

**State of California
AIR RESOURCES BOARD**

**Research Screening Committee Meeting
Cal/EPA Headquarters Building
1001 I Street
Conference Room 710, 7th Floor
Sacramento, California 95814
(916) 445-0753**

July 17, 2014

9:00 a.m.

ADVANCE AGENDA

I. Approval of Minutes of Previous Meeting:

May 30, 2014 meeting

II. Discussion of New Research Projects:

- 1) "Characterization of PM2.5 Episodes in the San Joaquin Valley Based on Data Collected During the NASA DISCOVER-AQ Study in the Winter of 2013," \$200,000, University of California, Davis, Proposal No. 2778-280

Although substantial progress has been made in improving the air quality in the San Joaquin Valley (SJV), wintertime PM2.5 air pollution in the Valley continues to be the worst in the State. Models used in air quality planning for the region are inconsistent in their ability to predict PM2.5 concentrations, which suggests a gap in understanding and in the overall conceptual model for PM2.5 formation in the SJV. National Aeronautics and Space Administration (NASA) chose the SJV for one of its Deriving Information on Surface conditions from Column and Vertically Resolved Observations Relevant to Air Quality (DISCOVER-AQ) campaigns – a \$30 million NASA study to improve the ability of satellites to measure surface air quality. This measurement program created an extensive set of vertically resolved aircraft measurements of PM2.5 and important gaseous species for the SJV in January/February 2013. The aircraft measurements were complemented by a network of ground sites at which basic information on PM2.5 concentrations was

collected and a ground “supersite” at ARB’s Fresno-Garland monitoring station which provided more detailed measurements of PM2.5 composition and properties. The objective of this project is to conduct advanced analysis of aircraft and supersite measurements made during Discover-AQ with the goal of improving the conceptual model of the origin, evolution, and spatial distribution of PM2.5 in the SJV. Comparison of the data analysis results with ARB’s modeling will help identify strengths and weaknesses in ARB’s conceptual model of PM episode formation in the SJV. The enhanced understanding of PM2.5 formation in the SJV will be of immediate value for developing air quality attainment strategies. The proposal has been revised in accordance with requests by the RSC for further details (these are discussed in Staff Comments).

- 2) “The Dynamics of Plug-in Electric Vehicles in the Secondary Market and Their Implications for Vehicle Demand, Durability, and Emissions,” University of California, Davis, \$300,000, Proposal No. 2779-280

Plug-in electric vehicles are expected to play a major role in achieving the greenhouse gas and criteria pollutant reductions required by California’s Low Emission Vehicle (LEV III) program, the California Global Warming Solutions Act of 2006 (AB 32), and increasingly stringent National Ambient Air Quality Standards. This project will characterize the dynamics of the secondary market for plug-in electric vehicles (PEVs) in California to improve estimates of the emission benefits of PEVs and projections of the overall emissions from the light-duty fleet. Researchers will employ surveys, and an economic model to evaluate the impact of factors such as battery life, energy prices, infrastructure availability, attributes and prices of new vehicle offerings, and economic conditions, on the demand and prices of used PEVs and on their usage. Results will inform future decisions by ARB policymakers on the treatment of PEVs by various ARB programs, such as incentives, durability requirements, or vehicle crediting.