SLO COUNTY apcd | Air Pollution Control District
San Luis Obispo County

TO: Board of Directors, Air Pollution Control District

FROM: Larry R. Allen, Air Pollution Control Officer

DATE: November 16, 2011

SUBJECT: Request for Adoption of New Rule 1001, Coastal Dunes Dust Requirements

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 (ODSVRA). These efforts occurred under two separate Board-approved Memorandums of Agreement; they 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 concurrently worked to develop a regulation that would codify the emission reduction goals and protect public health. At the previous Board meeting on September 28, 2011, staff presented a concept rule, and public comment and Board direction was given. The attached Rule 1001, *Coastal Dune Dust Control Requirements*, is the result of that direction and responses to comments. Staff requests the Board consider and adopt proposed Rule 1001.

RECOMMENDATION

That your Board approve the attached resolution adopting Rule 1001 and instruct the chairperson to sign.

DISCUSSION

At the September 28, 2011 Board meeting staff presented draft concepts for a rule to reduce fugitive dust emissions from the ODSVRA. At that meeting, the Board directed staff to revise the proposal to include requirements for earlier implementation of baseline air monitoring and submittal of a draft Particulate Matter Reduction Plan (PMRP) for APCD review in advance of the final PMRP; those revisions have been incorporated into the proposed rule. In addition, staff also made modifications to the performance standard based on comments from State Parks, added an exceptional events exemption based on comments from Friends of the Dunes, and added language which clarifies the operator will not be subject to civil penalties if compliance milestones are not met due to delays caused by oversight agencies. In addition, some minor corrections were made to the language.

The following key concepts of the proposed rule remain unchanged from concept rule:

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

In addition to the concept rule hearing, 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 comment period prior to rule adoption have been addressed in the attached staff report.

In addition to the background information and details of the rule, the Staff report contains the following:

- Consideration of Findings Related to Cost-Effectiveness of Control Measures
- Environmental determinations
- Comments and responses
- Rule Adoption Findings

The large volume of material contained in the attached documents has been organized and tabulated to aid your review of the information. Staff has spent considerable time and effort reviewing and responding to all significant comments on both the proposed rule and the Phase 2 South County PM Study. Considerable criticism and misinformation regarding the Phase 2 study was presented in many comments, requiring staff to review and apply critical thinking to much of the data and analyses that formed the basis for the findings reached in that Study. Through this extensive review process, staff reconfirmed the substantial weight of evidence supporting those findings and the imperative to reduce emissions from the ODSVRA to protect public health.

In addition, numerous comments in the attached documents questioned the authority of the District to adopt this rule. District Counsel has reviewed and responded to all such comments and has confirmed the authority and obligation of the District in that regard.

Staff recommends approval of Proposed Rule 1001.

OTHER AGENCY INVOLVEMENT

The District reviewed the concept rule with State Parks, the Air Resources Board and the County. Staff anticipates working with the Coastal Commission once specific projects are identified.

FINANCIAL CONSIDERATIONS

To date, the District has invested nearly $500,000 in unreimbursed District funds and staff time spent evaluating the air quality impacts of the ODVSRA and potential solutions. It is estimated that investment of significant additional unreimbursed staff time will be also be required after adoption of the rule to assist State Parks in their efforts to comply with the various requirements. Those costs will likely be covered in the annual budget adoption process through reordering District tasks and

priorities to enable existing staff to perform the work. It is likely, however, that up to $50,000 in District funds may be needed to contract for expert assistance in reviewing the monitoring site selection plan and the PMRP. Such funding has not been allocated in the current budget and will likely need to be appropriated from District reserves. The requirement for a permit in July 2013 and future adoption of a fee schedule based on cost recovery will provide a mechanism for reimbursing District costs from that point forward.

State Parks will incur the cost of developing the PMRP and complying with any necessary land use or other regulatory agency permitting requirements; this could range from $200,000 to $400,000 and possibly more, depending on whether development of the plan is outsourced and the type and extent of environmental review required for the various projects proposed in the Plan. In addition, the cost to meet the air monitoring requirement has been estimated at $69,000 per monitoring site, with annual operating and maintenance costs estimated at $15,500 per site.

The costs associated with implementing PMRP projects and programs cannot be estimated because the projects are dependent upon the measures developed by the facility operator; however, such costs could be significant. In the process of developing the PMRP, State Parks will develop the control strategies, rank their effectiveness and propose those measures they deem necessary and feasible. Presumably, the operator will choose those control strategies that can meet the standard at the lowest cost.

AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN LUIS OBISPO

STAFF REPORT

PROPOSED RULE 1001, COASTAL DUNES DUST CONTROL REQUIREMENTS

PUBLIC HEARING – NOVEMBER 16, 2011

I. INTRODUCTION

At the direction of the Air Pollution Control Board (Board), staff has developed a rule that will require implementation of a particulate matter emission reduction plan and set particulate matter performance standards for the Oceano Dunes State Vehicle Recreation Area (ODSVRA) operated by the California Department of Parks and Recreation's Off Highway Motor Vehicle Recreation Division (State Parks). The proposed Rule 1001 was not part of the State mandated "all feasible measures" requirement for air districts that do meet the State particulate matter standard, Health and Safety Code §39614. Those measures were adopted during a July 2005 public hearing which was as required at that time. Section of the Health and Safety Code §39614 was automatically repealed in January 1, 2011 by the regulation itself when the legislature did not act to extend it.

