspirants and deodorants, these substitute propellants may cause an extremely slight increase in global warming compared to those propellants that are currently used;

Any increase in global warming that may occur as a result of the proposed regulations is so small that it will not constitute a significant adverse impact on the environment;

The Board has determined, pursuant to the requirements of the California Environmental Quality Act and the Board's regulations, that this regulatory action will not have any significant adverse impact on the environment.

The national and state ambient air quality standards for these pollutants are violated in California;

Reducing the volatile organic compound content of antiperspirants and deodorants will reduce the ambient concentrations of ozone and PM_{10} in California;

There exists adequate data to adopt the proposed regulations;

The proposed regulations will achieve the maximum feasible reduction in emissions from antiperspirants and deodorants;

The proposed regulations are necessary to attain and maintain the state and national ambient air quality standards and to meet the requirements of the California Clean Air Act;

Antiperspirant and deodorant forms currently exist that comply with the proposed regulations;

The cost-effectiveness ratios for reducing emissions from antiperspirants and deodorants through the proposed volatile organic content limits are within the range of other control measures adopted to reduce emissions of these pollutants;

The proposed regulations are technologically and commercially feasible.

WHEREAS, the Board further finds that:

The proposed regulations will result in a significant reduction in volatile organic compound emissions, and concomitant reductions in ozone and PM_{10} levels, and will encourage manufacturers to develop substitute aerosol propellants which may then be available to reduce the volatile organic compound emissions from other consumer products;

If substitute propellants are developed and used in antiperspirants and deoderants they will not increase the rate of stratospheric ozone depletion because the regulations prohibit the use of any compound that has an ozone depletion potential greater than 0.00;

If substitute propellants are developed and used in antiperspirants and deodorants, these substitute propellants may cause an extremely slight increase in global warming compared to those propellants that are currently used;

Any increase in global warming that may occur as a result of the proposed regulations is so small that it will not constitute a significant adverse impact on the environment;

The Board has determined, pursuant to the requirements of the California Environmental Quality Act and the Board's regulations, that this regulatory action will not have any significant adverse impact on the environment.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves Sections 94500-94507, Title 17, California Code of Regulations, as set forth in Attachment A hereto.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to adopt Sections 94500-94507, Title 17, California Code of Regulations, 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 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 directs the Executive Officer to monitor the progress of antiperspirant and deodorant manufacturers to achieve the standards set forth in the regulations, to provide yearly updates on this progress to the Board, and to return to the Board in 1994 with a status report containing a summary of developments that have occurred and a recommendation as to whether, in light of these developments, the regulation should be amended to expedite the final compliance date for the standards.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to monitor the efforts of antiperspirant and deodorant manufacturers to develop new products which use innovative methods to achieve significant air quality benefits, and to return to the Board if modification of the regulations becomes necessary to permit the use of such innovative products.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to consider the ozone depletion and global warming impacts of all future consumer product regulations, and to insure that, taken as a whole, these regulations reduce pollutant problems in the lower atmosphere while also producing to the maximum extent practicable, a net decrease in ozone depletion and global warming.

I hereby certify that the above is a true and correct copy of Resolution 89-76, as adopted by the Air Resources Board.

Pat Hutchens for
Cary Allison, Board Secretary

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Notice of Public Hearing to Consider Adoption of Regulations Regarding On-Board Diagnostic System Requirements for 1994 and Later Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles with Feedback Fuel Control Systems

Agenda Item No.: 89-16-1

Public Hearing Date: September 14, 1989

Issuing Authority: Air Resources Board

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

Response: N/A

Certified: Judith M. Lounsbury
Judith M. Lounsbury
Board Secretary

Date: 9/24/90

RECEIVED BY
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OCT 15 1990
RESOURCES AGENCY OF CALIFORNIA

State of California

AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Amendments of Regulations to Establish Certification Standards and Test Procedures for New Heavy-Duty Vehicles and Engines Fueled with Compressed Natural Gas or Liquefied Petroleum Gas

Agenda Item No.: 89-17-1

Public Hearing Date: September 15, 1989

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: Judith M. Lounsbury
Board Secretary

Date: 5/15/90

RECEIVED BY
Office of the Secretary
OCT 15 1990
RESOURCES AGENCY OF CALIFORNIA

State of California
AIR RESOURCES BOARD

Resolution 89-77

September 14, 1989

Agenda Item No.: 89-16-1

WHEREAS, Sections 39002 and 39003 of the Health and Safety Code charge the Air Resources Board (the "Board") with the responsibility for systematically attacking the serious air pollution problem caused by motor vehicles;

WHEREAS, Sections 39600 and 39601 of the Health and Safety Code authorize 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 many parts of the state;

WHEREAS, in Section 43000.5 of the Health and Safety Code, enacted as part of the California Clean Air Act of 1988 (Stats. 1988, ch. 1568), the Legislature has declared that while significant reductions in vehicle emissions have been achieved in recent years, continued growth in population and vehicle miles traveled throughout the state have the potential not only of preventing attainment of the state standards, but in some cases of resulting in worsening of air quality;

WHEREAS, in Section 43000.5 of the Health and Safety Code, the Legislature further declared that the attainment and maintenance of the state air quality standards will necessitate the achievement of substantial reductions in new vehicle emissions and substantial improvements in the durability of vehicle emission systems;

WHEREAS, Section 43013 of the Health and Safety Code authorizes the Board to adopt motor vehicle emission standards and in-use performance standards which it finds to be necessary, cost-effective, and technologically feasible;

WHEREAS, the Board has adopted "California 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," in Section 1968, Title 13, California Code of Regulations ("CCR"), which currently requires monitoring of the fuel metering system, exhaust gas recirculation (EGR) system, and certain additional emission-related components by an on-board diagnostic system for passenger cars, light-duty trucks, and medium-duty vehicles equipped with three-way catalyst systems and feedback control;

WHEREAS, the staff has proposed adoption of regulations under Section 1968.1; Title 13, CCR, for monitoring catalyst efficiency, engine misfire, canister purge, secondary air injection, and chlorofluorocarbon (CFC) containment; for improving current monitoring of the fuel system, oxygen sensor, EGR system, and other emission-related components of the on-board diagnostic system; and for standardizing fault codes, diagnostic repair equipment, the vehicle connector used for attaching the repair equipment to the vehicle, and the protocol for downloading repair information in order to improve the effectiveness of emission control system repairs;

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

WHEREAS, the Board finds that:

Significant numbers of vehicles operate with deteriorated catalytic converters; accordingly, because catalyst performance is crucial to maintaining vehicle emissions in compliance with the applicable standards, it is necessary to monitor catalyst performance to ensure adequate levels of conversion efficiency;

Engine misfire is the leading cause of catalyst degradation; accordingly, monitoring systems must be capable of detecting misfire conditions which may affect converter performance;

In-use surveillance programs indicate that failures in canister purge systems (e.g., deteriorated vacuum lines, damaged canisters, and nonfunctioning purge control valves) and secondary air injection systems (e.g., seized air pumps, missing drive belts, nonfunctioning switching valves and damaged tubing and hoses) cause excess emissions and, therefore, require monitoring;

Current fuel monitoring requirements do not ensure detection of fuel control malfunctions before excess emissions occur; accordingly, improved monitoring requires stricter fault criteria limits to ensure timely detection of fuel system problems;

Current oxygen sensor and EGR monitoring methods are inadequate to determine proper operation. Accordingly, fault detection should be based not only on observing a

minimum level of function, however diminished it may be, but also on achieving emission compliance;

Monitoring chlorofluorocarbon (CFC) leakage in the air conditioning system will help prevent loss of ozone depleting CFC refrigerant into the atmosphere;

