State of California
AIR RESOURCES BOARD

Resolution 01-18
April 26, 2001

Agenda Item No.: 01-3-4

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;

WHEREAS, a research proposal, number 2487-219, entitled "Determination of Elemental Carbon & Organic Carbon Concentrations During the Southern California Children's Health Study, 1999-2001," has been submitted by California Institute of Technology.

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 2487-219 entitled "Determination of Elemental Carbon & Organic Carbon Concentrations During the Southern California Children's Health Study, 1999-2001," submitted by California Institute of Technology, for a total amount not to exceed $55,912.

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 2487-219 entitled "Determination of Elemental Carbon & Organic Carbon Concentrations During the Southern California Children's Health Study, 1999-2001," submitted by California Institute of Technology, for a total amount not to exceed $55,912.

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, and as described in Attachment A, in an amount not to exceed $55,912.

I hereby certify that the above is a true and correct copy of Resolution 01-18, as adopted by the Air Resources Board.

Marie Kavan

Marie Kavan, Clerk of the Board

Attachment A

"Determination of Elemental Carbon & Organic Carbon Concentrations During the Southern California Children's Health Study, 1999-2001"

Background

Part of the effort of "The Epidemiologic Investigation to Identify Chronic Health Effects of Ambient Air Pollutants in Southern California" (Children's Health Study), underway since 1993, is to assess lung development in school-age children exposed to fine particles (<2.5 micrometers in diameter) along with other pollutants. Fine particle mass and ions are measured continuously every 2 weeks at 12 communities in southern California using a special sampler (Two-Week Sampler). Analyses of quartz fiber filters for organic and elemental carbon for the years 1994-1998 have been completed. Continuation of these analyses for the years 1999-2001 are important in order to maintain continuity of these data as part of the PM2.5 data base for the Children's Health Study. This is especially important since recent findings of health investigators have focused increasing attention on combustion-derived particles as important to human health.

Objective

This project will analyze all archived quartz fiber filters from the Children's Health Study for the years 1999-2001 for their organic and elemental carbon content by using a thermal evolution and combustion procedure.

Expected Results

These analyses will result in a database of organic and elemental carbon concentrations. They will fill a gap in knowledge of the components of PM2.5 mass as measured by the Two-Week Sampler for the Children's Health Study from 1999-2001. These results will update the current database, started in 1994, to include data up to 2001.

Significance to the Board

Particles in ambient air are known to be harmful to human health. Part of the effort of the Children's Health Study is to assess the lung growth of school-age children upon exposure to fine-particle (<2.5 micrometers in aerodynamic diameter) mass and ions. The information gained from this project will continue to augment the current database in the area of organic carbon compounds and elemental carbon particles. It will, therefore, be directly applicable to the ARB's mandate to protect the health of California's citizens, especially those from sensitive subgroups. Information on the sources of PM2.5, especially those arising from combustion-derived sources, will allow the ARB to identify mitigation strategies to protect the public health in California.

Contractor:
California Institute of Technology

Contract Period:
19 months

Principal Investigator (PI):
Glen R. Cass

Contract Amount:
$55,912

Cofunding:
None

Basis for Indirect Cost Rate:
The indirect cost rate of 56 percent, applied to all non-equipment direct costs and benefits, is a federally approved rate.

Past Experience with this Principal Investigator:
Dr. Cass has had many contracts with the ARB involving characterization of ambient atmospheres. His most recent contract, "Determination of the Elemental Carbon, Organic Compounds, and Source Contributions to Atmospheric Particles during the Southern California Children's Health Study," wherein organic and elemental carbon concentrations were measured from 1994-1998, is directly related to the work detailed in the Proposal. Research Division staff are very satisfied with the work done on this contract as well as on previous contracts. His work is excellent and goes beyond the specific tasks outlined in the contracts.

Prior Research Division Funding to California Institute of Technology:

Year	2000	1999	1998
Funding	$0	$0	$393,809

BUDGET SUMMARY

California Institute of Technology

"Determination of Elemental Carbon & Organic Carbon Concentrations During the Southern California Children's Health Study, 1999-2001"

DIRECT COSTS AND BENEFITS			
1.	Labor and Employee Fringe Benefits	$29,216	
2.	Subcontractors	$ 0	
3.	Equipment	$ 0	
4.	Travel and Subsistence	$ 0	
5.	Electronic Data Processing	$ 2,175	
6.	Reproduction/Publication	$ 2,000	
7.	Mail and Phone	$ 0	
8.	Supplies	$ 2,450	
9.	Analyses	$ 0	
10.	Miscellaneous	$ 0	
	Total Direct Costs		$35,841
INDIRECT COSTS			
1.	Overhead	$20,071	
2.	General and Administrative Expenses	$ 0	
3.	Other Indirect Costs	$ 0	
4.	Fee or Profit	$ 0	
	Total Indirect Costs		$20,171
TOTAL PROJECT COSTS			**$55,912**