

BOARD MEETING DATE: September 4, 2015

AGENDA NO. 12

TITLE: Approve Contribution for Endowment to University of California Riverside to Support County of Riverside, University of California Riverside, University of California Riverside CE-CERT, City of Riverside, and Riverside Public Utilities Proposal for CARB's Southern California Consolidation Project

SYNOPSIS: CARB is seeking a new and expanded facility in Southern California for vehicle emissions testing and office space for its Mobile Source related staff that are currently located in El Monte, California. The new facility is greatly expanded compared to the existing facility and will need to house a greater number of staff. An opportunity has arisen to support the overall Riverside proposal in a manner that could result in significant dividends for SCAQMD. Specifically, there is an opportunity to enhance the SCAQMD's long-standing relationship with University of California Riverside through an Endowment that could provide additional training of SCAQMD staff, opportunities for enhanced candidate pools for mobile source related positions at SCAQMD, and additional opportunities for SCAQMD to partner on mobile source issues related to emissions characterization and control and strategy implementation. Staff recommends a \$1 million Endowment from interest accrued in the BP Arco Settlement Projects Fund (46) toward the proposal being put forth by the Riverside Team for specific purposes.

COMMITTEE Special Administrative, August 14, 2015; Recommended for Approval

RECOMMENDED ACTIONS:

1. Authorize the Chairman to contribute \$1,000,000 for an Endowment for an SCAQMD Air Quality/Climate Change Research and Training Program to the University of California Riverside from interest accrued in the BP Arco Settlement Projects Fund (Fund 46) to support the Riverside proposal for CARB's Southern California Consolidation Project.

Barry R. Wallerstein, D.Env.
Executive Officer

MBO:lg

Background

The California Air Resources Board (CARB) is seeking a new and expanded facility in Southern California for vehicle emissions testing and office space for its Mobile Source related staff that are currently located in El Monte, California. The new facility will be greatly expanded compared to the existing facility and will need to house a greater number of staff. The "Riverside Team", including the County of Riverside, University of California Riverside (UCR), UCR's College of Engineering-Center for Environmental Research and Technology (CE-CERT), the City of Riverside, and the Riverside Public Utilities (RPU), has submitted a proposal for CARB's Southern California Consolidation Project.

The proposal includes a primary proposal and two alternatives, all of which include: 1.) the joint use by CARB and UCR CE-CERT of existing UCR CE-CERT facilities and laboratories, and 2.) transfer to CARB of County owned land and privately owned land that will be purchased by the County. The primary proposal includes the County's purchase of the privately owned land and transfer of land to CARB for non-monetary consideration and continued support to facilitate the development of the facilities. CARB will then be responsible for the financing and construction of the facilities.

Proposal

An opportunity has arisen to support the Riverside Team proposal in a manner that could result in significant dividends for SCAQMD. Specifically, there is an opportunity to enhance the SCAQMD's long-standing relationship with UCR in a manner that could provide additional training of SCAQMD staff, enhanced opportunities for enhanced candidate pools for mobile source related positions, and additional opportunities for SCAQMD to partner on issues related to mobile source emissions characterization and control, related health impacts, and planning and control strategy implementation. Attachment 1 contains an outline received from UCR regarding a potential Endowment approach. Details/refinements would need to be further discussed with UCR, including specific use of SCAQMD funding, and guided by Board direction. Staff is

recommending \$1 Million for an Endowment from interest accrued in the BP Arco Settlement Projects Fund (46) linked to the proposal being put forth by the Riverside Team and contingent upon CARB's selection of the Riverside site.

Resource Impact

Funds are available for a contribution of \$1 Million from the BP Arco Settlement Projects Fund (46).

