Research Proposals

February 25, 2010

California Environmental Protection Agency

Air Resources Board

Overview

- Proposals developed from 2009-10 Annual Research Plan
- Reviewed by ARB's Research Screening Committee (RSC)
- Discussed with other funding agencies to avoid duplication
- Recommended ARB Funding: $2.5 million
- Low overhead rates negotiated with UC's (10%)

Research Program Areas

- Health and Exposure
- State Implementation Plan (SIP) Support
- Climate Change

Health & Exposure

PROPOSED RESEARCH

- Characterizing pollutant concentrations near roadways, $290,000, University of California, Los Angeles.
- Emissions from heavy duty diesel trucks: impacts of fleet turnover and ARB's truck and bus rule, $300,012, University of California, Berkeley.
- Impacts of PM exposures on patients with coronary artery disease, $274,931, University of California, Irvine.
- In-duct air cleaning devices: ozone emissions rates and test method, $325,000, Missouri University of Science & Technology.

OBJECTIVE & BENEFITS

- Characterize exposures and emissions that have disproportionate impact to low-income communities near ports and trafficked roads.
- Characterize response of diesel fleet emissions to regulation.
- Provide information on effects of air pollution on a sensitive population.
- Support decision-making re: ozone exposures from in-duct air cleaners.

SIP Support

PROPOSED PROJECT

- Improving emissions inventories and modeling for biogenic volatile organic compounds, University of California, Berkeley, $400,000.

OBJECTIVES & BENEFITS

- Support production of an accurate biogenic VOC inventory, which is critical to development of SIPS, since the impact of biogenic VOCs relative to manmade VOCs is increasing.

Climate Change

PROPOSED PROJECTS

- Inverse modeling to verify California's GHG emissions inventory, $150,000, California State University, Hayward.
- Effects of local government actions on vehicle miles travelled (VMT), $125,000, University of California, Davis.
- Modeling impacts of advanced vehicles and fuels in the transition to a low carbon economy, $278,356, University of California, Davis.

OBJECTIVES & BENEFITS

- Improve the State's emissions inventory for methane and other GHGs.
- Provide local and regional assistance to meet statewide targets to reduce overall VMT and GHG emissions, as mandated by SB 375 and AB 32.
- Investigate how California's energy market might develop in response to climate change policies to support strategic planning.

… Climate Change, continued

PROPOSED PROJECTS

- Development of tools to measure climate impacts of residential buildings, $101,575, University of California, Berkeley.
- Voluntary behavior-based strategies to boost energy savings in commercial buildings, $134,981, University of California, Davis.
- Investigation of climate change impact of diesel emissions controls, $114,751, University of California, San Diego.

OBJECTIVES & BENEFITS

- Assist ARB in tracking GHG emission reductions from green buildings.
- Develop cost-effective strategies to bridge the gap between *potential* and *actual* commercial building energy savings.
- Probe regional climate response to black carbon emissions in the State, to serve as a basis for policy and control strategies.

Recommendation

Approve

Research Resolutions