BOARD MEETING DATE: October 3, 2025 AGENDA NO. 13

PROPOSAL: Allocate Funds for Dust Emissions Evaluation and Mitigation in Coachella Valley

SYNOPSIS: Coachella Valley suffers from high levels of windblown dust and as a result, does not attain federal or state PM10 standards. There are a variety of PM10 sources in the Coachella Valley including natural and disturbed open lands, fallow agricultural fields, industrial activities, roadways, urban landscapes, etc. Staff are currently engaged in several strategies to evaluate these PM10 impacts. Mitigation of each of these PM10 sources may rely on a variety of strategies with different cost effectiveness. In 2011, the AB 1318 Mitigation Fees Fund was designated to fund mitigation projects in the Coachella Valley. Staff is proposing to use $3.1 million of remaining funds for PM10 mitigation in the Coachella Valley using a three-part approach: 1) Fund a study with UC Riverside to quantify emissions from soil types throughout Coachella Valley to help prioritize mitigation efforts; 2) fund the development of control strategies for land uses with the highest emissions; and 3) fund mitigation projects to reduce PM10 emissions in areas with the highest emissions. Staff will report back to the Mobile Source Committee in 12 months, on the status of this three-part approach. This action is to authorize the Executive Officer to execute a sole source contract with UC Riverside to implement the first part at a cost not to exceed $750,000 from the AB 1318 Mitigation Fees Fund (58).

COMMITTEE: Mobile Source, September 19, 2025; Recommended for Approval

RECOMMENDED ACTION:
Authorize the Executive Officer to execute a sole-source contract with UC Riverside for the following action with a combined cost not to exceed a total of $750,000 from the AB 1318 Mitigation Fees Fund (58). This study will quantify the PM10 soil emissions as a function of location throughout the entire Coachella Valley to help prioritize the most emissive areas and land use types for mitigation.

Wayne Nastri
Executive Officer

SR:SE

Background

PM10 levels in the Coachella Valley have declined significantly over the past several decades. To address air quality challenges in Coachella Valley, South Coast AQMD has a variety of regulatory and other programs, including several rules focused on particulate matter, air quality monitoring, incentive funding to reduce emissions, public messaging when poor air quality episodes occur, and inclusion of the Eastern Coachella Valley community in the AB 617 Program. However, Coachella Valley frequently records PM10 levels that continue to exceed state and federal standards due to windblown dust. High winds lift soil and dust from the arid, desert environment into the air, leading to PM10 concentrations that can affect public health. Dust emissions are highly dependent on soil surface characteristics. The Coachella Valley contains a wide variety of different soil types including natural and disturbed open lands, fallow agricultural fields, industrial activities, roadways, and urban landscapes. Mitigation strategies for each of these potential sources vary, with different costs and regulatory agency involvement. Identifying the sources of emissions is critical to developing an appropriate mitigation control strategy.

Recent South Coast AQMD Monitoring Efforts

In order to identify the specific sources of emissions, staff have pursued additional monitoring approaches to supplement routine regulatory monitoring in the Coachella Valley. PM10 levels have been measured for many years with regulatory monitors at three locations in the Coachella Valley: Palm Springs, Indio, and Mecca. A temporary PM10 monitor was installed in November 2024 in northern Cathedral City just south of Whitewater Wash to supplement these measurements. There is large variability in PM10 levels between this temporary monitor and the three existing regulatory monitors, indicating that additional PM10 measurements can improve real-time and forecasted air quality index (AQI) values in this region.

Efforts are currently underway to establish a collaboration with UC Riverside, the Coachella Valley Association of Governments, and South Coast AQMD to deploy several non-regulatory, lower cost QuantAQ PM10 sensors. Evaluation of these sensors in South Coast AQMD's AQ-SPEC program has shown that these sensors are suitable for providing supplemental PM10 data in this kind of application. Data from these sensors will be integrated into the South Coast AQMD AQI map, available at

www.aqmd.gov and on the mobile app. This data will also be used to improve the accuracy of PM10 forecasts and dust advisories in the region.

Additionally, in summer 2025, an environmental monitoring camera with a view of the northwestern Coachella Valley was installed in San Jacinto State Park. Preliminary imagery taken during dust events has been analyzed using advanced imaging processing techniques to help identify specific dust source regions. Efforts to deploy a second camera to observe the southeastern Coachella Valley are currently underway. Real-time and historical imagery from these cameras will be available on South Coast AQMD's website.

Proposal

To identify the appropriate type of mitigation actions to address PM10 emissions in Coachella Valley, staff is recommending using a strategic mitigation approach that would be implemented in three phases: 1) fund a study with local researchers to quantify the emissions of different areas and soil types throughout the entire Coachella Valley to help prioritize mitigation efforts; 2) fund the development and evaluation of control strategies on the land use types with the highest emissions, including engagement with the local community and key stakeholders; 3) provide initial funding for mitigation projects to reduce PM10 emissions in areas that are identified as key dust sources. This strategy aims to maximize utilization of the remaining funds on needed emission reduction projects, including, as appropriate, projects that may leverage available funding sources that are identified in the future. For the purpose of this Board Letter, staff is seeking funding for Phase 1 and is providing an overview of all three phases for additional information about the three-phase strategic mitigation approach.