Adopting standardized fault codes and diagnostic service equipment will improve the repairability and maintenance and, therefore, the emission characteristics of motor vehicles;

A two-year phase-in would result in more reliable, better designed diagnostic systems for implementing the proposed requirements and would be commensurate with manufacturers' available resources and consistent with their product changeover schedules;

A two year delay in the compliance schedule for vehicles produced by small volume manufacturers which lack the technological capabilities of larger manufacturers and may need to purchase the necessary hardware to meet the proposed requirements;

The proposed on-board diagnostic requirements are cost effective and technologically feasible;

WHEREAS, the Board further finds that:

The proposed regulations will result in reductions of motor vehicle emissions because emission systems would be more closely monitored and better maintained and will not have any significant adverse environmental effects;

NOW, THEREFORE, BE IT RESOLVED that the Board approves Section 1968.1, Title 13, California Code of Regulations as set forth in Attachment A;

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to adopt Section 1968.1, Title 13, California Code of Regulations, after making it available to the public for a period of 30 days, provided that the Executive Officer shall consider such written comments as may be submitted during this period, shall make 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 due to the need to update standardization requirements as technology evolves, the Board hereby directs the Executive Officer to take appropriate regulatory action under the Administrative Procedure Act to evaluate and determine whether to incorporate final

recommended general industry standards for onboard diagnostic equipment covered by these proposed regulations if adopted by the Society of Automotive Engineers by September 1991;

BE IT FURTHER RESOLVED that the Board hereby determines that the regulations 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 regulations to the Environmental Protection Agency with a request for confirmation that the regulations are within the scope of an existing waiver pursuant to Section 209(b)(1) of the Clean Air Act;

BE IT FURTHER RESOLVED that the Board directs staff to continue monitoring research and development activities related to implementation of the on-board diagnostic system requirements in new Section 1968.1, including those requirements calling for the monitoring of CFC's, and to report back to the Board on the status of those research and development efforts, in two years or sooner, if such requirements are found to be nonfeasible, and/or impracticable, with such report to include recommendations for modification of the regulation, if determined to be appropriate at that time.

I hereby certify that the above is a true and correct copy of Resolution 89-77, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 89-78

September 15, 1989

Agenda Item No.: 89-17-3

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

WHEREAS, the Legislature found in the Air Toxics "Hot Spots" Information and Assessment Act of 1987 ("the Act", Health and Safety Code Section 44300 et seq.) that facilities manufacturing or using hazardous substances may be exposing nearby populations to toxic air releases on a routine basis and that it is in the public interest to ascertain the nature and quantity of hazardous releases from specific sources which may create air toxics "hot spots";

WHEREAS, the Act set forth a program to develop air toxics emission inventories and to assess the risk to public health from exposure to these emissions;

WHEREAS, the Board adopted a fee schedule November 14, 1988 pursuant to Health and Safety Code Section 44380(a), which assessed a fee upon the operator of every facility subject to the Act in order to recover the costs of the Board, local air pollution control districts ("Districts"), and the Department of Health Services to implement and administer the Act;

WHEREAS, Board staff, in consultation with representatives of the Districts and the fee regulation committee convened pursuant to Health and Safety Code 44380(b), has developed amendments to the fee regulation for fiscal year 1989-90 which have been discussed with the public at two consultation meetings;

WHEREAS, Health and Safety Code Section 44321 requires the Board to compile and maintain a list of specified toxic substances for use in determining which facilities are subject to the Act and the Board's implementing regulations;

WHEREAS, Health and Safety Code Section 44342 requires the Board to develop, in consultation with Districts, criteria and guidelines for site-specific air toxics emissions inventory plans and reports;

WHEREAS, the Board adopted a criteria and guidelines regulation which became effective June 1, 1989 which, among other things, divides the substances listed pursuant to Health and Safety Code Section 44321 into two categories:

substances which must be quantified and substances for which use must be reported but not quantified;

WHEREAS, the California Environmental Quality Act and Board regulations require that no project which may have significant adverse environmental impacts be adopted as originally proposed if feasible alternatives or mitigation measures are available to reduce or eliminate such impacts;

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

WHEREAS, changes have been proposed to the originally noticed text of the regulations on the basis of information presented by the Districts regarding costs of implementing the Act, among other things;

WHEREAS, based upon the information presented by the staff and the written and oral comments received prior to and at the hearing, the Board finds that:

1. The fees in the regulation are based on program costs approved by the District boards and on the most recently approved ARB statewide criteria pollutant emissions inventory for total organic gases, particulate matter, nitrogen oxides, and sulfur oxides, except for the Bay Area Air Quality Management District, where fees are based on that District's toxic emission inventory;

2. A statewide air toxics inventory has not yet been compiled, but after such an inventory is available the Board staff will propose changes to the regulation so that fees are assessed on the basis of emissions of toxic air releases;

3. The proposed addition of 59 substances to Appendix A of the fee regulation accurately reflects those required to be compiled and maintained by the ARB pursuant to Health and Safety Code Section 44321;

4. Because of the proposed additions to the list of substances appended to the fee regulation, it is also necessary to amend the "List of Substances for Which Emissions Must Be Quantified" and "List of Substances for Which Production, Use, or Other Presence Must Be Reported", contained in the Emissions Inventory Criteria and Guidelines Regulation (Appendix A, Sections 93300-93347, Title 17, California Code of Regulations);

5. In order to allow time for Districts to include the approval of their program costs in the county budget process, the proposed regulation delays the date for submission of final costs to the ARB from March 1 to September 1 of each year;

6. Due to revenue shortfalls experienced in fiscal year 1988-89, a provision is proposed to the regulation to allow Districts to carry over such shortfall to the fiscal year after which the shortfall was discovered and to add that amount to the subsequent year's program costs;

7. At the request of several Districts, changes are proposed to the regulation with regard to the flat fee charged those facilities listed on a district toxic inventory, survey, or report in such Districts;

8. The revenues to be assessed pursuant to the proposed fee regulation are reasonably necessary to recover the anticipated program costs for fiscal year 1989-90 which will be incurred by the Board, the Districts, and the Department of Health Services to implement and administer the Act's provisions;

9. Although preliminary cost estimates have been provided by District staff, several Districts have not yet submitted their District board-approved costs to the ARB for fiscal year 1989-90;

10. The substances proposed for addition to the list set forth in Appendix A of the fee regulation have been appropriately categorized for purposes of the Emission Inventory Criteria and Guidelines Regulation;

11. On the basis of a financial analysis conducted to indicate the economic impacts on affected facilities resulting from the fees proposed in this regulation, the economic impact on the affected facilities will not be significant; and

12. This regulatory action will not have a significant adverse impact on the environment and may indirectly benefit air quality by stimulating a reduction in emissions of both toxic and criteria pollutants.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves Sections 90700-90704, Title 17, California Code of Regulations ncluding the appendices referenced therein, as set forth in Attachment A hereto, and Appendices A and B of Sections 93300-93347, Title 17, California Code of Regulations, as set forth in Attachment B hereto;

BE IT FURTHER RESOLVED, that the Board directs the Executive Officer to adopt Sections 90700-90704, Title 17, California Code of Regulations and Appendices A and B of Sections 93300-93347, Title 17, California Code of Regulations, after making them available to the public for a pericd of 15 days, provided that the Executive Officer shall consider such written comments as may be submitted during this period, shall make 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 because several District boards have not provided cost information to the ARB, the Board directs the Executive Officer to insert these District costs into the regulation upon receipt from the Districts and to make other conforming changes necessitated by the new data, and to delay commencement of the 15 day public review period until submittal of these cost data, but no later than October 31, 1989.

