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

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Diesel Emissions

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

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SIP Support: Ozone

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_2O Emissions in California Cropping Systems ($300,000), UC Davis

BENEFITS

- Link combustion emissions to climate impacts
- Establish baseline N_2O emissions from fertilizer application

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California Climate & Air Pollution Field Study

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

California Climate & Air Pollution Field Study

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

California Environmental Protection Agency

Air Resources Board