

BOARD MEETING DATE: January 5, 2018

AGENDA NO. 5

PROPOSAL: Recognize Revenue and Appropriate Funds to Maintain, Improve and Expand Existing Low-Cost Sensor Network for Monitoring PM Emissions

SYNOPSIS: SCAQMD and Rainbow Transfer Recycling, Inc., (Rainbow) have entered into a Stipulated Order for Abatement to resolve their dispute over application of Rule 410 and to achieve compliance with the Rule's enclosure requirement. The Order for Abatement also included \$70,000 from Rainbow for an air monitoring study to measure potential fugitive PM emissions from the facility using low-cost sensors. This action is to recognize \$70,000 in revenue and appropriate \$70,000 to the Science & Technology Advancement's FYs 2017-18 and/or 2018-19 Budgets to support and expand the existing fenceline PM sensor network and deploy sensors in nearby communities.

COMMITTEE: Administrative, December 8, 2017; Recommended for Approval

RECOMMENDED ACTION:

Recognize revenue, upon receipt, up to \$70,000 into the General Fund and appropriate up to \$70,000 from the General Fund Unassigned (Undesignated) Fund Balance into Science & Technology Advancement's FYs 2017-18 and/or 2018-19 Budget (Org 43) as follows: \$30,000 to the Services and Supplies Major Object, Small Tools, Instruments and Equipment Account and \$40,000 to the Capital Outlays Major Object, Capital Outlays Account.

Wayne Nastri
Executive Officer

Background

Rainbow Transfer Recycling, Inc., (Rainbow) is a waste disposal and recycling facility located in Huntington Beach. SCAQMD has issued several Notices of Violation (NOVs) to Rainbow for creating a public nuisance for odor and potential fugitive PM emissions, not conducting part of their operations under a required enclosure, and allegedly violating District Rules 402 and 410 as well as Health and Safety Code Section 41700. In 2016, SCAQMD and Rainbow entered into a Stipulated Order for Abatement to resolve the NOVs received.

One of the agreements set forth in the Order for Abatement required Rainbow to contribute \$40,000 to SCAQMD's General Fund for an air monitoring study to measure potential fugitive PM emissions. The SCAQMD Board recognized these funds in March 2016 to initiate the research, development and implementation of a fenceline monitoring network. SCAQMD staff identified potential PM sensors and developed a platform for monitoring fugitive dust emissions from the fenceline of the facility. In June 2016, staff installed a network of nine fully autonomous (i.e., solar power and wireless data communication) sensor units that measure PM10, PM2.5 and PM1.0 at the fenceline of the Rainbow facility. The sensors, however, require ongoing monthly maintenance and quality control checks to guarantee the correct operation of the network, in addition to periodic replacement of sensor and data communication components.

Recently, SCAQMD and Rainbow entered into another Stipulated Order for Abatement. One of the agreements set forth in the Order for Abatement requires Rainbow to contribute \$70,000 to SCAQMD's General Fund to continue maintaining and improving the current network of air monitors at Rainbow and to include additional sensor units in nearby communities.

Proposal

This action is to recognize \$70,000 in revenue into the General Fund and appropriate \$70,000 into Science & Technology Advancement's FYs 2017-18 and/or 2018-19 Budgets to support ongoing project activities and expand the current monitoring network in and around the Rainbow facility. Ongoing project expenses include the monthly maintenance of the sensors, periodic replacement of the sensors and related components, and monthly cost for data collection, validation, storage, analytics and mapping.

The proposed enhancements for this project include two additional components that will improve upon the current monitoring efforts. First, staff proposes to design and implement a community monitoring project with a network of 20 to 30 low-cost PM sensors to be deployed in communities that may be impacted by fugitive PM emissions from Rainbow. This will provide additional points of measurements within these communities including both upwind and downwind locations. The second enhancement

will take place in the form of purchasing and installing a Federal Equivalent Method (FEM) PM instrument to provide continuous real-time PM concentrations on or near the facility. The FEM PM analyzer would provide insights for characterizing the low-cost sensors with regard to accuracy, precision and sensor degradation over time. The FEM analyzer will bring reference data to the project to assess the quality of the low-cost sensor data.

This project provides the operator and SCAQMD with real-time feedback on potential fugitive PM emissions originating from the facility and an opportunity to optimize ongoing PM control efforts. Data will be monitored in real time at one-minute time resolution and email alerts will be sent to SCAQMD staff when PM levels exceed a pre-defined threshold.

Benefits to SCAQMD

This work will provide detailed monitoring information on potential PM emissions from Rainbow, allow mapping of ambient PM levels from the facility, and measure the efficacy of PM control efforts with the ultimate goal of ensuring improved compliance, better air quality, and reduced complaints from neighboring communities. Additionally, it will serve as a template for developing future air monitoring networks based on low-cost sensor technology for stationary sources and provide real-time feedback on the efficiency of mitigation efforts undertaken.

Resource Impacts

Sufficient funding for this effort is available from the Stipulated Order for Abatement between Rainbow and SCAQMD. Upon Board approval, the revenue from Rainbow will be recognized into the General Fund and appropriated into Science & Technology Advancement's FYs 2017-18 and/or 2018-19 Budgets as follows: \$30,000 to the, Services and Supplies Major Object, Small Tools, Instruments and Equipment Account, and \$40,000 to the Capital Outlays Major Object, Capital Outlays Account.