Attachments

“Endowing an Air Quality/Climate Research and Training Center at the University of California Riverside”

Endowing an
Air Quality/Climate Research and Training Program
at the University of California Riverside

UC Riverside has a long history of excellence in air pollution research, beginning with understanding pollution impacts on the state's agriculture at the Citrus Experiment Station in the 1950s. This ground-breaking research led to the establishment of UCR's comprehensive Statewide Air Pollution Research Center in the late 1960s. In 1992, UC Riverside introduced a complementary center called CE-CERT (College of Engineering-Center for Environmental Research and Technology) focused on engineering solutions to air quality, transportation, and energy issues. Today, UC Riverside's faculty from the School of Medicine, School of Public Policy, School of Business, and College of Engineering are conducting, at any given time, over \$50 million dollars in air quality and climate change research, embracing an interdisciplinary approach to learning and research facilitated by centers such as CE-CERT. This research has established UC Riverside as a preeminent resource in this area and our commitment to this topic is stronger than ever, made evident by new activities such as UCR's research role in the UC Net Zero Climate Initiative, UCR's 2020 strategic plan that highlights sustainability as one of the five key growth areas, and a dozen new faculty being recruited in health, air quality, and sustainable transportation.

Continuing its mission of research and education in the field of air pollution and climate change, UC Riverside is seeking \$1 million in endowment funding to establish a permanent ***Air Quality & Climate Research Training Program*** dedicated specifically to the important air and climate issues being addressed by the South Coast Air Quality Management District and the California Air Resources Board. UC Riverside is committing matching support to this new program, providing faculty salary support as well as leveraging specific "cluster" hires of faculty from a breadth of disciplines that are pertinent to the program. In addition, it is envisioned that participants of other organizations will provide on-going support to sustain this proposed program well in to the future. This training program will be located at CE-CERT and will train professionals and graduate students entering the workforce on the emerging issues and newest research related to air quality and climate change. The training program will take advantage of the existing faculty and knowledge base, but more importantly the endowment will go to support new course development and new faculty hires in relevant areas:

- ***Emissions and Air Quality***: College of Engineering - Dr. David Cocker, Dr. Kent Johnson, Dr. Heejung Jung, Dr. Kelley Barsanti, Dr. Wayne Miller, Dr. Tom Durbin, additional faculty to be hired;
- ***Health Impacts of Air Pollution***: School of Medicine, College of Engineering, & College of Natural and Agricultural Sciences - Dr. David Lo, Dr. David Cocker, Dr. Akua Asa-Awuku, Dr. Michael Allen, TBD Pulmonary physiologist, TBD Medical Epidemiologist, TBD Research Clinical Pulmonologist;
- ***Climate Change Impacts and Air Quality Co-Benefits***: College of Engineering & College of Natural and Agricultural Sciences - Dr. Mary Droser, Dr. Akua Asa-Awuku, Dr. Michael Allen, Dr. Akula Venkatram, additional faculty to be hired;
- ***Sustainable Transportation***: College of Engineering & School of Public Policy - Dr. Matt Barth, Dr. Julianne Allison, Dr. Kanok Boriboonsomsin, Dr. Guoyuan Wu, Dr. Kent Johnson, visiting faculty from sister NCST (National Center for Sustainable Transportation) campuses;
- ***Improving Policy to Meet Clean Air Standards and GHG Regulations***: School of Public Policy - Dr. Anil Deolalikar, Dr. Ron Loveridge, Dr. Julianne Allison, additional faculty to be hired.

This proposed program will be overseen by an Advisory Board consisting of representatives from UC Riverside, South Coast Air Quality Management District, and the California Air Resources Board. The Advisory Board will provide guidance for relevant topics and coursework as well as feedback and suggestions on the program effectiveness. In the initial years, support for this program will be directed towards establishing a complete

training curriculum with new coursework that complement existing courses, as well as hiring key faculty. The program will be sustained with proceeds from the endowment, as well as from support from a consortium of outside organizations that will participate and benefit from the program.