BE IT FURTHER RESOLVED, that the Board directs the Executive Officer to present annually to the Board appropriate amendments to the fee schedule, taking into account the availability of toxic inventory information generated pursuant to the Act's requirements, and to report to the Board on the effectiveness of the fee regulation in recovering state and district costs.

I hereby certify that the above is a true and correct copy of Resolution 89-78, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

RECEIVED BY
Office of the Secretary

OCT 15 1990

RESOURCES AGENCY OF CALIFORNIA

State of California
AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider the Adoption of a Regulation to Reduce Volatile Organic Compound Emissions from Antiperspirants and Deodorants

Agenda Item No.: 89-18-1

Public Hearing Date: November 8, 1989

Response Date: N/A

Issuing Authority: Air Resources Board

Comment: The Board received comments alleging that certain significant adverse environmental effects could result from the adoption of the proposed regulations. Commenters stated that adoption of the regulations could increase the rate of stratospheric ozone depletion because the regulations would allow the use of substitute aerosol propellants with some ozone depletion potential. Commenters also stated that these substitute propellants could cause an increase in global warming impacts as compared to those propellants that are currently used.

Response: The Board has determined, pursuant to the requirements of the California Environmental Quality Act and the Board's regulations, that this regulatory action will not constitute a significant adverse impact on the environment. In response to public comments, the regulations were modified so that a significant increase in the rate of stratospheric ozone depletion will not result from the use of substitute propellants. The modified regulations prohibit the use in antiperspirants and deodorants of any compound that has an ozone depletion potential greater than 0.00.

With respect to global warming impacts, the regulations would allow hydroflurocarbon compounds (HFCs) to be used as substitute propellants for the currently used hydrocarbon propellants. HFCs are "greenhouse gases" that can contribute to global warming. While HFCs are not currently used in antiperspirants and deodorants, research is presently being conducted to determine if the use of HFCs will be technologically feasible for these products. If industry finds that HFCs are suitable for use as propellants and chooses to use these compounds, it is possible that there may be an extremely slight increase in global warming as a result of this regulation.

However, the Board has determined that any increase in global warming which might occur as a result of this regulatory action is so small that it will not constitute a significant adverse impact on the environment. Even if one makes the unlikely assumption that HFCs will be used as substitutes for all currently used propellants in antiperspirants and deodorants, HFC emissions would be approximately 3 tons a day compared to 100 millions tons a day of carbon dioxide (the gas which is the major contributor to the global warming effect). On a weighted basis which takes into account the fact that HFCs have a greater global warming potential than carbon dioxide, the impact of HFCs would only be approximately 0.03 percent of carbon dioxide's impact.

However, the foregoing calculations do not take into account other mitigating factors which would serve to reduce or eliminate possible global warming impacts from increased HFC use. This regulatory action will result in some reduction in ground level ozone. Since ozone itself is a compound with some global warming potential, the ozone reduction would partially offset any global warming impact from increased use of HFCs. In addition, there are some aerosol consumer products that are still contain chlorofluorocarbon (CFC) propellants. CFCs have as high as 15 times the global warming potential of HFCs, and also cause the depletion of stratospheric ozone. If industry is successful in reformulating aerosols to use HFC compounds as propellants, the use of CFC compounds may be eliminated in those applications where they are still used. As a result of these considerations, the Board therefore believes that the overall global warming impact of this regulation is likely to be either nonexistent or even environmentally positive.

CERTIFIED: Pat Hutchens for
Board Secretary

Date: August 8, 1990

State of California
AIR RESOURCES BOARD

Resolution 89-79

September 15, 1989

Agenda Item No.: 89-17-1

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

WHEREAS, 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 many parts of 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 emission standards and test procedures to control air pollution caused by motor vehicles;

WHEREAS, the Board has adopted Title 13, California Code of Regulations (CCR), Section 1956.8 and the incorporated "California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Heavy-Duty Diesel-Powered Engines and Vehicles" and "California Exhaust Emission Standards and Test Procedures for 1987 and Subsequent Model Heavy-Duty Gasoline-Powered Engines and Vehicles"; "California Non-Methane Hydrocarbon Test Procedures"; Title 13, CCR, Section 1965 and the incorporated "California Motor Vehicle Emission Control Label Specifications"; Title 13, CCR, Section 1976 and the incorporated "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Liquefied Petroleum Gas- or Gasoline-Powered Motor Vehicles";

WHEREAS, the staff has proposed amendments to Section 1956.8 of Title 13, California Code of Regulations and the documents incorporated by reference therein, which would provide for the exhaust emission testing and certification of heavy-duty engines and vehicles fueled by compressed natural gas ("CNG") or liquefied petroleum gas ("LPG"), either separately or in combination with petroleum fuels, beginning with the 1991 model year, and which would establish optional heavy-duty engine non-methane hydrocarbon standards commencing in the 1991 model year;

WHEREAS, the staff has proposed amendments to Section 1965 of Title 13, California Code of Regulations and the documents incorporated by reference therein, which would make emission control label specifications applicable to heavy-duty engines and vehicles fueled by CNG or LPG;

WHEREAS, the staff has proposed amendments to Section 1976 of Title 13, California Code of Regulations and the documents incorporated by reference therein, which would make the existing evaporative standards and test procedures applicable to heavy-duty engines and vehicles fueled by LPG;

WHEREAS, the California Environmental Quality Act and Board regulations require that no project which may have significant adverse environmental impacts be adopted as originally proposed if feasible alternatives or mitigation measures are available to reduce or eliminate such impacts;

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

WHEREAS, the Board finds that:

The use in heavy-duty vehicles and engines fueled by CNG or LPG can result in a reduction in air pollution in this state;

The specification of emission standards and certification test procedures for heavy-duty vehicles and engines fueled by CNG or LPG is necessary to allow for the sale and use of such vehicles and engines in California;

The adoption of an effective certification program for heavy-duty vehicles and engines fueled by CNG or LPG will ensure that these vehicles and engines will meet the applicable California model year emission standards necessary to address the serious air pollution problem in this state;

It is technologically feasible and cost-effective for heavy-duty vehicles and engines fueled by CNG or LPG to comply with the emission standards and certification test procedures set forth in Attachments A through F, commencing with the 1990 model year;

The optional non-methane hydrocarbon standards for 1990 and subsequent model year heavy-duty engines as contained in Attachment A are of equivalent stringency to the existing total hydrocarbon standards;

The regulatory action approved herein will not result in any significant adverse environmental impacts.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves the amendments to Title 13, California Code of Regulations, Sections 1956.8, 1965, and 1976, and the documents incorporated by reference therein as set forth in Attachments A through F, provided that the Executive Officer shall modify the hydrocarbon density factor in the Nonmethane Hydrocarbon Test Procedures to reflect consideration of nonmethane hydrocarbon only.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to adopt the amendments set forth in Attachments A through F as modified after making them available to the public for a period of 15 days, and with such

modifications as may be appropriate in light of written comments submitted during this period, provided that the Executive Officer shall present the regulations to the Board for further consideration if he determines that this is warranted in light of the written comments received.

BE IT FURTHER RESOLVED that the Board hereby determines that the amendments approved herein will not cause the California emission standards, in the aggregate, to be less protective of public health and welfare than applicable federal standards, 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 adoption, forward the amendments to the Environmental Protection Agency with a request for a waiver or confirmation that the amendments are within the scope of an existing waiver of federal preemption pursuant to Section 209(b) of the Clean Air Act, as appropriate.