II. DISCUSSION

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 ODSVRA. These efforts occurred under two separate Board-approved Memoranda 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 rule, titled Rule 1001, *Coastal Dune Dust Control Requirements*, is the result of that direction.

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 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.

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 Rule 1001 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 rule is written to apply to any coastal dune vehicle activity area (CDVAA) larger than 100 acres. Currently, the ODSVRA is the only known affected location; however, any new vehicle activity area proposed within coastal dunes in San Luis Obispo County would also be subject to the rule.

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); it 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. It is unknown if those projects would also trigger requirements under the California Environmental Quality Act (CEQA) and/or the National Environmental Quality Act (NEPA); they could also 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 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 the rule requirements, fines could be levied under the California Health and Safety Code, subject to the limitation for delays caused by regulatory or other oversight agencies. As an alternative, or in addition to the appropriate penalty, settlements could include requirements for additional corrective measures if deemed necessary. Penalty fees collected could also 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. Additionally, the concept rule was presented to your Board at the September 28, 2011 meeting, where public comment and further Board direction were given. Several changes were made to the proposed rule based upon Board direction, focusing on earlier implementation of the monitoring requirement and adding a requirement for submittal of a draft PMRP for APCD review in advance of the final Plan.

In addition, a change to the performance standard and the addition of conditional relief language related to milestone compliance has been proposed in the attached rule based on comments from State Parks, which are also explained below in section III.

III. RULE DISCUSSION

The proposed rule is shown in Attachment 1. Shown below are key sections of the Rule and an explanation of that section in italics.

C. GENERAL REQUIREMENTS

1. The CDVAA operator shall develop and implement an APCO-approved Temporary Baseline Monitoring Program to determine existing PM10 concentrations at the APCO-approved CDVAA and Control Site Monitor locations prior to implementation of the PMRP emission reduction strategies and monitoring program.

This section is based on Board direction to start monitoring before PMRP projects begin.

2. 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 C.3 and include:

   a. An APCO-approved PM_{10} monitoring network containing at least one CDVAA Monitor and at least one 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.

This section establishes the PMRP and monitoring requirements and specifies that a Pier Avenue track-out must be part of the PMRP.

3. The CDVAA operator shall ensure that if the 24-hr average PM_{10} concentration at the CDVAA Monitor is more than 20% 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.

This section is the performance standard used to ensure the PMRP measures reduce the dust emissions from the SVRA to levels similar to those at comparable control sites where no vehicle activity occurs. It is based on close compliance with the State 24-hour average PM_{10} standard of 50 ug/m3, but allows for a margin of error.

The first version of this performance standard contained in the concept rule specified that, if the 24-hour average PM_{10} concentration at the Coastal Dunes Vehicle Activity Area (CDVAA) 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 55 ug/m3 compliance threshold is based on the state PM_{10} standard plus a 5 ug/m3 buffer for equipment tolerances; the 10 ug/m3 violation trigger was proposed to account for known monitoring equipment tolerances as well as possible variations in upwind topography and meteorological conditions.

State Parks has requested the 10 ug/m3 difference between monitoring sites be changed to a 20% difference. Staff evaluated the request and determined it could be granted without weakening the enforceability of the Rule. The applied result of this proposed change is insignificant at lower PM_{10} levels but allows for a greater margin between the sites as concentrations increase, as shown in the following example: if the 24-hour PM_{10} concentration at the CDVVA monitor was 56 ug/m3, a violation would occur if the control site monitor was 44 ug/m3 (-21%) or less; under the previously proposed 10 ug/m3 margin, a violation would occur if control site monitor was 45 ug/m3 or less. In contrast, if the CDVAA 24-hour PM_{10} concentration was 150 ug/m3, the 20% violation threshold would allow a 30 ug/m3 difference between the monitors compared to the previous 10 ug/m3. Staff analyzed the Phase II study data using the 20% value and found it would not significantly change enforcement of the rule or the level of emission reductions needed to meet the performance standard.

4. 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.

This requirement ensures any project proposed in the PMRP or Temporary Baseline Monitoring Program complies with CEQA and NEPA requirements, as well as the requirements of any other regulatory or oversight agency.

5. All facilities subject to this rule shall obtain a Permit to Operate from the Air Pollution Control District by the time specified in the Compliance Schedule.

This section was added to clarify a requirement for an operating permit. Currently, no specific fee category exists for this type of operation. Prior to adopting a new fee category, the District Board is required to hold two hearings to receive public comment on the proposed fee.

D. EXEMPTIONS

1. Section C.3 shall not apply during days that have been declared an exceptional event by the APCO and where United States Environmental Protection Agency has not denied the exceptional event.

This exemption is consistent with Federal and District policies and was added to explicitly state that monitoring readings during exceptional events such as wildfires are not considered rule violations; it also addresses a comment from Blue Scape Environmental.

F. COMPLIANCE SCHEDULE:

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

   a. By February 28, 2012, submit a draft Monitoring Site Selection Plan for APCO approval.

