Research Proposals

February 26, 2009

California Environmental Protection Agency
Air Resources Board
Overview

• Proposals developed from 2008-09 Annual Research Plan
• Reviewed by ARB’s Research Screening Committee (RSC)
• Discussed with other funding agencies to avoid duplication
• Recommended ARB Funding: $3.9 million
• Substantial leveraging of federal resources: ~$13 million
• Average overhead rate: 12.1%
Research Program Areas

- Health and Exposure
- Diesel Emissions
- State Implementation Plan (SIP) Support
- Climate Change
- California Climate & Air Pollution Field Study
Health & Exposure

**PROPOSED RESEARCH**
- Children’s Exposures in Daycare Centers ($417,496), UC Berkeley, *with in-kind support from U.S. EPA*

**BENEFITS**
- Children’s Environmental Health Protection Act (SB 25)
- Assess need for additional regulation of some Toxic Air Contaminants (TACs) to protect children
### Research Program Areas

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PROPOSED RESEARCH

- Diesel Solid Nanoparticle Emissions Measurements ($170,000), UC Riverside
- Measurement of Off-Road Diesel Engine Deterioration ($300,000), UC Riverside
- Measurement of Heavy-Duty Diesel Emissions in NASA Facilities ($419,917), UC Davis

BENEFITS

- Investigate use of Europe’s ultrafine measurement protocol in California context
- Improve off-road emissions inventory
- Probe optical properties and aging processes of heavy-duty diesel emissions
Research Program Areas

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PROPOSED PROJECT

• Updated Ambient VOC Mixture for Models ($40,010), University of Texas, Austin

• Low-VOC, Stain Blocking Specialty Primer Coating ($249,637), California Polytechnic State University, San Luis Obispo

BENEFITS

• Improve basis for reactivity-based regulations

• Reduce VOC emissions in California
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Climate Change

PROPOSED PROJECTS

- Black Carbon and the Regional Climate of California ($796,403), UC San Diego (Scripps Inst. of Oceanography)
- Assessment of Baseline N$_2$O Emissions in California Cropping Systems ($300,000), UC Davis

BENEFITS

- Link combustion emissions to climate impacts
- Establish baseline N$_2$O emissions from fertilizer application
Research Program Areas

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CalNex 2010: Research to support decisions to improve air quality and address climate change.
California Climate & Air Pollution Field Study

COLLABORATIVE FIELD STUDY

- Leverage federal resources (NOAA) of $12.7 million
- California-based observations of unprecedented quality and resolution
PROPOSED PROJECTS: CalNex 2010

- Night-time Chemistry in Los Angeles ($289,090), UC Los Angeles
- Characterization of Ambient Aerosol Sources and Processes ($282,000), University of Colorado, Boulder
- Atmospheric Chemistry in the San Joaquin Valley Air Basin ($1,050,000), UC Berkeley

BENEFITS

- Reduce uncertainty in models and emissions inventories
- Characterize organic particulate matter
- Improve understanding of impact of regulatory controls in South Coast and San Joaquin Valley Air Basins
Recommendation

Approve

Research Resolutions

09-08 through 09-18
AIR POLLUTION RESEARCH