I hereby certify that the above is a true and correct copy of Resolution 89-79, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-80
November 9, 1989

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 1700-151 entitled, "Regulatory Strategies for Emissions from Selected Off-Road Mobile Sources," has been submitted by Booz, Allen & Hamilton, Inc.; 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 1700-151, entitled, "Regulatory Strategies for Emissions from Selected Off-Road Mobile Sources," submitted by Booz, Allen & Hamilton, Inc., for a total amount not to exceed $245,624.

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 1700-151, entitled, "Regulatory Strategies for Emissions from Selected Off-Road Mobile Sources," submitted by Booz, Allen & Hamilton, Inc., for a total amount not to exceed $245,624.

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 $245,624.

I hereby certify that the above is a true and correct copy of Resolution #89-80, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-81
November 9, 1989

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 1696-151, entitled "Measurement of Ambient Concentrations of Chlorinated Dioxins and Furans, and Polycyclic Aromatic Hydrocarbons," has been submitted by ENSR Consulting and Engineering; 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 1696-151, entitled "Measurement of Ambient Concentrations of Chlorinated Dioxins and Furans and Polycyclic Aromatic Hydrocarbons," submitted by ENSR Consulting and Engineering, for a total amount not to exceed $218,162.

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 1696-151, entitled "Measurement of Ambient Concentrations of Chlorinated Dioxins and Furans and Polycyclic Aromatic Hydrocarbons," submitted by ENSR Consulting and Engineering, for a total amount not to exceed $218,162.

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 $218,162.

I hereby certify that the above is a true and correct copy of Resolution #89-81, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-82
November 9, 1989

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 1705-151, entitled "Development of an Improved Source Sampling Method for Polycyclic Aromatic Compounds and Other Semi-Volatile Organic Species," has been submitted by the California Department of Health Services; 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 1705-151, entitled "Development of an Improved Source Sampling Method for Polycyclic Aromatic Compounds and Other Semi-Volatile Organic Species," submitted by the California Department of Health Services, for a total amount not to exceed $192,959.

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 1705-151, entitled "Development of an Improved Source Sampling Method for Polycyclic Aromatic Compounds and Other Semi-Volatile Organic Species," submitted by the California Department of Health Services, for a total amount not to exceed $192,959.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed $192,959.

I hereby certify that the above is a true and correct copy of Resolution #89-82, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-83
November 9, 1989

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 1679-146, entitled "Development of Laser Diagnostic Methods for PAH, PCDD and PCDF," has been submitted by the University of California, Davis; 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 1679-146, entitled "Development of Laser Diagnostic Methods for PAH, PCDD and PCDF," submitted by the University of California, Davis, for a total amount not to exceed $59,941.

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 1679-146, entitled "Development of Laser Diagnostic Methods for PAH, PCDD and PCDF," submitted by the University of California, Davis, for a total amount not to exceed $59,941.

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 $59,941.

I hereby certify that the above is a true and correct copy of Resolution #89-83, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-84
November 9, 1989

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 1694-151 entitled "An Investigation of Error Propagation in the California Air Resources Board's Airshed Model," has been submitted by Professors Armistead G. Russell and Gregory J. McRae; 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 1694-151, entitled "An Investigation of Error Propagation in the California Air Resources Board's Airshed Model," submitted by Professors Armistead G. Russell and Gregory J. McRae, for a total amount not to exceed $108,300.

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 1694-151, entitled "An Investigation of Error Propagation in the California Air Resources Board's Airshed Model," submitted by Professors Armistead G. Russell and Gregory J. McRae, for a total amount not to exceed $108,300.

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 $108,300.

I hereby certify that the above is a true and correct copy of Resolution #89-84, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-85
November 9, 1989

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 1704-151 entitled "Development and Application of an Up-To-Date Photochemical Mechanism for Airshed Modeling and Reactivity Assessments," 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 Research Screening Committee has reviewed and recommends for funding:

> Proposal Number 1704-151, entitled "Development and Application of an Up-To-Date Photochemical Mechanism for Airshed Modeling and Reactivity Assessments," submitted by the University of California, Riverside, for a total amount not to exceed $99,559.

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 1704-151, entitled "Development and Application of an Up-To-Date Photochemical Mechanism for Airshed Modeling and Reactivity Assessments," submitted by the University of California, Riverside, for a total amount not to exceed $99,559.

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 $99,559.

I hereby certify that the above is a true and correct copy of Resolution #89-85, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-86
November 9, 1989

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 1707-151, entitled "Vehicle Monitoring to Characterize the Los Angeles Fleet Near Areas Having High Carbon Monoxide Concentrations" has been submitted by AV Projects Inc.; 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 1707-151, entitled "Vehicle Monitoring to Characterize Los Angeles Fleet Near Areas Having High Carbon Monoxide Concentrations", submitted by AV Projects Inc. for a total amount not to exceed $50,000.

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 1707-151, entitled "Vehicle Monitoring to Characterize Los Angeles Fleet Near Areas Having High Carbon Monoxide Concentrations", that has been submitted by AV Products Inc. for a total amount not to exceed $50,000

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 $50,000.

I hereby certify that the above is a true and correct copy of Resolution #89-86, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-87
November 9, 1989

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 1703-151 entitled "Are Mucin and Mucin RNA Reliable Markers for Hyper-secretion in Humans with Irritant-Induced Bronchitis?" has been submitted by the University of California, San Francisco; 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 1703-151, entitled "Are Mucin and Mucin RNA Reliable Markers for Hyper-secretion in Humans with Irritant-Induced Bronchitis?" submitted by the University of California, San Francisco, for a total amount not to exceed $59,854.

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 1703-151, entitled "Are Mucin and Mucin RNA Reliable Markers for Hyper-secretion in Humans with Irritant-Induced Bronchitis?" submitted by the University of California, San Francisco, for a total amount not to exceed $59,854.

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 $59,854.

I hereby certify that the above is a true and correct copy of Resolution #89-87, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-88
November 9, 1989

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 1706-151, entitled "Comparison of Young Adult Male and Female Responses to Ozone Inhalation Consequent to Continuous Exercise at the Same Absolute and Relative Minute Ventilation," submitted by the University of California, Davis; 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 1706-151, entitled "Comparison of Young Adult Male and Female Responses to Ozone Inhalation Consequent to Continuous Exercise at the Same Absolute and Relative Minute Ventilation," submitted by the University of California, Davis, for a total amount not to exceed $35,614.

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 1706-151, entitled "Comparison of Young Adult Male and Female Responses to Ozone Inhalation Consequent to Continuous Exercise at the Same Absolute and Relative Minute Ventilation," submitted by the University of California, Davis, for a total amount not to exceed $35,614.

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 $35,614.

I hereby certify that the above is a true and correct copy of Resolution #89-88, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-89
November 9, 1989

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 1702-151, entitled "Sierra Ozone Impact Assessment Study," has been submitted by the University of California, Davis; 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 1702-151, entitled "Sierra Ozone Impact Assessment Study," submitted by the University of California, Davis, for a total amount not to exceed $199,182.

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 1702-151, entitled "Sierra Ozone Impact Assessment Study," submitted by the University of California, Davis, for a total amount not to exceed $199,182.

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 $199,182.

I hereby certify that the above is a true and correct copy of Resolution #89-89, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-90
November 9, 1989

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 39911; and

WHEREAS, a solicited research proposal, Number 185-34, entitled "Clinical Pilot Study to Develop Sensitive Markers for Detecting the Health Effects of Acidic Atmospheres", has been submitted by C-E Environmental, Inc.; 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 185-34 entitled "Clinical Pilot Study to Develop Sensitive Markers for Detecting the Health Effects of Acidic Atmospheres", submitted by C-E Environmental, Inc., for a total amount not to exceed $105,937.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39904, hereby accepts the recommendation of the Scientific Advisory Committee and approves the following:

> Proposal Number 185-34 entitled "Clinical Pilot Study to Develop Sensitive Markers for Detecting the Health Effects of Acidic Atmospheres", submitted by C-E Environmental, Inc., for a total amount not to exceed $105,937.