   Requires drafting and submitting this plan proposal within 3½ months of Board approval.

   b. By May 31, 2012, submit a draft PMRP for APCO review.

   Requires drafting and submitting the draft PMRP within 6½ months of Board approval.

   c. By November 30, 2012, submit complete applications to the appropriate agencies for all PMRP projects that require regulatory approval.

   Allows an additional 6 months for further consultation with oversight agencies and application filings if necessary.

   d. By February 28, 2013, obtain APCO approval for a Temporary CDVAA and Control Site Baseline Monitoring Program and begin baseline monitoring.

Allows 12 months after submittal of the Monitoring Site Selection Plan to select sites, obtain oversight agency approval and install a monitoring system.

e. By May 31, 2013, complete all environmental review requirements and obtain land use agency approval of all proposed PMRP projects.

Allows 12 months after submittal of the draft PMRP to obtain oversight agency approval of the PMRP projects, including any environmental reviews.

f. By July 31, 2013, obtain APCO approval of the PMRP, begin implementation of the PMRP Monitoring Program, and apply for a Permit to Operate.

Allows 2 months to finalize the PMRP based on oversight agency conditions and obtain APCO approval.

g. By May 31, 2015, the requirements of Section C.3 shall apply.

Allows 20 months for PMRP projects to reduce emissions to meet the performance standard.

2. With the exception of section F.1.g, the CDVAA operator will not be subject to civil penalties for failure to meet any timeframe set forth in section F.1 caused solely by delays from regulatory or other oversight agencies required to consider and approve operator's PMRP or any part thereof.

All timelines were drafted to be the most expeditious possible given the expected time requirements. Section F.2 was added to explicitly state the APCD intention not to unfairly penalize the Operator for delays reasonably beyond the Operator's control.

IV. AFFECTED SOURCES

The only known facility that would be subject to Rule 1001at this time is the ODSVRA.

V. CONSIDERATION OF FINDINGS RELATED TO COST-EFFECTIVENESS OF CONTROL MEASURES

Pursuant to Health and Safety Code sections 40703 and 40922, the District has considered the cost effectiveness of the control measures required as a result of Rule 1001. District studies have concluded that the operations subject to this regulation are the only known emission sources that could be controlled and that would result in improvement to the ambient air quality at the impacted locations. The regulation's PMRP presents a best management practices approach that does not require specific projects or controls, but does require the Plan to contain emission reduction strategies sufficient to reduce ambient PM10 concentrations to levels comparable to natural background. Based upon ambient air monitoring data collected during the Phase 2 South County PM Study, achieving this goal is estimated to reduce exceedances of the State PM10 standard at the District's CDF monitoring site by about 75% compared to existing conditions.

When the PMRP is implemented Staff expects significant emission reductions. The mass of the reductions will be dependent on the types of measures selected by the facility operator and cannot be reasonably estimated. Staff also expects an economic benefit from the reduction of heath care costs associated with a reduction in ambient particulate matter concentrations, but again those cannot be reasonably calculated. A traditional cost effectiveness analysis to evaluate the cost per ton of emissions reduced is not applicable in this instance because the individual strategies and their emission reduction effectiveness is currently unknown, and will depend entirely on the measures proposed by the applicant. In the process of developing the PMRP, the affected source will develop the control strategies, rank their effectiveness and propose those measures they deem necessary and feasible, subject to APCD approval. Presumably, the operator will choose those control strategies that can meet the standard at the lowest cost.

The cost of developing the PMRP and complying with any necessary land use or other regulatory agency permitting requirements could range from $200,000 to $400,000 and possibly more, depending on whether development of the plan is outsourced and the type and extent of environmental review required for the various projects proposed in the Plan. Although significant costs associated with implementing proposed PMRP projects and programs are possible, those costs cannot be reasonably estimated because the projects of the PMRP are dependent upon the measures developed by the facility operator and are unknown. The cost for air monitoring has been estimated in Attachment 3, Monitoring Cost Estimate Spreadsheet. The cost of equipment purchase and installation per monitoring site is estimated at approximately $69,000, with annual operating and maintenance costs estimated at $15,500 per site. If utility based electrical power is unavailable as a selected site location, additional costs would be incurred based on distance to the nearest utility line or other power generation system.

VI. ENVIRONMENTAL DETERMINATIONS

The District is the regulatory and public agency with the principal responsibility for approving and implementing the proposed new Rule 1001. Clean air is a valuable and essential natural resource. Proposed new Rule 1001 will serve to aid in the restoration of this natural resource by reducing the amount of air pollutants introduced into the ambient air. The proposed rule will also serve to enhance and protect the environment by controlling and decreasing sources of air pollutants. Therefore, the adoption of proposed new Rule 1001 is not a "project" within the meaning of Section 21065 of the California Environmental Quality Act (CEQA).

