State of California
AIR RESOURCES BOARD

Resolution 83-9
May 26, 1983

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

WHEREAS, a solicited research Proposal Number 1197-99 entitled "Assessment of Heavy Duty Gasoline and Diesel Trucks in California: Population and Use Patterns", has been submitted by the Pacific Environmental Services, Inc. to the Air Resources Board; and

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

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

> Proposal Number 1197-99 entitled "Assessment of Heavy-Duty Gasoline and Diesel Trucks in California: Population and Use Patterns", submitted by the Pacific Environmental Services, Inc. for a total amount not to exceed $149,782; and

WHEREAS, the Governor's Executive Order D-1-83 prohibits State agencies from awarding research contracts during FY 1982-83;

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 1197-99 entitled "Assessment of Heavy-Duty Gasoline and Diesel Trucks in California: Population and Use Patterns", submitted by the Pacific Environmental Services, Inc. for a total amount not to exceed $149,782; and

BE IT FURTHER RESOLVED, that, should an exemption from the prohibition contained in Executive Order D-1-83 on awarding new contracts be granted, the Executive Officer is authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed in an amount not to exceed $149,782

I certify that the above is a true and correct copy of Resolution 83-9 as passed by the Air Resources Board.

Harold Holmes

Harold Holmes, Secretary

ITEM NO.: 83-6-3b(1)
DATE: May 26, 1983

ITEM: Research Proposal No. 1197-99 entitled "Assessment of Heavy-Duty Gasoline and Diesel Trucks in California: Population and Use Patterns"

RECOMMENDATION: Adopt Resolution 83-9 approving Proposal No. 1197-99 for funding in an amount not to exceed $149,782.

SUMMARY: As emissions from light-duty vehicles (LDVs) come under more stringent control, heavy-duty vehicles (HDVs) will account for an increasing fraction of mobile source emissions. According to ARB staff estimates, the contribution of heavy-duty vehicles to on-road mobile source NOx emissions will increase from about 20 percent of the total in 1976 to about 40 percent in 1987. Over the same time period, their contribution to mobile source particulate emissions is expected to increase from about 14 to 30 percent.

Methods currently used for estimating HDV mileage by county involve simplifying assumptions which cause unknown but potentially significant errors in the county-wide HDV emission inventories. Due to the increasing importance of heavy-duty vehicles as an emission source, it is necessary to obtain a more accurate distribution of HDV mileage in the state. The objectives of this study are to: 1) obtain estimates of heavy-duty vehicle miles traveled (VMT) by county, vehicle type, age, weight class and motive power (gasoline and diesel); 2) develop a method for projecting future VMT; and 3) determine seasonal, weekly and diurnal variation in HDV traffic, average number of daily trips, average fuel consumption and average ratio of vehicle weight to engine displacement.

The recommended contractor, Pacific Environmental Services (PES), will review the California Department of Transportation computer model for heavy-duty vehicle VMT (Caltrans HDV model) for completeness of HDV traffic count data. Based on findings of this investigation and the spatial distribution of highways and streets, PES would design and implement a supplementary traffic count survey at 30 locations representing several highway types (e.g., urban freeway, urban non-freeway, rural highway, etc.) in order to obtain a breakdown of traffic counts by vehicle types for various highway types. Using this and other information, PES would devise an allocation scheme for countywide VMT for each vehicle type, based upon the fractional contribution of each highway type to county total highway miles and to all-traffic VMT. Second, PES would conduct a telephone survey of 1500 California

registered HDV owners, in collaboration with Eve Fielder of the Institute of Social Survey Research, UCLA. In addition, field interviews of drivers of HDVs at selected weigh stations would be conducted to gather information on travel within California by HDVs base-plated in other states. Future VMT would be projected using the California Energy Commission Freight Model.

The study will be conducted in two phases. The contractor will first review available relevant data, identify data needs, develop an approach for estimating HDV use factors and a plan for collection of necessary data. Collection and reduction of data in the second phase will be contingent upon approval by the Research Screening Committee of the approach developed in the first phase.

A Request for Proposals for this study was issued in November, 1982, and six proposals were received by December 17, 1982. Proposals were reviewed by the staff and by the Research Screening Committee at its meeting on May 12, 1983. The Committee selected the proposal submitted by Pacific Environmental Services, Inc. for recommendation to the Board.

State of California
AIR RESOURCES BOARD

Resolution 83-10
May 26, 1983

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

WHEREAS, an unsolicited research Proposal Number 1191-98 (A) entitled "A Test Site for the Engineering Evaluation of Toxic Airborne Effluents" has been submitted by the Regents of the University of California, Davis to the Air Resources Board; and

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

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

> Proposal Number 1191-98 (A) entitled "A Test Site for the Engineering Evaluation of Toxic Airborne Effluents", submitted by the Regents of the University of California, Davis for a total amount not to exceed $99,078; and

WHEREAS, the Governor's Executive Order D-1-83 prohibits State agencies from awarding research contracts during FY 1982-83;

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 1191-98 (A) entitled "A Test Site for the Engineering Evaluation of Toxic Airborne Effluents", submitted by the Regents of the University of California, Davis for a total amount not to exceed $99,078;

BE IT FURTHER RESOLVED, that, should an exemption from the prohibition contained in Executive Order D-1-83 on awarding new contracts be granted, the Executive Officer is authorized to initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed in an amount not to exceed $99,078.

I certify that the above is a true and correct copy of Resolution 83-10 as passed by the Air Resources Board.

Harold Holmes, Secretary

State of California
AIR RESOURCES BOARD

Item No.: 83-6-3b(2)
Date: May 26, 1983

ITEM: Research Proposal No. 1191-98 (A) entitled "A Test Site for the Engineering Evaluation of Toxic Airborne Effluents"

RECOMMENDATION: Adopt Resolution 83-10 approving Research Proposal No. 1191-98 (A) for funding in an amount not to exceed $99,078.

SUMMARY: The University of California, Davis proposes to make available to ARB staff an engineering facility and the technical expertise of the College of Engineering faculty and graduate students to evaluate control methods and to develop measurement methods for toxic air pollutants. The development of control and measurement methods for airborne toxic pollutants is a new area of activity and the Air Resources Board lacks the engineering test facilities and the required technical expertise to carry out several specific test programs that have been identified as critical to the Board's toxics program.

The facility will be on campus. ARB staff will have access to technical input from the various on-campus technical and engineering schools, including Epidemiology, Atmospheric Sciences, Toxicology, Medicine and Engineering.

The University will make available much of the analytical equipment needed to carry out the proposed projects, and the UC will provide access to mini-computers at no-cost to the Board.

Current proposed projects include:

1. geothermal condensate--hydrogen sulfide measurement method development;

2. ethylene oxide--pilot scale scrubber test;

3. volatile organic compounds--emission prediction and test method development; and

4. toxic waste incineration--pilot scale feasibility study.

The Research Screening Committee has approved the unsolicited proposal.