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 $105,937.

I hereby certify that the above is a true and correct copy of Resolution #89-90, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-91
November 9, 1989

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 39911;

WHEREAS, a solicited research proposal, Number 204-35 entitled "Investigation of the Effects of Atmospheric Acidity Upon Economically Significant Materials," has been submitted by the University of Southern California;

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 204-35, entitled "Investigation of the Effects of Atmospheric Acidity Upon Economically Significant Materials," submitted by the University of Southern California, for a total amount not to exceed $359,396.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39904, hereby accepts the recommendation of the Scientific Advisory Committee on Acid Deposition and approves the following:

> Proposal Number 204-35, entitled "Investigation of the Effects of Atmospheric Acidity Upon Economically Significant Materials," submitted by the University of Southern California, for a total amount not to exceed $359,396.

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 $359,396.

I hereby certify that the above is a true and correct copy of Resolution #89-91, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 89-92

November 8, 1989

Agenda Item No.: 89-18-3

WHEREAS, the Air Resources Board ("Board") and the federal Environmental Protection Agency have independently established health-based ambient air quality standards for PM10 and carbon monoxide (CO), and these standards are frequently exceeded 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 achieve and maintain the 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 local air pollution control and air quality management districts;

WHEREAS, the statewide Technical Review Group, consisting of staff representatives of EPA, the Board, and local Air Pollution Control Districts, has developed and approved a proposed Suggested Control Measure for the control of PM10 and CO emissions from residential wood combustion (the "Suggested Control Measure") and has forwarded the Suggested Control Measure to the Board for consideration;

WHEREAS, several localities in California and other states have already implemented controls for residential wood combustion;

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 or eliminate such impacts;

WHEREAS, the Board has held a duly noticed public meeting to consider approval of the Technical Review Group's Suggested Control Measure for residential wood combustion and has heard and considered the comments presented by representatives of the Board, Technical Review Group, districts, affected industries, and other interested persons and agencies;

WHEREAS, the Board finds that:

> The emissions of PM10 and CO from residential wood combustion contribute to the exceedance in many areas of the state of both state and national ambient air quality standards for these pollutants;

The control and reduction of emissions of PM10 is necessary to the attainment and maintenance of the state and national ambient air quality standards for PM10;

The implementation of the Suggested Control Measure will reduce the emissions of PM10 and CO from residential wood combustion;

The technology to control emissions from residential wood combustion to the extent provided in the Suggested Control Measure is reasonably available and cost-effective; and

No significant adverse environmental impacts associated with the 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 hereby approves the Suggested Control Measure for control of PM10 and CO emissions from residential wood combustion, as set forth in Attachment A.

BE IT FURTHER RESOLVED that the Executive Officer is directed to forward the Suggested Control Measure to the air pollution control and air quality management 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.

BE IT FURTHER RESOLVED that the Executive Officer is directed to provide assistance to any district requesting assistance in adopting, interpreting, or implementing the Suggested Control Measure.

BE IT FURTHER RESOLVED that the Executive Officer is directed to evaluate by January 1, 1991 any technological developments that have occurred to reduce emissions from fireplaces, to continue to monitor all future technological developments, and at such time as control technologies become available and feasible, to work with the Technical Review Group and the districts to amend the Suggested Control Measure to include controls on fireplace emissions.

I hereby certify that the above is a true and correct copy of Resolution 89-92, as adopted by the Air Resources Board.

Cary Allison

Cary Allison, Board Secretary

89-93 Missing Resolution

State of California
AIR RESOURCES BOARD

Resolution 89-94

November 8, 1989

Agenda Item No.: 89-8-4

WHEREAS, the Air Resources Board (the "Board") is the state agency charged with coordinating efforts to attain and maintain ambient air quality standards, and Health and Safety Code Section 39600 requires the Board to do such acts as may be necessary for the proper execution of the powers and duties granted to, and imposed upon, the Board;

WHEREAS, Health and Safety Code Sections 41605.5 and 42314.5, as enacted by the Legislature in 1983, require local air pollution control districts ("districts") to include the incremental emission benefits in considering the emission offset requirements for projects which generate steam or electricity and which use as fuel agricultural waste products, forest waste products, or similar organic wastes ("biomass") which would otherwise have been disposed of by open field or by forest land burning;

WHEREAS, Health and Safety Code Section 41605.5 also directed the Board and the districts to develop, in cooperation, a procedure to be used to determine the magnitude of the agricultural offsets available to the facilities which burn biomass for the production of steam or electricity;

WHEREAS, in June 1984, the Board approved "A Procedure to Implement the Provisions of Health and Safety Code Section 41605.5 (AB 1223); Relating to the Determination of Agricultural/Forestry Emission Offset Credits;" as developed by the Board and the districts;

WHEREAS, Health and Safety Code Section 41605.5, as amended in 1987 by AB 2158 (Stats. 1987; ch. 565), required the Board and the districts, in cooperation, to develop on or before July 1, 1988, a procedure to determine the availability and magnitude of the emission offsets available to facilities which burn biomass for the production of steam or electricity or which use biomass as a digester feedstock and also to assure that state and federal ambient air quality standards may be achieved and maintained, or that reasonable further progress be made toward attainment;

WHEREAS, in response to the requirements of AB 2158, the Board in June 1988 approved "A Procedure Relating to the Determination of Agricultural/Forestry Waste Emission Offset Credits" ("Procedure") as developed by the Board staff, Environmental Protection Agency staff, and representatives of the California Air Pollution Control Officers Association;

WHEREAS, the federal and state ambient air quality standards for ozone and PM10 are frequently exceeded at several locations throughout the San Joaquin Valley Air Basin, and the majority of the projects permitted under Health

and Safety Code Sections 41605.5 and 42314.5 are located in the San Joaquin Valley Air Basin;

WHEREAS, in June 1988, evidence was presented that the permitting of these projects in the San Joaquin Valley Air Basin has resulted in a net increase during certain times of the year of PM10 and ozone precursor pollutants;

WHEREAS, in June 1988 the Board found that more detailed information on the impacts of the agricultural offset program was needed to consider the inclusion of an emissions profiling requirement in the Procedure;

WHEREAS, the Board directed staff to return to the Board with more detailed information on the impacts of the agricultural offset program and recommendations concerning an emission profiling requirement, a procedure for addressing changes in fuel mix, and any other amendments to the Procedure which would further assure protection of air quality;

WHEREAS, in response to the Board's directions, the Board staff, Environmental Protection Agency staff, and representatives of the California Air Pollution Control Officers Association have proposed revisions to the Procedure approved by the Board in 1988 to include an emissions profiling requirement retitling it "A Procedure Relating to the Determination of Agricultural/Forestry Waste Emission Offset Credits, November 1989;"

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 has held a duly noticed public meeting to consider approval of the revisions to the Procedure and has heard and considered the comments presented by representatives of the Board, districts, affected businesses, and other interested persons and agencies;

WHEREAS, the Board finds that:

Emissions of PM10 and ozone precursor pollutants from projects covered by Health and Safety Code Sections 42314.5 and 41605.5 contribute to concentrations of ozone and PM10 which exceed state and national ambient air quality standards in some of the State's air basins including the San Joaquin Valley Air Basin;

Evidence has been presented which shows that an emissions profiling requirement is necessary to protect air quality from net increases of pollutants during the summer season when ozone concentrations are usually at their highest;

With respect to changes in fuel mix for a project, the existing district new source review rules and procedures contain adequate provisions for the processing and evaluation of requests for these changes and additional, special provisions are not necessary;

The Procedure as revised is consistent with the requirements of Health and Safety Code Section 41605.5; and

The Procedure will have a beneficial effect on air quality and will have no adverse environmental impacts.