Phase 1: Identification of key emissive areas and land use types in the Coachella Valley

Phase I would initiate a research study with a team of researchers led by principal investigators at UC Riverside and Scripps/UC San Diego. Collaborators on this project would also include researchers from UC Los Angeles, UC Berkeley, UC Davis, and UC Merced. Using state-of-the-science techniques, researchers will create a map of spatially resolved dust emissions as a function of meteorology throughout the entire Coachella Valley for the prioritization of mitigation projects. This study will involve a widespread field campaign throughout the entire valley to measure dust emissions as a function of wind speed using a circular wind tunnel system called a PI-SWERL. Geologic mapping using satellite instruments, aerial imagery, and site visits will also be conducted to allow for the extrapolation of these measurements to similar soil and vegetation types. With this information, dust emissions as a function of location based on historical meteorology will be calculated using sophisticated air quality modeling.

Phase 2: Identifying how to mitigate the most emissive areas

Staff will conduct outreach as part of the second phase of this approach, including to previous applicants for AB 1318 Mitigation Fees Funds. This outreach will begin in 2026, before the completion of the Phase 1 study. Staff anticipates developing and evaluating control strategies for areas that are identified as key dust sources using interim and final results from the Phase 1 study. These strategies will likely differ significantly depending on the location of the most emissive areas (e.g. fallow farmland versus conservation lands versus urban areas, etc.). Staff will return to Board to recommend potential use of the AB 1318 Mitigation Fees Fund if additional resources are needed for this outreach effort.

Phase 3: Initial funding of mitigation

We plan to fund mitigation projects in the key emissive areas with a request for proposals. To be consistent with the initial criteria for spending the funds, we will allocate at least 30 percent of the funds within 6 miles of the CPV Sentinel Energy Project power plant and at least 30 percent of the funds in the same communities identified in the 2013 funding action. We expect that many of the key emissive regions will be in these areas. Following the development of a recommended control strategy from Phase 2, staff will return to Board to request a solicitation of proposals for projects using funds from the AB 1318 Mitigation Fees Fund.

Sole Source Justification

Staff is recommending to execute a sole-source contract with UC Riverside for up to $750,000 using funds from the AB 1318 Mitigation Fees Fund. Project completion is expected within approximately two years of contract execution. Section VIII.B.2. of the Procurement Policy and Procedure identifies provisions under which a sole source award may be justified. The request for a sole source award is made under provision B.2.d.(8): Research and development efforts with educational institutions or nonprofit organizations. The University of California, Riverside (UCR) is an educational institution.

The research team assembled for this project has extensive and unique experience conducting this type of work. Team members have conducted several air quality studies in the Coachella and Imperial Valleys in the past. For example, one of the principal investigators has an appointment at UC Riverside Palm Desert Campus and has been studying air quality in the Salton Sea region for the past several years. Another one of the principal investigators built and operates a field site south of Salton City to study the physics of dust storms and leads other dust-related projects in the area. Other researchers involved in the study have extensive experience modeling dust storms and dust emissions; extensive experience using measurements to understand how landscape changes impact dust emissions; and expertise on dust emissions associated with agricultural activity. The results of this study are expected to be directly used for future

mitigation, as well as provide critical emissions data for future State Implementation Plan work that may be required.

Resource Impacts
Assembly Bill 1318 (2009) established requirements for the expenditure of mitigation funds from the CPV Sentinel Energy Project power plant on emission reductions projects in the Coachella Valley. In June 2011, the Governing Board approved the establishment of the AB 1318 Mitigation Fees Fund. Approximately $53 million was placed in the AB 1318 Mitigation Fees Fund and was used to fund PM10, PM2.5, NOx, and VOC emissions mitigation projects through an RFP (#P2012-17) released in 2012.

AB 1318 was codified into law in Health and Safety Code (H&SC 40440.14) in 2009 and sunset in 2012. This statute specified that 30 percent of the fees collected were to be used for emission reductions in areas within close proximity of the electrical generating facility and at least 30 percent were to be used for emission reductions in areas designated as Environmental Justice (EJ) Areas. While the statute did not define "close proximity" to the electric generating facility, in 2012, the Governing Board determined that areas within a six-mile radial distance to the CPV Sentinel Energy Project power plant would be considered close proximity.

Approximately $3.1 million of unused funds remain in the AB 1318 Mitigation Fees Fund. Using these funds to study and conduct additional PM10 mitigation in the Coachella Valley by targeting areas that are identified as key dust sources will meet the AB 1318 minimum targets for reductions in proximity to the facility. Staff proposes to adhere to percentage cost targets in funding mitigation projects, and the study and evaluation of control strategies will promote the achievement of those same targets.

Sufficient funds for this contract are available in the AB 1318 Mitigation Fees Fund (58).