AIR POLLUTION
CONTROL DISTRICT
COUNTY OF SAN LUIS OBISPO

TO: Board of Directors, Air Pollution Control District

FROM: Larry R. Allen, Air Pollution Control Officer

DATE: September 28, 2011

SUBJECT: Presentation of Concepts for a Coastal Dunes Dust Control Rule

SUMMARY

Over the past year, the District has worked with the California Department of Parks and Recreation and the County of San Luis Obispo on ways to reduce particulate matter emissions emanating from the Oceano Dunes State Vehicular Recreation Area. These efforts occurred under two separate Board-approved Memorandums of Agreement and have so far resulted in three emission reduction pilot projects at Oceano Dunes and a voluntary sand removal program on Pier Avenue. At Board direction, staff has also concurrently worked to develop a regulation to ensure efforts to reduce emissions from the dunes meet air quality requirements and protect public health. The attached concept rule, titled Rule 1001, *Coastal Dune Dust Control Requirements*, is the result of that direction. Staff requests the Board provide additional direction, if any, on the concept rule during this hearing so the rule can be finalized and brought back for Board consideration and adoption at the November 16, 2011 hearing.

RECOMMENDATION

That your Board review and provide direction to staff on the attached concept rule.

DISCUSSION

At your May 19, 2010 meeting, the Board directed staff to develop a Memorandum of Agreement (MOA) between the District, the California Department of Parks and Recreation (State Parks) and the County of San Luis Obispo (County) to define the requirements and process for developing a Particulate Matter Reduction Plan (PMRP) to address emissions from the Oceano Dunes State Vehicular Recreation Area (ODSVRA). The Board further directed staff at that meeting to concurrently develop a regulation designed to implement and enforce the PMRP.

A comprehensive MOA was adopted by the Board in July 2010 and required formation of two committees tasked with crafting and overseeing the development of the PMRP, with the required plan contents and development process specified in the MOA. The highly structured MOA process, which included periodic outreach to and input from the public, proved valuable and ultimately led to a voluntary sand removal program on Pier Avenue in Oceano and implementation of three emission reduction pilot projects on the dunes. With the rule adoption process underway and the pilot projects proceeding, the need for such a formal process was greatly diminished. At the March 23, 2011 hearing, your Board adopted a less formal MOA to facilitate continued cooperation and more timely progress by the three agencies.

3433 Roberto Court, San Luis Obispo, CA 93401 • 805-781-5912 • FAX: 805-781-1002
info@slocleanair.org • www.slocleanair.org

The pilot projects completed last spring included studies of the effect of native vegetation and artificial surface disturbance on reducing sand transport, which has been identified as the main source of PM emissions from the ODSVRA. The third pilot project examined the difference in emissions potential (emissivity) between a riding area and a non-riding area. The data from those studies will be used to help craft the PMRP required in the dust rule.

Development of the conceptual structure for the rule started with the primary goal of ensuring vehicle activity on the dunes does not result in significant increases in downwind ambient PM levels when compared to PM levels downwind of similar dune areas where vehicle activity is not allowed. The conceptual rule is written to apply to any coastal dune vehicle activity area (CDVAA) larger than 100 acres. Currently, the only known affected location is the ODSVRA; however, any new vehicle activity area proposed within coastal dunes in San Luis Obispo County would be subject to the rule as well.

Following are the key concepts outlined in the rule:

- a comprehensive PMRP requiring APCD approval
- a performance standard for measuring effectiveness and ensuring accountability
- a compliance schedule with phased milestones of progress

Under the rule, the PMRP would be developed by the facility operator (State Parks), and must include all measures necessary to meet the performance standard and also identify the expected emission reduction effectiveness and implementation timeline for each measure. District input would occur during the development process, and APCO approval is required prior to implementation of the plan. Since the rule does not define specific projects to implement, State Parks will need to obtain all the required permits from the appropriate land-use agencies for any PMRP project that may require those approvals. Those projects could also trigger requirements under the California Environmental Quality Act (CEQA) and/or the National Environmental Quality Act (NEPA), and could involve State Coastal Commission review and oversight.

A performance standard in the rule was deemed essential to ensure the PMRP included sufficient measures to reach the emission reduction goals and to provide accountability for measuring their effectiveness. Staff initially considered using sand transport/sand flux measurements as an indirect method of measuring PM reductions achieved by the PMRP; however, this proved difficult to implement and would not ensure the primary air quality goal was met. After considerable research and discussions with experts, it was determined the most appropriate performance standard would be to measure ambient PM10 concentrations downwind of the ODSVRA and compare them to a "control" site located downwind of a similar dune area where vehicle activity is not allowed. The control site would be chosen to best match the topography and meteorological conditions of the ODSVRA site. The equipment specifications and site locations of the PM10 and meteorological monitoring network needed to perform these comparison measurements would be identified in the PMRP and require District approval.