The proposed rule simply requires a CDVAA operator to develop and implement a Temporary Baseline Monitoring Program and Particulate Matter Reduction Plan (PMRP), subject to review and approval by the APCD and further subject to all required land-use and other environmental approvals for the proposed PMRP, including review as required under CEQA and NEPA, to provide for particulate matter control measures to reduce PM emissions to comply with the rule. After significant staff analysis, there is no substantial evidence that implementation of the proposed rule itself will have a significant adverse effect on the environment, including indirect effects on the environment. Any potential environmental effects, whether direct or indirect, will depend entirely on the particular measures the CDVAA operator chooses to propose as part of the PMRP

Even assuming the rule were somehow considered to be a project under the California Environmental Quality Act (CEQA), it would be categorically exempt under CEQA as "Class 7 and 8" exemptions under Public Resources Code sections 20183 and 21084, and sections 15307 and 15308 (Actions by Regulatory Agencies for Protection of Natural Resources and the Environment) of the CEQA Guidelines (California Code of Regulations, Title 14, Division 6, Chapter 3. The categorical exemptions provide as follows:

> ***Section 15307. Actions by Regulatory Agencies for Protection of Natural Resources.*** *Class 7 consists of actions taken by regulatory agencies as authorized by state law or local ordinance to assure the maintenance, restoration, or enhancement of a natural resource where the regulatory process involves procedures for protection of the environment. Examples include but are not limited to wildlife preservation activities of the State Department of Fish and Game. Construction activities are not included in this exemption.*
>
> ***Section 15308. Actions by Regulatory Agencies for Protection of the Environment.*** *Class 8 consists of actions taken by regulatory agencies, as authorized by state or local ordinance, to assure the maintenance, restoration, enhancement, or protection of the environment where the regulatory process involves procedures for protection of the environment. Construction activities and relaxation of standards allowing environmental degradation are not included in this exemption.*

Public Resources Code Section 21159 Analysis

As identified above, this regulation does not constitute a project, or is categorically exempt under CEQA. However, Public Resources Code Section 21159 does require an abbreviated environmental assessment, as set forth below:

> ***21159.*** *(a) An agency listed in Section 21159.4 shall perform, at the time of the adoption of a rule or regulation requiring the installation of pollution control equipment, or a performance standard or treatment requirement, an environmental analysis of the reasonably foreseeable methods of compliance. In the preparation of this analysis, the agency may utilize numerical ranges or averages where specific data is not available; however, the agency shall not be required to engage in speculation or conjecture. The environmental analysis shall, at minimum, include all of the following:*
> *(1) An analysis of the reasonably foreseeable environmental impacts of the methods of compliance.*
> *(2) An analysis of reasonably foreseeable feasible mitigation measures.*
> *(3) An analysis of reasonably foreseeable alternative means of compliance with the rule or regulation.*
> *(b) The preparation of an environmental impact report at the time of adopting a rule or regulation pursuant to this division shall be deemed to satisfy the requirements of this section.*
> *(c) The environmental analysis shall take into account a reasonable range of environmental, economic, and technical factors, population and geographic areas, and specific sites.*
> *(d) Nothing in this section shall require the agency to conduct a project level analysis.*
> *(e) For purposes of this article, the term "performance standard" includes process or raw material changes or product reformulation.*

(f) This section is not intended, and may not be used, to delay the adoption of any rule or regulation for which an analysis is required to be performed pursuant to this section.

Environmental Analysis of Reasonably Foreseeable Methods of Compliance

The primary components of the rule that have any potential to cause an environmental impact are the requirement to develop and implement a Particulate Matter Reduction Plan (PMRP), and the requirement to establish and conduct air monitoring downwind of the riding area and a comparable non-riding area.

Particulate Matter Reduction Plan: There are numerous potential emission reduction measures that could be considered for inclusion in the PMRP, including installation of sand fencing; adding artificial roughness elements to the sand surface; planting vegetation in the dunes; re-establishment of foredunes; planting a wind row of trees; reducing vehicle access or activity; and various other possible PM emission reduction measures used successfully in other areas. A few of these potential measures were recently studied as pilot projects in an effort partially funded by State Parks.

Implementation of one or more of these measures may have the potential to cause an environmental impact. However, the rule is not prescriptive regarding these or any other measures that could be chosen for inclusion in the Plan. Thus, which measures will be selected, and how and where they will be implemented, is currently unknown. As a result, it is not possible to evaluate the potential environmental impacts of implementing the PMRP without engaging in significant speculation and conjecture, which Section 21159 expressly provides the District is not required to do. However, the rule requires compliance with CEQA prior to final approval of the PMRP to ensure any potential environmental impacts are evaluated once specific projects are defined.

Establishment of an Air Monitoring Network: The requirement to establish and maintain a minimum of two air monitoring sites also contains a significant level of uncertainty regarding the number and potential location of such monitoring sites; it is currently unknown if the monitoring sites will be located within or outside the SVRA. Nonetheless, some of the likely siting requirements are known, such as the need for electrical power; possible need for minor grading to install a small shed to house the monitoring equipment; and the need for vehicle access to each monitoring site.

There are a number of possible configurations for the equipment and structures needed to comply with the monitoring requirement in the rule. The configuration with the potential largest footprint would likely consist of a mobile trailer no larger than 8 feet by 10 feet to house a particulate sampler and related electronic equipment; a narrow, ten meter aluminum tower would likely be attached to the side of the trailer, with a weather vane and wind anemometer mounted on top of the tower. Data from the monitoring and meteorological equipment would likely be electronically telemetered via cell phone or land line to the APCD and the affected facility offices. Each site would likely need to be visited at least once every other week to perform equipment calibrations and other routine maintenance.

