

State of California

AIR RESOURCES BOARD

Resolution 88-34

May 13, 1988

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 39915; and

WHEREAS, an unsolicited research proposal, Number 174-27, entitled "Monitoring at Sequoia National Park," has been submitted by National Park Service; 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:

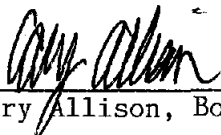
Proposal Number 174-27, entitled "Monitoring at Sequoia National Park," submitted by National Park Service for a total amount not to exceed \$6,000.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39906, hereby accepts the recommendation of the Scientific Advisory Committee on Acid Deposition and approves the following:

Proposal Number 174-27, entitled "Monitoring at Sequoia National Park," submitted by National Park Service for a total amount not to exceed \$6,000.

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 \$6,000.

I hereby certify that the above is a true and correct copy of Resolution 88-34, as adopted by the Air Resources Board.


Cary Allison, Board Secretary

ITEM NO.: 88-7-3(b) 1
DATE: May 13, 1988

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 174-27 entitled
"Monitoring at Sequoia National Park"

RECOMMENDATION: Adopt Resolution 88-34 approving Proposal No.
174-27 for an amount not to exceed \$6,000.

SUMMARY: The purpose of this project is to provide support for deposition monitoring activities in Sequoia National Park (SNP), which is included in the State's routine monitoring network for fog, wet deposition, and dry deposition. SNP is also the site of the Board's Integrated Watershed Study, which is designed to determine the impact of acid deposition and other air pollutants on sensitive lakes, streams and aquatic biota.

The National Park Service will maintain and operate monitoring equipment in the Park to measure wet deposition, dry deposition and fog. Wet and dry deposition of acidic materials are collected on a weekly schedule; fog sampling occurs during heavy fog events. This project provides monitoring support for one year.

This monitoring work will be coordinated by Mr. Tom Nichols of the National Park Service, Sequoia National Park.

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AIR RESOURCES BOARD

Resolution 88-35
May 13, 1988

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 39900 through 39915; and

WHEREAS, an unsolicited research proposal, Number 175-27, entitled "Assessment of the Ecological Effects of Acid Deposition in California," has been submitted by the University of California, Berkeley; 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:

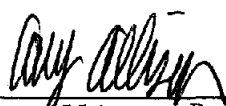
Proposal Number 175-27, entitled "Assessment of the Ecological Effects of Acid Deposition in California," submitted by University of California, Berkeley, for a total amount not to exceed \$21,000.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39906, hereby accepts the recommendation of the Scientific Advisory Committee and approves the following:

Proposal Number 175-27, entitled "Assessment of the Ecological Effects of Acid Deposition in California," submitted by University of California, Berkeley, for a total amount not to exceed \$21,000.

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 \$21,000.

I hereby certify that the above is a true and correct copy of Resolution 88-35, as adopted by the Air Resources Board.



Cary Allison, Board Secretary

ITEM NO.: 88-7-43(b) 2
DATE: May 13, 1988

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 175-27 entitled
"Assessment of the Ecological Effects of Acid
Deposition in California"

RECOMMENDATION: Adopt Resolution 88-35 approving Proposal No.
175-27 for an amount not to exceed \$21,000.

SUMMARY: The purpose of this study is to compile, analyze
and interpret lake, watershed and deposition
data collected during the Kapiloff Acid
Deposition Research and Monitoring Program.
This synthesis of data generated during the
5-year program will be included in the final
scientific assessment being prepared for the
Governor and the Legislature.

The Kapiloff Act calls for an evaluation of the
vulnerability of natural ecosystems in
California to acid deposition. A number of
field and laboratory projects have been carried
out to collect data on the effects of acid
deposition in the Sierra. These data bases need
to be integrated to help determine dose-response
relationships for sensitive aquatic systems in
order to complete the Board's baseline studies
of ecosystem impacts.

Researchers from U.C. Berkeley will compile and
integrate the data bases from the deposition and
effects research, and perform statistical
analyses on the data.

The work will be carried out by Dr. Charles
Blanchard from the University of California,
Berkeley.

State of California

AIR RESOURCES BOARD

Resolution 88-36

May 13, 1988

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 3900 through 39915; and

WHEREAS, unsolicited research proposal, Number 176-27, entitled "Characterizing Nitric Acid Formation in an Exposure Chamber," has been submitted by University of California at Irvine; 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:

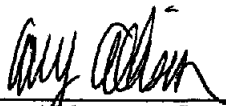
Proposal Number 176-27 entitled "Characterizing Nitric Acid Formation in an Exposure Chamber," submitted by University of California, at Irvine for a total amount not to exceed \$18,803.

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board, pursuant to the authority granted by Health and Safety Code Section 39906, hereby accepts the recommendation of the Scientific Advisory Committee on Acid Deposition and approves the following:

Proposal Number 176-27, entitled "Characterizing Nitric Acid Formation in an Exposure Chamber," submitted by University of California, at Irvine for a total amount not to exceed \$18,803.

BE IT FURTHER RESOLVED, that the Executive Officer is hereby authorized to initiate administrative procedures and executive all necessary documents and contracts for the research effort proposed herein, in an amount not to exceed \$18,803.

I hereby certify that the above is a true and correct copy of Resolution 88-36, as adopted by the Air Resources Board.


Cary Allison, Board Secretary

ITEM NO.: 88-7-3(b) 3
DATE: May 13, 1988

State of California
AIR RESOURCES BOARD

ITEM: Research Proposal No. 176-27 entitled
"Characterizing Nitric Acid Formation in an
Exposure Chamber".

RECOMMENDATION: Adopt Resolution 88-36 approving Proposal No.
176-27 for an amount not to exceed \$18,803.

SUMMARY: In recent exposure studies, animals have shown
enhanced response to treatments containing both
ozone and nitrogen dioxide. However, because
these two pollutants can react in the chamber to
form nitric acid and other potentially harmful
products, it is unclear which compound(s) is
causing the enhanced effects and at what levels.
The purpose of this measurement study is to
determine which compound(s) is the causative
agent.

This study will employ a sophisticated Fourier
transform infrared spectrometer, which is being
loaned to the investigators, to analyze test
atmospheres for nitric acid, related compounds,
and other pollutants. One test atmosphere will
duplicate the atmosphere employed in the earlier
animal study. The acids will also be measured
using more routine filtration methods for
comparison.

Nitric acid is the dominant strong acid in the
Los Angeles atmosphere, and it is the dominant
acid in deposition in many areas throughout the
State. In order to determine the potential
impact on health, it is essential to measure
accurately the levels of nitric acid and related
pollutants that affect test animals.

The contractor is the University of California,
Irvine. The principal investigator is Dr.
Michael Kleinman.

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

University of California, Irvine

"Formation of Nitric Acid in an
Exposure Chamber"

BUDGET ITEMS:

Salaries and Benefits	\$ 4,341	
Materials and Supplies	300	
Other*	<u>13,698</u>	
TOTAL, Direct Cost		\$18,339
TOTAL, Indirect Cost		<u>464</u>

TOTAL PROJECT COST **\$18,803**
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*Other:

Subcontract with Cal State Fullerton;

Salaries	\$ 9,344
Benefits	1,121
Supplies	<u>1,988</u>
Direct Cost	12,453
Indirect Cost	<u>1,245</u>
	\$13,698