NOW, THEREFORE, BE IT RESOLVED that the Air Resources Board hereby approves the revisions to the Procedure.

BE IT FURTHER RESOLVED that the Executive Officer shall forward the Procedure as revised to the air pollution control districts to supersede the existing Procedure and for their consideration and adoption in regulatory form in their new source review programs.

I hereby certify that the above is a true and correct copy of Resolution 89-94, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 89-95

November 9, 1989

Agenda Item No.: 89-19-2

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

WHEREAS, pursuant to Health and Safety Code Sections 39662 and 39666, the Board is required to identify substances which are toxic air contaminants and identify an exposure level, if any, below which no significant adverse health effects are anticipated, and to adopt airborne toxic control measures (ATCM) to reduce emissions of toxic air contaminants;

WHEREAS, Health and Safety Code Section 39666(c) requires that an ATCM to control emissions of a toxic air contaminant for which the Board has not specified a threshold exposure level pursuant to Section 39662, be designed to reduce emissions to the lowest level achievable through application of the best available control technology or a more effective control method, unless the Board determines, based on an assessment of risk, that an alternative level of risk is adequate or necessary to prevent an endangerment of public health;

WHEREAS, on January 23, 1986, pursuant to Section 39662 of the Health and Safety Code, the Air Resources Board (Board) amended Title 17, California Code of Regulation, Section 93000 to identify hexavalent chromium as a toxic air contaminant for which there is not sufficient available scientific evidence to support identification of a threshold exposure level below which no significant adverse health effects are anticipated;

WHEREAS, on February 18, 1988, pursuant to Section 39666(c) of the Health and Safety Code, the Board adopted Title 17, CCR, Section 93102, an ATCM for chrome plating and chromic acid anodizing operations which included an emission control requirement for the largest-emitting facilities in the state of either 99.8 percent hexavalent chromium reduction across a control device, or hexavalent chromium emissions of no greater than 0.006 milligram per ampere-hour of plating activity;

WHEREAS, in Resolution 88-18, adopting the ATCM, the Board found that a level of control more stringent than best available control technology was necessary for the highest-emitting facilities in order to reduce the risk to public health;

WHEREAS, the Board directed staff to participate in a demonstration project proposed by the Metal Finishing Association of Southern California to assess the achievability of the 99.8 percent or 0.006 mg/amp-hour requirement;

WHEREAS, the Association carried out a demonstration project, in consultation with Board staff and air district staff;

WHEREAS, Board staff reviewed the plans and progress of the Association in this project and as a part of the project carried out emission testing of control systems and devices with the potential to achieve the required emission limits;

WHEREAS, staff have found that a pollution prevention approach based on a combination of process modifications that limit generation of emissions at the plating tank and of a high-efficiency on-stack control device resulted in lower emissions than the use of the same on-stack control device only;

WHEREAS, staff found that the 99.8 percent efficiency requirement or the 0.006 mg/amp-hour alternative emission limit were consistently met in the demonstration project tests;

WHEREAS, staff consequently recommends that there be no modification of the ATCM as adopted by the Board on February 18, 1988;

WHEREAS, the Association and their representatives have been afforded opportunity to review and comment on the results of testing conducted by staff; and

WHEREAS, the Board has held a duly noticed public meeting to consider staff findings and recommendation, and has heard and considered the comments presented by representatives of the Board, districts, affected industries, and other interested persons.

NOW, THEREFORE, BE IT RESOLVED that the Board endorses the staff findings and recommendation, as set forth above and in the "Chrome Plating Control Demonstration Project Staff Report" and directs the Executive Officer to forward this resolution to the districts, encouraging districts to give special consideration to application of the 0.006 mg/amp-hour requirement wherever possible in order to minimize public exposures to hexavalent chromium.

I hereby certify that the above is a true and correct copy of Resolution 89-95, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-96
December 14, 1989 Item: 89-20-4

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 1721-152 entitled, "Determination of Emissions from Open Burning of Agricultural and Forestry Wastes - Phase II," has been submitted by the University of California, Davis; 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 1721-152, entitled, "Determination of Emissions from Open Burning of Agricultural and Forestry Wastes - Phase II," submitted by the University of California, Davis, for a total amount not to exceed $281,692.

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 1721-152, entitled, "Determination of Emissions from Open Burning of Agricultural and Forestry Wastes - Phase II," submitted by the University of California, Davis, for a total amount not to exceed $281,692.

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 hereto in an amount not to exceed $281,692.

I hereby certify that the above is a true and correct copy of Resolution #89-96, as adopted by the Air Resources Board.

Pat Hutchens for
Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-97
December 14, 1989

Item: 89-20-4

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 1720-152 entitled, "Chemical Analysis of Aromatics in Diesel Fuels," has been submitted by the Southwest Research Institute; 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 1720-152, entitled, "Chemical Analysis of Aromatics in Diesel Fuels," submitted by the Southwest Research Institute, for a total amount not to exceed $118,986.

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 1720-152, entitled, "Chemical Analysis of Aromatics in Diesel Fuels," submitted by the Southwest Research Institute, for a total amount not to exceed $118,986.

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 $118,986.

I hereby certify that the above is a true and correct copy of Resolution #89-97, as adopted by the Air Resources Board.

Pat Hutchens for
Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-98
December 14, 1989

Item: 89-20-4

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 1722-152, entitled "Determination of Key Organic Compounds Present in the Particulate Matter Emissions from Air Pollution Sources," has been submitted by the California Institute of Technology; 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 1722-152, entitled "Determination of Key Organic Compounds Present in the Particulate Matter Emissions from Air Pollution Sources," by the California Institute of Technology, for a total amount not to exceed $298,904.

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 1722-152, entitled "Determination of Key Organic Compounds Present in the Particulate Matter Emissions from Air Pollution Sources," by the California Institute of Technology, for a total amount not to exceed $298,904.

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 $298,904.

I hereby certify that the above is a true and correct copy of Resolution #89-98, as adopted by the Air Resources Board.

Pat Hutchens for

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Resolution 89-99
December 14, 1989

Item: 89-20-4

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 1724-152, entitled "Effects of Carbon Monoxide and High Altitude on Fetal Cardiac and Neurological Development," has been submitted by Loma Linda University; 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 1724-152, entitled "Effects of Carbon Monoxide and High Altitude on Fetal Cardiac and Neurological Development," submitted by Loma Linda University, for a total amount not to exceed $238,388.

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 1724-152, entitled "Effects of Carbon Monoxide and High Altitude on Fetal Cardiac and Neurological Development," submitted by Loma Linda University, for a total amount not to exceed $238,388.

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 $238,388.

I hereby certify that the above is a true and correct copy of Resolution #89-99, as adopted by the Air Resources Board.

