

State of California
AIR RESOURCES BOARD

Resolution 85-57
June 28, 1985

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

WHEREAS, a solicited research proposal, Number 1318-116(s), entitled "A Proposal to Conduct Tracer and Flow Visualization Experiments to Develop a Relationship Between Overwater Dispersion Parameters and Meteorological Data", has been submitted by Environmental Research and Technology, Inc.;

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

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

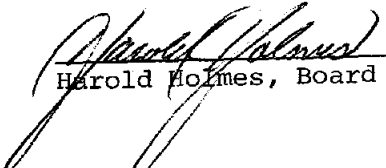
Proposal Number 1318-116(s), entitled "A Proposal to Conduct Tracer and Flow Visualization Experiments to Develop a Relationship Between Overwater Dispersion Parameters and Meteorological Data", submitted by Environmental Research and Technology, Inc. for a total amount not to exceed \$199,738.

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

Proposal Number 1318-116(s), entitled "A Proposal to Conduct Tracer and Flow Visualization Experiments to Develop a Relationship Between Overwater Dispersion Parameters and Meteorological Data", submitted by Environmental Research and Technology, Inc. for a total amount not to exceed \$199,738.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed \$199,738.

I certify that the above is a true and correct copy of Resolution 85-57 as passed by the Air Resources Board.


Harold Holmes, Board Secretary

P R O P O S E D

ITEM NO.:

DATE: June 28, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 1318-166(s) entitled "A Proposal to Conduct Tracer and Flow Visualization Experiments to Develop a Relationship Between Overwater Dispersion Parameters and Meteorological Data".

RECOMMENDATION: Adopt Resolution 85-57 approving Proposal No. 1318-116(s) for funding in an amount not to exceed \$199,738.

SUMMARY: The development of oil resources along the California coast will increase emissions of sulfur oxides (SO_x), nitrogen oxides (NO_x) and hydrocarbons, especially in the region from Port Hueneme in Ventura County to Point Sal in Santa Barbara County.

During certain weather conditions the offshore emissions will produce concentrations of SO₂ and NO₂ at onshore receptors. Mathematical models have traditionally been used to simulate the dispersion of the emissions and to predict the magnitude of the subsequent ground-level concentrations. Predicted concentrations can then be compared to air quality standards, e.g., the California one-hour standard for SO₂ of 0.25 ppm.

The purpose of this study is to satisfy immediate need for improved Gaussian dispersion coefficients and nondimensional coefficients for describing overwater transport during meteorological conditions that are representative of "worst case" conditions, i.e., conditions that result in limited dispersion in the horizontal and vertical dimensions. The coefficients will be used in existing dispersion models.

This study will be the first phase of a two-phase project, the second phase to be funded during FY 85-86 upon successful completion of Phase I.

Phase I will consist of the following tasks: (1) program management; (2) meteorological forecasting and analyses; (3) ten tracer studies and meteorological measurements; (4) preliminary processing of the data to include quality assurance, time averaged values for sigma Y and sigma Z, tabulation of all tracer and

meteorological data, and meteorological analysis of each test day.

Phase II of the project will consist of the following tasks: (1) ten tracer studies and meteorological measurement during weather regimes selected as a result of Phase I; (2) preliminary analysis of data accumulated in Phase II, Task 1. (see Phase I, Task 4); (3) final analysis of all data from Tasks I and II to develop the parameters required for improved plume modeling as identified by the original RFP; and (4) final report.

The Research Screening Committee recommended funding the proposal from Environmental Research and Technology, Inc. Mr. Daniel Godden and Dr. Steven Hanna will serve as co-principal investigators.

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

Environmental Research and Technology, Inc.

"A Proposal to Conduct Tracer and Flow Visualization
Experiments to Develop a Relationship Between Overwater
Dispersion Parameters and Meteorological Data"

BUDGET ITEMS:

Salaries	\$21,535	
Subcontracted Items	87,452*	
Equipment	5,950	
Transportation/ Per Diem	5,347	
Other Costs	44,312	
TOTAL, Direct Costs		\$164,596
TOTAL, Indirect Costs		35,142
	<u>TOTAL PROJECT COST</u>	<u>\$199,738</u>

* Tracer Technology	\$ 74,176
Tethersonde	5,880
Communication Services	1,936
Pacific Weather Analysis	2,400
Technician	3,060

State of California
AIR RESOURCES BOARD

Resolution 85-58
June 28, 1985

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

WHEREAS, an unsolicited research proposal, Number 1340-117, entitled "ARB Nitrogen Species Methods Comparison Study--Program Manager", has been submitted by the University of California, Los Angeles;

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

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

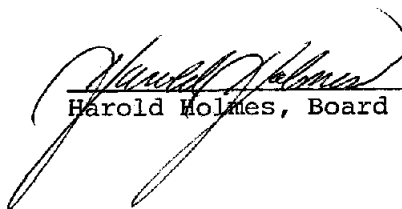
Proposal Number 1340-117, entitled "ARB Nitrogen Species Methods Comparison Study--Program Manager", submitted by the University of California, Los Angeles for a total amount not to exceed \$39,108.

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

Proposal Number 1340-117, entitled "ARB Nitrogen Species Methods Comparison Study--Program Manager", submitted by the University of California, Los Angeles for a total amount not to exceed \$39,108.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed herein in an amount not to exceed \$39,108.

I certify that the above is a true and correct copy of Resolution 85-58 as passed by the Air Resources Board.


Harold Holmes, Board Secretary

P R O P O S E D

ITEM NO.:

DATE: June 28, 1985

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 1340-117 entitled "ARB Nitrogen Species Methods Comparison Study -- Program Manager".

RECOMMENDATION: Adopt Resolution 85-58 approving Proposal No. 1340-117 for funding in an amount not to exceed \$39,108.

SUMMARY: The Air Resources Board is sponsoring a multi-year, integrated air quality study in the South Coast Air Basin, which is scheduled to begin in July 1986. The overall objective of that program is to develop a comprehensive meteorological and aerometric data base for improved air quality simulation models for PM₁₀ and oxidants in the South Coast Air Basin. An important component of the field study will be the accurate measurement of nitrogenous species in a multi-station network mode. Therefore, it is necessary to perform a nitrogen species methods comparison study in Los Angeles, the major objective of which will be to determine measurement methods for species such as nitric acid, ammonia and particulate nitrate, which can be used in a multi-station monitoring mode in Los Angeles, whose validity, accuracy and precision are known.

This proposal is to coordinate and assist the Research Division of the ARB in a field intercomparison of measurement methods for nitrogenous compounds in the South Coast Air Basin. More than 12 groups, including researchers from the Canadian Atmospheric Environment Service and U.S. Environmental Protection Agency, will be participating in a 7-10 day field sampling study in early September 1985. The major emphasis of the study will be to validate simple and inexpensive methods for sampling nitric acid.

The proposed effort consists of four tasks: 1) experimental design, site preparation and protocol development; 2) study management; 3) data retrieval; and 4) data analysis and report preparation. The contractor will work under the direct supervision of the Research Division staff in coordinating this major methods comparison study.