The rule requires that at least one monitoring site be located downwind of the riding area in a location designed to capture peak particulate levels generated by that area, and at least one monitoring site be located in a comparable area downwind of a non-riding area. Research will need to be conducted by the affected facility to determine the most appropriate locations for each

site. Without knowing the potential locations of those sites, it is not possible to evaluate their potential environmental impacts without engaging in significant speculation and conjecture. However, the rule requires compliance with CEQA prior to final approval of the monitoring plan to ensure any potential environmental impacts are evaluated once specific monitoring site locations are defined.

Analysis of Reasonably Foreseeable Feasible Mitigation Measures
Since it is not possible to identify any reasonably foreseeable environmental impacts from this rule, it is not possible to identify feasible mitigation measures.

Analysis of Reasonably Foreseeable Alternative Means of Compliance with the Rule
A reasonably foreseeable alternative means of complying with the PMRP requirement to develop and implement PM reduction strategies would be to reduce or eliminate vehicle activity on the dunes. Neither of these alternatives would result in significant environmental impacts.

A reasonably foreseeable alternative means of complying with the air monitoring requirements in the rule would be to utilize an existing APCD monitoring site downwind of the riding area to meet that portion of the monitoring requirement. Such use would not result in significant environmental impacts as those sites are already established and in use.

VII. PUBLIC AND AGENCY COMMENTS

Comments and responses are found in Attachment 2.

VIII. RULE ADOPTION FINDINGS

As required by Section 40727 of the California Health & Safety Code (H&SC), the District Board shall make findings of necessity, authority, clarity, consistency, non-duplication, and reference.

A. Necessity: The revisions are necessary to achieve the State PM10 ambient air quality standard.

B. Authority: Authority is given to the District to adopt rules pursuant to H&SC Sections 40001 and 40702.

C. Clarity: The proposed rule has been found by the District to be written in clear English and to be as easily understood as possible.

D. Consistency: The District has found the proposed rule consistent with existing District Rules and Regulations, existing state and federal guidelines, and similar Districts in the area.

E. Non-duplication: The revision does not result in a duplication of federal or state statutes or regulations where the requirements of any such statutes or regulations would be the same.

F. Reference: By adoption of the proposed rule the District is implementing, and making specific by adoption, applicable provisions of the state Health and Safety Code.

IX. CONCLUSION AND RECOMMENDATION

Staff recommends the adoption of proposed Rule 1001, Coastal Dunes Dust Control Requirements

X. ATTACHMENTS

Attachment 1, Proposed Rule 1001, Coastal Dunes Dust Control Requirements.

Attachment 2, Agency and Public Comments and Staff Responses.

Attachment 3, Monitoring Cost Estimate Spreadsheet

ATTACHMENT 1

RULE 1001 Coastal Dunes Dust Control Requirements *(adopted (date of Adoption)*

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 or sites 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 the daily management of 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. "Monitoring Site Selection Plan": A document providing a detailed description of the scientific approach, technical methods, criteria and timeline proposed to identify, evaluate and select appropriate locations for siting the temporary and long-term CDVAA and control site monitors.

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

11. "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.

12. "PMRP": Particulate Matter Reduction Plan.

13. "PMRP Monitoring Program": The APCO approved monitoring program contained in the PMRP that includes a detailed description of the monitoring locations; sampling methods and equipment; operational and maintenance policies and procedures; data handling, storage and retrieval methods; quality control and quality assurance procedures; and related information needed to define how the CDVAA and Control Site Monitors will be sited, operated and maintained to determine compliance with section C.3.

14. "Temporary Baseline Monitoring Program": A temporary monitoring program designed to determine baseline PM10 concentrations at the APCO-approved CDVAA and Control Site Monitor locations prior to implementation of the PMRP emission reduction strategies and monitoring program. The program shall include a detailed description of the monitoring locations; sampling methods and equipment; operational and maintenance policies and procedures; data handling, storage and retrieval methods; quality control and quality assurance procedures; and related information needed to define how the temporary monitors will be sited, operated and maintained to provide the required baseline data. The temporary monitors shall meet the specifications of the CDVAA and Control Site Monitors unless otherwise specified by the APCO.

15. "Track-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.

16. "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.

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

18. "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

6. The CDVAA operator shall develop and implement an APCO-approved Temporary Baseline Monitoring Program to determine existing PM10 concentrations at the APCO-approved CDVAA and Control Site Monitor locations prior to implementation of the PMRP emission reduction strategies and monitoring program.

7. 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 C.3 and include:

   a. An APCO-approved PM_{10} monitoring network containing at least one CDVAA Monitor and at least one 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.

8. The CDVAA operator shall ensure that if the 24-hr average PM_{10} concentration at the CDVAA Monitor is more than 20% 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.

9. 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 or Temporary Baseline Monitoring Program require environmental review.

10. All facilities subject to this rule shall obtain a Permit to Operate from the Air Pollution Control District by the time specified in the Compliance Schedule.