Pat Hutchens for
Cary Allison, Board Secretary

State of California
AIR RESOURCES BOARD

Resolution 89-100

December 14, 1989

Agenda Item No.: 89-20-3

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

WHEREAS, the Legislature enacted the California Clean Air Act of 1988 (the "Act," Stats. 1988, ch. 1568) declaring that it is necessary that the state ambient air quality standards be attained by the earliest practicable date to protect the public health, particularly the health of children, older people, and those with respiratory diseases;

WHEREAS, in order to attain these standards, the Act mandates a comprehensive program of emission reduction measures and planning requirements for the state and local air pollution control districts ("districts") in areas where the standards are not attained;

WHEREAS, as directed by the Act, the Board has established criteria for designating an air basin attainment or nonattainment for each state ambient air quality standard and has designated each air basin which is in attainment and each air basin which is in nonattainment for each standard;

WHEREAS, the Act in Health and Safety Code Section 39610(a) directs the Board to identify, not later than December 31, 1989, each district in which transported air pollutants from upwind areas outside the district cause or contribute to a violation of the ozone standard and to identify the district of origin of transported pollutants, based upon the preponderance of the evidence;

WHEREAS, the Board is also directed in Health and Safety Code Section 39610(a) to identify and determine the priorities of information and studies needed to make a more accurate determination, including but not limited to emission inventories, pollutant characterization, ambient air monitoring and air quality models;

WHEREAS, the Board is to make every reasonable effort to supply air pollution transport information to heavily impacted districts prior to the development of plans to attain the state ambient air quality standards;

WHEREAS, the Act requires that any district which is a receptor or contributor of transported air pollutants, as determined by the Board, shall prepare and submit its plan for attaining and maintaining the ozone standard not later than June 30, 1991 (Health and Safety Code Section 40911(b);

WHEREAS, Health and Safety Code Section 40912 mandates that the attainment plans for districts responsible for or affected by air pollutant transport shall provide for attainment and maintenance of the state and federal standards in both the upwind and downwind districts;

WHEREAS, staff has proposed a regulation which identifies the areas in which transported air pollutants from upwind areas cause or contribute to a violation of the state ambient air quality standard for ozone and which identifies the district of origin of the transported pollutants, based upon the preponderance of available evidence;

WHEREAS, staff has also included a table in the Staff Report which sets forth the proposed priorities for information and studies which are necessary for making more accurate transport determinations;

WHEREAS, the California Environmental Quality Act and Board regulations require that no project which may have significant adverse environmental impacts be adopted as originally proposed if feasible alternatives or mitigation measures are available to reduce or eliminate such impacts;

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

WHEREAS, the Board finds that:

The regulation as proposed by the staff and as amended by the Board fulfills the requirements of Health and Safety Code Section 39610(a);

The proposed identification of transport couples is based on the preponderance of evidence which is currently available;

Further study of other potential transport corridors is necessary;

The proposed priorities for information and studies necessary to make more accurate transport determinations are appropriate; and

The identification of transport couples will have no adverse environmental impacts.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves Section 70500, Title 17, California Code of Regulations, as amended by the Board and as set forth in Attachment A hereto.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to evaluate the data provided by the Bay Area Air Quality Management District and determine whether the North Central Coast Air Basin should be identified in the regulation as impacting the San Francisco Bay Area Air Basin and, if so, to make appropriate modifications to the regulation.

BE IT FURTHER RESOLVED that the Board further directs the Executive Officer to adopt Section 70500, Title 17, California Code of Regulations, as amended, 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 modifications as may be appropriate in light of the comments received, and shall present the regulation to the Board for further consideration if he determines that this is warranted.

BE IT FURTHER RESOLVED that the Board approves the priorities for additional information and studies as set forth in the table in the Staff Report and as modified at the Board meeting and directs the Executive Officer to make all reasonable efforts to supply air pollutant transport information to the impacted districts as it becomes available.

I hereby certify that the above is a true and correct copy of Resolution 89-100, as adopted by the Air Resources Board.

Cary Allison, Board Secretary

State of California

AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider the Adoption of a Regulation Which Identifies the Areas in Which Transported Air Pollutants Conribute to Violations of the State Ambient Air Quality Standard for Ozone and the Areas of Origin of the Pollutants

Agenda Item No.: 89-20-3

Public Hearing Date: December 14, 1989

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: 3/6/90

State of California
AIR RESOURCES BOARD

Resolution 89-101

December 14, 1989

Agenda Item No.: 89-20-1

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

WHEREAS, Sections 39002, 43000, 43013, 43101, and 43104 of the Health and Safety Code authorize the Board to adopt emission standards and test procedures to control air pollution caused by motor vehicles, and pursuant to these provisions the Board has adopted emission standards and test procedures for new motor vehicles;

WHEREAS, Section 43100 of the Health and Safety Code authorizes the Board to certify new motor vehicles, and Section 43102 provides that no new motor vehicle shall be certified unless it meets the emission standards and test procedures approved by the Board;

WHEREAS, Section 43106 of the Health and Safety Code requires that each new motor vehicle required to meet the emission standards established pursuant to Section 43101 be, in all material respects, substantially the same in construction as the test motor vehicle certified by the Board;

WHEREAS, Section 43204 of the Health and Safety Code has required that the manufacturer of each motor vehicle provide a specified emission warranty to the ultimate purchaser and each subsequent purchaser;

WHEREAS, the Legislature has recently enacted (Stats 1988, ch. 1544; SB 1997) and clarified (Stats 1989, ch. 1154; SB 1276) Health and Safety Code Section 43205, which revises the emission warranty requirements for 1990 and subsequent model passenger cars, light-duty trucks, and medium-duty vehicles (hereinafter collectively referred to as "light-duty vehicles") to require that the manufacturer warrant that the vehicle:

(1) Is designed, built, and equipped so as to conform with applicable emission standards;

(2) Is free from defects in materials and workmanship which cause the vehicle to fail to conform with applicable requirements for three years or 50,000 miles, whichever first appears (the "defects warranty");

(3) Will, for a period of three years or 50,000 miles, whichever first occurs, pass a smog check test, unless the manufacturer demonstrates the failure is due to abuse, neglect or improper maintenance of the vehicle (the "performance warranty"); and

(4) Is free from defects in materials and workmanship in emission-related parts which at the time of certification are estimated by the manufacturer to cost individually more that $300 to replace, for a period of seven years or 70,000 miles (the "extended defects warranty");

WHEREAS, the Board's emission warranty regulations set forth in Title 13, California Code of Regulations, Section 2035 et seq., do not reflect the new requirements in Health and Safety Code 43205;

WHEREAS, the staff has proposed amendments to the Board's emission warranty regulations to reflect the changes to the emission warranty statutes, and to clarify and improve the effectiveness of the regulations;

WHEREAS, the staff has further proposed adoption of a regulation which requires manufacturers to use standardized terms and abbreviations for emission control components as set forth in SAE procedure J1930, June 1988, "Diagnostic Acronyms, Terms, and Definitions for Electrical/Electronic Systems," Part C;

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

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

WHEREAS, the Board finds that:

The regulatory amendments set forth in Attachment A hereto are necessary and appropriate to reflect, interpret and implement the changes to the warranty statutes enacted by SB 1997 in 1988 and SB 1276 in 1989, and to clarify and enhance the effectiveness of the Board's emission warranty regulations;

The amendments approved herein applicable to the defects warranty for 1990 and subsequent model light-duty vehicles substitute a broader "bumper-to-bumper" concept in which all emission-related parts are covered for the previous requirement that only parts on a specified list were covered; this broader coverage will help reduce the number of disputes over emission warranty coverage;

The amendments approved herein require that manufacturers of 1991 and subsequent model vehicles produced more than 30 days after the

effective date of the amendments include a specified introductory statement explaining the California warranty regulations in a simple, straightforward manner; this statement will help consumers more fully understand their emission warranty coverage and responsibilities;

An increasing number of components on vehicles are noted by different terms depending on the manufacturer and these different items contribute to the misdiagnosis of vehicular problems by vehicle owners and the repair industry;

The mandatory use of common nomenclature as required in the amendments approved herein will help ensure the recognition of terminology for components and encourage proper diagnosis and repair of emission-related systems by a vehicle owner and any repair facility, even after the vehicles or engines have exceeded their warranty periods;

The amendments approved herein will not have a significant adverse environmental impact; the statutory three year or 50,000 mile defects warranty period for 1990 and subsequent model light-duty vehicles will reduce coverage to a small degree compared to the previous statutory five year or 50,000 mile defects warranty with an associated small adverse emissions impact, but this will be more than outweighed by the emissions benefits associated with the new performance warranty, the new extended defects warranty, and elimination of the temporary two year or 24,000 mile defects warranty for specified fuel metering and ignition system components.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves the amendments to Title 13, California Code of Regulations, Sections 2035-2041, and new Section 1997, as set forth in Attachment A hereto.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to adopt the regulatory changes set forth in Attachment A after making them available to the public for a period of fifteen days, with such 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 the Executive Officer determines that this is warranted in light of the supplemental written comments received.