The performance standard requirements (section C.2 in the rule) are based on close compliance with the State 24-hour average PM10 standard of 50 ug/m3, but allow for a small margin of error. The rule specifies that, if the 24-hour average PM10 concentration at the vehicle activity area monitor exceeds 55 ug/m3, it cannot also be more than 10 ug/m3 above the PM10 concentration measured at the control site monitor for the same period. The 10 ug/m3 buffer is to account for known monitoring equipment tolerances as well as variations in upwind topography and meteorological conditions. The 55 ug/m3 compliance threshold is based on the state PM10 standard plus a 5 ug/m3 buffer for equipment tolerances.

The proposed performance standard was designed to ensure that vehicle activity on the dunes does not contribute to exceedances of health-based air quality standards, while acknowledging that those standards can sometimes be exceeded under natural conditions, as we found in the South County Phase 2 PM Study. The following examples demonstrate how the performance standard would operate in practice:

- If the 24-hour average PM10 concentration at the vehicle activity area monitor is 65 ug/m3 and the control site monitor for the same period measures 51 ug/m3, a rule violation occurs.
- Conversely, if the 24-hour average PM10 concentration at the vehicle activity area monitor is 65 ug/m3 and the control site monitor for the same period measures 56 ug/m3, a rule violation would not occur. In this example, although both sites exceed the State 24-hour PM10 standard, the difference between them is too small (less than 10 ug/m3) to determine that vehicle activity on the dunes was a contributor.

The compliance milestones contained in the rule represent staff's estimate of the minimum time necessary to craft a comprehensive PMRP; obtain necessary permits and begin implementing the proposed control measures and PM monitoring; and for the measures (like re-vegetation) to become effective in reducing emissions. The milestones also assume some PMRP projects may trigger CEQA/NEPA review and/or result in Coastal Commission review before they can be implemented.

Should State Parks fail to meet any of rule requirements, fines could be levied under the California Health and Safety Code. In addition to the appropriate penalty, settlements could include requirements for additional corrective measures if deemed necessary. Penalty fees collected could be used to implement appropriate offsite mitigation or other programs to benefit impacted communities, such as health awareness programs.

The District held a public workshop on September 7, 2011 where over 70 members of the public attended and were given the opportunity to ask questions and make comments on the concept rule. All comments on the rule received at the workshop and during the formal 30-day comment period prior to rule adoption will be addressed in the staff report prepared for the rule adoption hearing.

OTHER AGENCY INVOLVEMENT

The District reviewed the concept rule with State Parks, and the County has been given the opportunity to provide input. Staff will continue to work with State Parks, the County, other appropriate agencies and the public to produce a rule for Board consideration in November. Upon finalizing the proposed rule, the State Air Resources Board will have the opportunity to review the rule and provide comment.

FINANCIAL CONSIDERATIONS

There are no financial considerations associated with this presentation.

draft
SEPTEMBER 28, 2011

RULE 1001 **Coastal Dunes Dust Control Requirements** *(adopted xx/xx/xxxx)*

A. APPLICABILITY. The provisions of this Rule shall apply to any operator of a coastal dune vehicle activity area, as defined by this Regulation, which is greater than 100 acres in size.

B. DEFINITIONS. For the purpose of this Rule, the following definitions shall apply:

1. "APCD": The San Luis Obispo County Air Pollution Control District.

2. "APCO": The San Luis Obispo County Air Pollution Control Officer.

3. "Coastal Dune": means sand and/or gravel deposits within a marine beach system, including, but not limited to, beach berms, fore dunes, dune ridges, back dunes and other sand and/or gravel areas deposited by wave or wind action. Coastal sand dune systems may extend into coastal wetlands.

4. "Coastal Dune Vehicle Activity Area (CDVAA)": Any area within 1.5 miles of the mean high tide line where public access to coastal dunes is allowed for vehicle activity.

5. "CDVAA Monitor": An APCO-approved monitoring site designed to measure the maximum 24-hour average PM_{10} concentrations directly downwind from the vehicle riding areas at the CDVAA. At a minimum, the monitoring site shall be equipped with an APCO-approved Federal Equivalent Method (FEM) PM_{10} monitor capable of measuring hourly PM_{10} concentrations continuously on a daily basis, and an APCO-approved wind speed and wind direction monitoring system.