D. Exemptions

1. Section C.3 shall not apply during days that have been declared an exceptional event by the APCO and where the United States Environmental Protection Agency has not denied the exceptional event.

E. 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.

F. COMPLIANCE SCHEDULE:

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

   a. By February 28, 2012, submit a draft Monitoring Site Selection Plan for APCO approval.
   b. By May 31, 2012, submit a draft PMRP for APCO review.
   c. By November 30, 2012, submit complete applications to the appropriate agencies for all PMRP projects that require regulatory approval.
   d. By February 28, 2013, obtain APCO approval for a Temporary CDVAA and Control Site Baseline Monitoring Program and begin baseline monitoring.
   e. By May 31, 2013, complete all environmental review requirements and obtain land use agency approval of all proposed PMRP projects.
   f. By July 31, 2013, obtain APCO approval of the PMRP, begin implementation of the PMRP Monitoring Program, and apply for a Permit to Operate.
   g. By May 31, 2015, the requirements of Section C.3 shall apply.

2. With the exception of section F.1.g, the CDVAA operator will not be subject to civil penalties for failure to meet any timeframe set forth in section F.1 caused solely by delays from regulatory or other oversight agencies required to consider and approve the operator's PMRP or any part thereof.

ATTACHMENT 2

AGENCY AND PUBLIC COMMENTS AND STAFF RESPONSES

State of California • The Resources Agency
Edmund G. Brown Jr., *Governor*

DEPARTMENT OF PARKS AND RECREATION • P.O. Box 942896 • Sacramento, CA 94296-0001
Ruth Coleman, *Director*

Off-Highway Motor Vehicle Recreation Division
1725 23rd Street, Suite 200
Sacramento, California 95816

September 28, 2011

Mr. Bruce Gibson
Chair
Air Pollution Control District
County of San Luis Obispo
3433 Roberto Court
San Luis Obispo, CA 93401

Re: Draft Rule 1001 – Coastal Dune Dust Control Requirements
Comments for September 28th, 2011, SLO APCD Board Meeting

Dear Mr. Gibson,

The California Department of Parks and Recreation, Off-Highway Motor Vehicle Recreation Division (OHMVR Division) appreciates the opportunity to comment on the September 6, 2011, San Luis Obispo County Air Pollution Control District (ACPD) Draft Rule 1001 – Coastal Dune Dust Control Requirements (Draft Rule).

The Draft Rule purports to establish a general application to any "Coastal Dune Vehicle Activity Area (CDVAA)," but in reality, the only target is the Oceano Dunes State Vehicular Recreation Area (SVRA). The OHMVR Division operates Oceano Dunes SVRA for the enjoyment of California citizens. The park offers 3,600 acres of beautiful scenery along the Pacific Ocean, including the beach, coastal sand dunes, wetlands, lakes, and riparian areas. Last year, the park provided almost 1.6 million visitors with access to the coast for camping, off-highway vehicle recreation, fishing, surfing, and other beach-oriented recreation. Approximately 2,100 acres of the park are closed to motorized recreation and managed as native habitat. State Park staff offers and hosts a variety of education and safety programs unique to the park, including youth safety clinics, Junior Ranger programs, guided walks, campfire programs and more. This park is important to California State Parks, to the off-highway vehicle and recreation communities, and to the local coastal economy.

Our comments fall into four general categories: 1) the need to focus on a Particulate Matter Reduction Plan (PMRP) at this stage of rulemaking; 2) the lack of scientific validation to support the underlying concept of comparative monitoring in the Draft Rule; 3) the need to provide sufficient time and process for implementation; 4) revised language of the Draft Rule. I outline these concerns here. Please consider these to be

preliminary remarks; the OHMVR Division intends to submit additional comments on the Draft Rule as the ACPD moves forward with its rulemaking activities on this matter.

1. Any rulemaking at this stage should focus on the PMRP.

The OHMVR Division acknowledges the regional particulate matter problem and accordingly, began working collaboratively with the APCD and San Luis Obispo (SLO) County to evaluate pilot projects that could be incorporated into a PMRP. Thus we are concerned this Draft Rule was developed apart from the collaborative process and does not reflect scientific findings to date. Specifically, there is no agreement as to the degree to which Oceano Dunes SVRA activity contributes to elevated PM10 on the Mesa or how PM10 can be controlled and there is no scientific basis to estimate the scope of cost-effective control measures. Rather, the Draft Rule imagines that the APCD directive can be met, without taking into account the practicality of measures and the financial and environmental cost to the State.

The Draft Rule imposes a traditional "command and control" regulatory approach, which is not appropriate for the Oceano Dunes SVRA at this time. The Draft Rule needs to provide a flexible, iterative, and progressive process for the PMRP that allows the OHMVR Division to implement and validate PM10 monitoring and, if found to be appropriate based on the monitoring results, design, implement, evaluate, and manage control measures in that order. Instead, the Draft Rule seeks to establish a hard line performance standard for determining compliance based on an untested ambient monitoring system.