BE IT FURTHER RESOLVED that the Board hereby determines that the amendments approved herein will not cause the California emission standards, in the aggregate, to be less protective of public health and welfare than applicable federal standards, will not cause the California requirements to be inconsistent with Section 202(a) of the federal 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 a

State of California

AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Amendments of Regulations Regarding the Emission Control System Warranty Requirements for 1979 and Subsequent Model Motor Vehicles and Engines, and Adoption of Regulations Regarding the Use of Common Nomenclature for Certification and Service Documents

Agenda Item No.: 89-20-1

Public Hearing Date: December 14, 1990

Response Date: April 10, 1990

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: Judith M. Lounsbury
Board Secretary

Date: 10/23/90

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JAN 28 1991

RESOURCES AGENCY OF CALIFORNIA

State of California
AIR RESOURCES BOARD

Errata to Response to Significant Environmental Issues

Item: Public Hearing to Consider Amendments of Regulations Regarding the Emission Control System Warranty Requirements for 1979 and Subsequent Model Motor Vehicles and Engines, and Adoption of Regulations Regarding the Use of Common Nomenclature for Certification and Service Documents

The Public Hearing date for this item was December 14, 1989.

Date: January 17, 1991

Pat Hutchens
Assistant Board Secretary

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JAN 28 1991

RESOURCES AGENCY OF CALIFORNIA

State of California
AIR RESOURCES BOARD

Resolution 89-102

December 14, 1989

Agenda Item No.: 89-20-2

WHEREAS, gasoline-powered motor vehicles contribute a substantial fraction of the emissions of criteria and toxic air pollutants in California;

WHEREAS, the California Clean Air Act, enacted in 1988, requires the Board to endeavor to achieve the maximum degree of emission reductions from vehicular sources in order to accomplish the attainment of the state ambient air quality standards at the earliest practicable date;

WHEREAS, additional reductions in vehicular emissions, beyond those that will result from the more stringent light-duty vehicle emission standards recently approved and adopted by the Board, will be essential to achieve the ambient ozone standards, particularly in the South Coast Air Basin;

WHEREAS, the Air Resources Board has adopted a "Post-1987 Motor Vehicle Plan" containing the schedule for the adoption of additional vehicular emission control measures and the introduction of clean fuels;

WHEREAS, in approving the South Coast Air Quality Management Plan on August 15, 1989, the Board endorsed the goal set forth in the plan of ensuring the development and widespread use of low emitting and extremely low emitting vehicles by the years 2000 and 2007, respectively, and directed the Executive Officer to continue to develop measures which will result in the use of sufficient low-emission vehicles and clean fuels in the South Coast Air Basin to achieve the Tier II emission reduction goals for such measures;

WHEREAS, the California Advisory Board on Air Quality and Fuels, created by AB 234 (Leonard, 1987; Health and Safety Code Sections 43837-8), has found that increased use of cleaner alternative fuels can be achieved by adopting air quality based performance standards for vehicle fuels;

WHEREAS, Health and Safety Code Section 43018, enacted by the California Clean Air Act, requires the Board to consider regulations on gasoline Reid vapor pressure by November 15, 1990, and vehicle fuel composition and detergent content by November 15, 1991;

WHEREAS, Health and Safety Code Sections 39663 and 39667 require the Board to develop a plan and take subsequent action to reduce exposure to toxic air pollutant emissions from motor vehicles;

WHEREAS, it is the Board's policy to evaluate the effects of control measures on global-warming compounds with the objective of not increasing the emissions of such compounds;

WHEREAS, the staff has presented a progress report on the development of regulations for low-emission light-duty vehicles, clean fuels and new gasoline specifications;

WHEREAS, the staff has conducted several workshops and held numerous consultation meetings with interested parties, and the Board has conducted a public meeting at which it has considered written comments and public testimony on the staff's progress report;

WHEREAS, additional data are needed before the staff can propose development of a regulation for low-emission heavy-duty diesel vehicles and clean fuels;

WHEREAS, the Board finds that:

Improved emission control technologies, and cleaner transportation fuels, have the potential to further reduce vehicle emissions;

A program that combines the benefits of improved vehicle emission control technologies with cleaner fuels has the greatest potential to minimize the air quality impact of future vehicle emissions;

Lower emissions resulting from the use of improved emission control technologies and cleaner fuels can be achieved by establishing more stringent emission standards for new light-duty motor vehicles;

New emission standards can be set to reflect the different ozone-forming potencies of the hydrocarbon emissions from vehicles using different technologies and fuels;

Emission standards can be phased-in to provide time for vehicle manufacturers and fuel suppliers to make these new technologies and fuels commercially available;

Emission standards provide a level playing field upon which emission control technologies and fuels can compete based on their ability to improve air quality;

The program must insure that vehicles whose design relies on cleaner fuels to meet emission standards use these cleaner fuels to the maximum extent feasible;

Appropriate credit trading programs for both vehicles and fuels will provide incentives for manufacturers and flexibility in achieving compliance; such credit trading programs must be made enforceable by being designed to ensure that credits are properly earned and transferred; and

The emissions from current and future vehicles which burn gasoline can be reduced by adopting standards and specifications affecting the gasoline.

NOW, THEREFORE, BE IT RESOLVED that the Board endorses the staff's intent to propose regulations requiring the production of light-duty transitional low-emission vehicles, low-emission vehicles, and ultra-low-emission vehicles, and the sale of clean fuels that allow the low emissions to be achieved.

BE IT FURTHER RESOLVED, that the objectives of the regulations to be proposed should be to:

Reduce emissions of criteria, and toxic pollutants, from light-duty motor vehicles, to the maximum degree feasible;

Provide flexibility in the means of compliance; and

Provide opportunity for all technologies and fuels to compete, consistent with their emissions performance and impact on air quality.

BE IT FURTHER RESOLVED, that the Board endorses the staff's intent to propose regulations on the composition and properties of conventional gasoline, to be implemented as soon as is feasible.

BE IT FURTHER RESOLVED, that the Board directs the Executive Officer to develop regulations for low-emission light-duty vehicles, clean fuels, and new gasoline specifications, and to schedule a public hearing for the Board to consider these regulations by September 1990.

BE IT FURTHER RESOLVED, that the Board directs the Executive Officer to develop regulations for low-emission heavy-duty engines and vehicles as expeditiously as possible, and to schedule a public hearing for the Board to consider these regulations by September 1991.

I hereby certify that the above is a true and correct copy of Resolution 89-102, as adopted by the Air Resources Board.

Pat Hutchens for
Cary Allison, Board Secretary