6. "CDVAA Operator": Any individual, public or private corporation, partnership, association, firm, trust, estate, municipality, or any other legal entity whatsoever which is recognized by law as the subject of rights and duties, who is responsible for a CDVAA.

7. "Control Site Monitor": An APCO-approved monitoring site or sites designed to measure the maximum 24-hour average PM_{10} concentrations directly downwind from a coastal dune area comparable to the CDVAA but where vehicle activity has been prohibited. At a minimum, the monitoring site shall be equipped with an APCO-approved Federal Equivalent Method (FEM) PM_{10} monitor capable of measuring hourly PM_{10} concentrations continuously on a daily basis, and an APCO-approved wind speed and wind direction monitoring system.

8. "Designated Representative": The agent for a person, corporation or agency. The designated representative shall be responsible for and have the full authority to implement control measures on behalf of the person, corporation or agency.

9. "Paved Roads": An improved street, highway, alley or public way that is covered by concrete, asphaltic concrete, or asphalt.

10. "PM_{10}": Particulate matter with an aerodynamic diameter smaller than or equal to a nominal 10 microns as measured by the applicable State and Federal reference test methods.

11. "PMRP": Particulate Matter Reduction Plan.

12. "Track-Out/Carry-Out": Sand or soil that adhere to and/or agglomerate on the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto any highway or street as described in California Vehicle Code Section 23113 and California Water Code 13304.

13. "Track-Out Prevention Device": A gravel pad, grizzly, rumble strip, wheel wash system, or a paved area, located at the point of intersection of an unpaved area and a paved road that is designed to prevent or control track-out.

14. "Vehicle": Any self-propelled conveyance, including, but not limited to, off-road or all-terrain equipment, trucks, cars, motorcycles, motorbikes, or motor buggies.

15. "Visible Dust Emissions (VDE)": Dust emissions that are visible to the naked eye of an observer.

16. "24-Hour Average PM_{10} Concentration": The value obtained by adding the hourly PM_{10} concentrations measured during a calendar 24-hour period from midnight to midnight, and dividing by 24.

C. GENERAL REQUIREMENTS

1. The operator of a CDVAA shall prepare and implement an APCO-approved Particulate Matter Reduction Plan (PMRP) to minimize PM_{10} emissions for the area under the control of a CDVAA operator. The PMRP shall contain measures that meet the performance requirements in section 2 and include:

    a. An APCO-approved PM_{10} monitoring network containing a CDVAA Monitor and a Control Site Monitor.

    b. A description of all PM_{10} control measures that will be implemented to reduce PM_{10} emissions to comply with this rule, including the expected emission reduction effectiveness and implementation timeline for each measure.

    c. A Track-Out Prevention Program that does not allow track-out of sand to extend 25 feet or more in length onto paved public roads and that requires track-out to be removed from pavement according to an APCO-approved method and schedule.

2. The CDVAA operator shall ensure that:

   If the 24-hr average PM_{10} concentration at the CDVAA Monitor is more than 10 ug/m3 above the 24-hr average PM_{10} concentration at the Control Site Monitor, the 24-hr average PM_{10} concentration at the CDVAA Monitor shall not exceed 55 ug/m3.

3. The CDVAA operator shall ensure they obtain all required permits from the appropriate land-use agencies and other affected governmental agencies, and that the requirements of the California Environmental Quality Act (CEQA) and the National Environmental Quality Act (NEPA) are satisfied to the extent any proposed measures identified in the PMRP require environmental review.

4. All facilities subject to this rule shall obtain a Permit to Operate by the time specified in the Compliance Schedule.

D. RECORDKEEPING REQUIREMENTS: The CDVAA operator subject to the requirements of this Rule shall compile and retain records as required in the APCO approved PMRP. Records shall be maintained and be readily accessible for two years after the date of each entry and shall be provided to the APCD upon request.

E. COMPLIANCE SCHEDULE:

1. The CDVAA operator of the CDVAA shall comply with the following compliance schedule:

   a. Obtain land use agency approval of all proposed PMRP projects by (eighteen (18) months from date of rule adoption).

   b. Obtain APCO approval of a proposed PMRP by (twenty (20) months from date of rule adoption).

   c. The requirements of Section C.2 shall apply (twenty two (22) months from the date of APCO approval of the PMRP, or forty-two (42) months from date of rule adoption).

   d. The requirements of Section C.4 shall apply by (twenty (20) months from date of rule adoption).