During the South County Particulate Matter (PM) Workshop on September 7, 2011, the APCD staff stated that "there is no stack we can stick a probe in" to instantly determine compliance status of the Oceano Dunes SVRA and that development of the PMRP will be an "iterative process." We strongly support these remarks, and appreciate the time and energy APCD and SLO County staff have provided over the past year to collaboratively work with the us to examine and address the unique and complex coastal dune environment of Oceano Dunes SVRA and its potential effects on downwind PM10 concentrations in an iterative manner, first as part of the Memorandum of Agreement and then in support Desert Research Institute's (DRI) Stage 1 Pilot Projects.

The Draft Rule does include a requirement for a PMRP (Rule C.1.) requiring inclusion of both: (1) "An APCD approved PM10 monitoring network containing a CDVAA Monitor and a Control Site Monitor." and (2) "A description of all PM10 control measures that will be implemented to reduce PM10 emissions to comply with this rule, including the expected emission reduction effectiveness and implementation timeline for each measure." The PMRP should be the focus of a rule, with the feasibility and scientific validation of comparative observations or other monitoring being among the first iterative steps in the PMRP.

While a monitoring network similar to that proposed in the Draft Rule may be part of the PMRP, validating the monitoring network must precede any attempt to adopt a rule that would otherwise subject the OHMVR Division to unknown, speculative violations for phenomena outside its control.

The OHMVR Division requests that any rule promulgated now focus solely on the development of a PMRP and allow the PMRP and APCD approval process of the PMRP to determine the scope of the monitoring and control measures. The PMRP would address all necessary details, including sand track-out prevention (now in Draft Rule as C.1.c.) and many other activities not specified in the Draft Rule. The PMRP would be binding on the OHMVR Division and failure to perform according to the PMRP would constitute a violation of a rule referencing the PMRP. That requirement would be sufficient for enforcement.

2. There is no validation of comparative PM10 measurement as a basis to support the Draft Rule in order to determine rule compliance.

There must be a process in place for the OHMVR Division and APCD to validate the results of PM10 monitoring before any monitoring-based performance requirement is imposed on the park through APCD rulemaking. The principal concept underlying the Draft Rule is that observations of ambient PM10 air concentrations at two locations are sufficient to conclude either rule compliance or rule violation. While simple in concept, in practice, it cannot be relied on as the primary means of determining compliance. We will submit further technical discussion of this issue, but the main points are highlighted here.

The Draft Rule's proposed monitoring concept is predicated on the availability of feasible, reliable, scientifically valid comparative observations. APCD has not demonstrated that this can be done at Oceano Dunes SVRA and surrounding area. It is by no means clear that the required comparative observations are feasible. Note that the DRI Pilot Project study did not use the measuring process proposed in the Draft Rule or indeed, any ambient air monitoring.[1] As the promulgator of the rule, APCD should demonstrate that the proposed approach is feasible, or if unable to do so, at least allow reasonable time for the OHMVR Division to obtain expert advice to be assured that it can indeed fulfill Draft Rule requirements. If it cannot be reliably concluded that comparative observations are feasible, the APCD will need to establish some other basis for determining rule compliance, such as compliance with action items in an adopted PMRP.

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[1] Both the principal investigators at Desert Research Institute (DRI) and the APCD's own staff vigorously objected to any in-field PM10 monitoring as part of the pilot projects undertaken by DRI during April – May 2011 due to technical concerns and limitations. APCD staff cited the extremely variable results from monitoring and asserted that it would be essentially impossible to discern any pilot treatment effects. We concurred.

Such a validation process is essential to inform several aspects of comparative monitoring. As presently suggested in the Draft Rule, the comparison would be made for any 24-hour period. Given the variability in meteorology, there may be days when the CDVAA monitoring site exceeds the Control site and days when the converse is true. Some statistical measure may be needed to look at a number of exceedances over a longer period, such as the spring windy season, before inferences can be drawn about the effect of activities in the SVRA. Until such a validation process occurs, there is no basis for the current 24-hour performance measure as proposed in the Draft Rule.

Adoption of the Draft Rule must await implementation of such a validating procedure or, at the very least, implementation and enforcement of the rule must be conditioned on successfully establishing through the PMRP that the monitoring network will produce valid monitoring data on which control projects will be based and the performance standard enforced.

3. There needs to be adequate time for external approvals and for PMRP implementation.

The Draft Rule as proposed does not allow for constraints or conditions beyond the control of the OHMVR Division. While the OHMVR Division recognizes the APCD's mandate to address a regional PM problem, other agencies and the public will have an advisory or regulatory role in the OHMVR Division's compliance with the Draft Rule as written. The Draft Rule outlines a process and a schedule that does not adequately take into account external constraints such as State budget and statutory contracting procedures, compliance with California Coastal Commission regulations, and the need to reconcile potentially conflicting mandates to serve public recreation, maintain coastal dune ecological integrity, and manage State or federally protected species.