Example topic areas and coursework are outlined below:

TOPIC 1: EMISSIONS & AIR QUALITY

- *Quantifying and Measuring Emissions from Multiple Sources*
- *Emissions Impacts of Alternative Fuels*
- *Comparison of Certification and In-Use Emissions*
- *Collecting Real World Emissions Using Portable Emission (and Activity) Measurement Systems*
- *Distributed Ambient Monitoring to Improve Exposure Estimates and Air Quality Modeling*

TOPIC 2: HEALTH IMPACTS OF AIR POLLUTION

- *Cardiovascular, Neurodevelopmental and Neurodegenerative Responses to Air Pollution*
- *Temporal and Spatial Differences of Individual Pollutant and Pollutant Mixtures*
- *Health Effects of Inhaled Pollutants, Toxin-Laden Dusts, Pollens, and Microbes*
- *Health Disparities and Responses to Policy across Racial, Ethnic, and Socioeconomic Groups*

TOPIC 3: CLIMATE CHANGE IMPACTS

- *Climate Change and Sustainability*
- *Climate Modeling of the Upper Atmosphere*
- *Regional and Microscale Dispersion Modeling*
- *The Role of Particles and Black Carbon in CCN and Cloud Formation*
- *Secondary formation of PM, Toxics, and Ozone and Greenhouse Gases*

TOPIC 4: SUSTAINABLE TRANSPORTATION

- *Low Carbon Infrastructure and Efficient Transportation System Operation*
- *Low Impact Travel and Sustainable Land Use*
- *Zero Emission Vehicles and Fuel Technologies*
- *Evaluating the Performance of Electric and Hybrid Heavy Duty Vehicles*
- *The Role of Intelligent Transportation Systems and Automation on Transportation Efficiency*

TOPIC 5: IMPROVING POLICY TO MEET CLEAN AIR STANDARDS AND GHG REGULATIONS

- *International Air Quality Policies and Bold Initiatives*
- *Integration of Climate Change, Toxic and Criteria Pollution Regulations – Considerations and Benefits*
- *Health Disparities and Responses to Policy across Racial, Ethnic, and Socioeconomic Groups*
- *Considerations of Logistics in Transportation Planning and Supply Chain Management*

Endowments at the University of California – Riverside

The size and capacity of UCR's faculty has increased exponentially since its founding, a reflection of the University's ongoing commitment to academic excellence and discovery. One factor helping to propel this trajectory has been the University's dedication to helping faculty meet their research needs through the establishment of endowments that financially support faculty research, teaching, and professional activity. Often named in honor or memory of an individual, organization, or corporation, endowments are critical to providing financial stability for the University and strengthening the University's ability to attract and retain high-caliber/high-performing professors.

The establishment of a \$1 million endowment in air quality/climate research and training is one of the strongest ways SCAQMD can achieve a substantive and positive impact in this field. As a permanent, self-sustaining source of funding, the endowment's assets are invested by the UCR Foundation. Each year, a portion of the fully-funded endowment is paid out to support the fund's purpose and any earnings in excess of this distribution are used to build the fund's market value. In this way, an endowment fund can grow and provide support for its designated purpose in *perpetuity*.

SCAQMD has the option to name the fund, e.g., SCAQMD Endowment for Excellence in Air Quality & Climate Research and Training, and, in consultation with CE-CERT and the UCR Advancement Office, broadly identify the scope of research to be funded. For example, designated funds can be used to cover a wide variety of expenses associated with the area of training and research that it is intended to support. As a benefit, the SCAQMD would have permanent access to the classes for their personnel and play a role in advising the direction of the program.

Additionally, because world-class faculty consider the quality of an institution by their endowments, the availability of these types of funds draws the world's best to UCR. In addition to the needed funds that it provides, an endowment also gives an added degree of prestige to the program it supports, as it recognizes the professional success and accomplishments. Further, this prestige attracts top graduate and undergraduate students, as well as professional staff who want to participate in the coursework and work side by side with the faculty. In this way, establishing an endowment creates a positive feedback loop and has a critical multiplier effect on UCR and its air quality/climate research and training program.