

State of California  
AIR RESOURCES BOARD

Resolution 81-35

April 23, 1981

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 1027-82 entitled, "A Characterization of Hazardous and Toxic Waste Materials Disposed of in California," has been submitted by the Science Applications, 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 1027-82 entitled, "A Characterization of Hazardous and Toxic Waste Materials Disposed of in California," submitted by the Science Applications, Inc. for an amount not to exceed \$199,903.

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 1027-82 entitled, "A Characterization of Hazardous and Toxic Waste Materials Disposed of in California," submitted by the Science Applications, Inc. for an amount not to exceed \$199,903.

BE IT FURTHER RESOLVED, that the Executive Officer shall initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed in an amount not to exceed \$199,903.

I certify that the above is a true  
and correct copy of Resolution 81-35  
as passed by the Air Resources Board..

  
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Sally Rump  
BOARD SECRETARY

State of California  
AIR RESOURCES BOARD

ITEM NO.: 81-6-3b1  
DATE: April 22, 1981

ITEM: Research Proposal No. 1027-82 entitled, "A Characterization of Hazardous and Toxic Waste Materials Disposed of in California".

RECOMMENDATION: Adopt Resolution 81-35 approving Research Proposal No. 1027-82 for funding in an amount not to exceed \$199,903.

SUMMARY: Disposal of hazardous and toxic waste materials, whether at the site where they are generated or at a centralized facility, creates a potential for the release of air pollutants. In California, an assessment of the environmental impact of these pollutants is hampered by a lack of reliable data on the nature, source and quantity of these wastes. Accordingly, the staff, in consultation with representatives of the Water Resources Control Board, the Solid Waste Management Board, the Department of Water Resources and Health Services and the Office of Appropriate Technology, prepared a Request for Proposals for a study to provide necessary data. The information to be produced by the study will be used by all of these agencies.

The objectives of this research proposal are to identify and quantify the toxic and hazardous waste materials generated in California (90 percent of the generated wastes are disposed of on-site); to verify by limited chemical testing the nature of these waste materials; to identify the potential for airborne emissions from these wastes and estimate possible health effects on exposed population; and to evaluate the present and potential disposal methods for these wastes, with emphasis toward on-site disposal.

The Contractor will identify generator sources and quantify waste materials using information culled from a number of data bases; relate waste by industry types according to Standard Industrial Classification Codes (SICs) and industrial processes by Source Classification Codes (SCCs); estimate the potential contribution of individual waste stream to air pollution; relate toxicity of airborne emissions to TLV standards; and rank the toxic materials according to dosage required to produce harmful health effects. This scale will be based on EPA's Multimedia Environmental Goals publication which gives estimated permissible concentrations of pollutants for continuous exposure. The Contractor will also sample four or five sites for confirmatory analysis, taking both surface samples and air samples (upwind and downwind) to determine the concentrations of toxic materials, background concentrations, and the effect of atmospheric transport. The Contractor will perform detailed studies of present and future disposal methods.

The Research Screening Committee approved the Request for

State of California  
AIR RESOURCES BOARD

Resolution 81-36

April 23, 1981

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 1002-81(R) entitled "Characterization and Impact of Electronic Automotive Emission Control Systems," has been submitted by Systems Control, 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 1002-81(R) entitled, "Characteristics and Impact of Electronic Automotive Emission Control Systems," submitted by Systems Control, Inc. for an amount not to exceed \$119,288.

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

Proposal Number 1002-81(R) entitled, "Characteristics and Impact of Electronic Automotive Emission Control Systems," submitted by Systems Control, Inc. for an amount not to exceed \$119,288.

BE IT FURTHER RESOLVED, that the Executive Officer shall initiate administrative procedures and execute all necessary documents and contracts for the research effort proposed in an amount not to exceed \$119,288.

I certify that the above is a true and correct copy of Resolution 81-36 as passed by the Air Resources Board.

  
Sally Rump  
BOARD SECRETARY

State of California  
AIR RESOURCES BOARD

ITEM NO: 81-6-3b2  
DATE: April 22, 1981

- ITEM: Research Proposal 1002-81 (R) entitled "Characteristics and Impact of Electronic Automotive Emission Control Systems".
- RECOMMENDATION: Adopt Resolution 81-36, approving Research Proposal 1002-81 (R) for funding in an amount not to exceed \$119,288.
- SUMMARY: The regulation of fuel economy and exhaust emissions has prompted automobile manufacturers to develop increased precision in engine control. As a result, mechanical means of controlling engine parameters are being replaced by electronic control systems (ECS). These systems provide interactive control of various engine operating functions by the use of a microprocessor and a network of sensors and actuators. In some cases, a malfunction in these systems does not result in a noticeable degradation of vehicle performance but does result in increased emissions. For example, should a particular sensor fail, the software will bypass the inoperative element by substituting one or more fixed values. Driveability will be maintained, but the loss of feedback signal may cause a significant increase in emissions. However, the driver would have indication of the need to seek corrective action.
- The increasing complexity of automotive engine electronics raises serious questions concerning the capability of the automotive service industry to diagnose and correct electronic malfunctions. Future vehicle inspection and maintenance programs will need to take such limitations into account. Relatively simple additions to or modifications of ECSs might allow checking of the ECS system itself, including assorted sensors, thus simplifying the vehicle inspection process.
- The first objective of this proposal is to quantify the impact of malfunction of the ECS upon emissions, fuel economy and driveability. This will be accomplished by testing the effect of up to ten induced malfunctions on each of ten 1980 or 1981 model-year vehicles.
- The second objective is to assess the capability of the service industry to diagnose and correct malfunctions