Implementation of measures required under the Draft Rule will require the OHMVR Division to obtain approval from other government agencies such as SLO County and/or the California Coastal Commission, as well as comply with the requirements of the California Environmental Quality Act (CEQA) and ensure compliance with the State and Federal Endangered Species Acts. The Draft Rule establishes an 18-month compliance schedule for the OHMVR Division to obtain all required permits from appropriate land-use and government and comply with the requirements of CEQA and the National Environmental Policy Act. Not only is this process required prior to planning, including validation of monitoring, this aggressive schedule assumes flawless coordination amongst multiple government agencies and allows minimal time for us to respond to public comments received on CEQA documents, such as an Environmental Impact Report. The extent of agency review periods and the public comments received on environmental documents are difficult to predict. We simply cannot be held responsible for compliance delays resulting from other agencies failing to act in a timely manner or from extensive public comments on environmental documents. The Draft Rule needs to include a provision that excludes the OHMVR Division from schedule-related violations

resulting from agency reviews and public comments or other conditions that are beyond our control.

4. Rule Language

As our preceding comments make clear, the OHMVR Division does not endorse the APCD's current simplistic approach to the broad problem of coastal dune particulate matter by relying on comparative monitoring for enforcement. If the APCD does pursue this approach, however, we suggest text changes to clarify what we believe is the intent of the current Draft Rule. Please see attached recommended changes to the language of the Draft Rule.

Some of the changes extend timelines to deal with technical and regulatory hurdles that are beyond OHMVR Division control. We suggest the rule make these extensions, contingent on the ongoing progress on the PMRP.

Other edits reflect the need to ensure that the monitoring comparison sites are comparable and that a procedure is contemplated in the event monitoring comparisons do not reveal correctable differences between PM10 measured at the CDVAA site and measurements at the Control Site Monitor or that control projects turn out not to be cost-effective in reducing PM10 exceedences.

* * *

Over the past year, the ACPD, SLO County, and the OHMVR Division have worked collaboratively to examine the feasibility of potential control measures at Oceano Dunes SVRA, culminating in the recent pilot projects designed and implemented by DRI. While the scope of the DRI pilot projects was necessarily limited, the pilot project results offer a promising start and we intend to follow up on this science-based approach in drafting the PMRP for APCD approval.

The DRI work did show the effectiveness of surface roughness elements and vegetation at reducing sand transport and consequent PM10 emissions. It also showed that riding was likely <u>not</u> a dominant source of PM10. DRI showed "...the variability in PM10 emissions among the test sites to be modest, generally less than a factor of 1.75 between the most emissive area (near fence locations) and least emissive straw bale site." (Final Report, September 15, 2011, page 52). Note that the straw bale site measurements were taken <u>before</u> the straw bales were placed – it is a heavily used riding area, but was the least emissive area observed by DRI. The current APCD approach seeks to impose a standard for violations on the Oceano Dunes SVRA based on an untested monitoring scheme and would levy fines against the State based on an assumption that high PM10 is a direct consequence of activities on the Oceano Dunes SVRA. None of the science in either the Phase 2 study, the OHMVR Division's meteorological monitoring, or in the DRI Pilot Project supports this approach. It would be irresponsible to persist on the simplistic, unfounded path of the current rule.

Attachment to Letter to Bruce Gibson
September 28, 2011

Note: Comments and proposed changes are highlighted.

DRAFT
SEPTEMBER 6, 2011

RULE 1001 Coastal Dune 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, that 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 PM10 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) PM10 monitor capable of measuring hourly PM hourly 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) PM10 monitor capable of measuring hourly PM10 concentrations continuously on a daily basis, and an APCO-approved wind speed and wind direction monitoring system. The following criteria shall be used for selection of the

Control Site Monitor to ensure that the CDVAA and Control Sites are similar, measure only emissions from the CDVAA, and produce comparable results: (a) geomorphology; (b) size of the open sand fetch; (c) upwind PM10 sources; and (d) prevailing wind regimes.

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": 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. ["Carry-Out" is not used in rule.]

13. "Track-Out Prevention Device": A gravel pad, grizzly, rumble strip, wheel wash system, or a paved area, or other effective measures(s) 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. [Original 15. "Visible Dust Emissions (VDE)" not relevant or referenced in rule.]

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.

17. "CDVAA Exceedance": Whenever the 24-Hour Average PM_{10} Concentration measured at the CDVAA Monitor exceeds 55 ug/m3 and is more than 20% greater than the Control Site monitor. [Meets intent of allowing for twice FEM 10% measurement tolerance.]

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 according to an APCO approved Track-Out Prevention Device(s), method and schedule. [Original detail not appropriate at this stage of rulemaking.]

2. The CDVAA operator shall ensure that:

Implementation of the PMRP results in a net decrease in the PM_{10} level downwind of the CDVAA as compared with at the Control Site Monitor, determined as follows: For each three-month season there shall be no greater than ten CDVAA Exceedances. [A place holder pending determination of a statistically valid measurement of actual difference between CDVAA and Control.]

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 use its best efforts, and subject to variance for conditions or events beyond its control, shall comply with the following compliance schedule:

a. Obtain APCD and other agency approvals of the monitoring network; install the monitoring network; and validate the monitoring results by twenty-four (24) months from the date of rule adoption.

b. Obtain APCO approval of a proposed PMRP by thirty (30) months from date of rule adoption).

c. Obtain land use agency approval as specified in C.3. of all proposed PMRP projects by thirty-six (36) months from date of rule adoption.

d. Subject to variance for conditions beyond CDVAA Operator's control and/or Section F, the requirements of Section C.2 shall apply twenty-two (22) months from the date of APCO approval of the PMRP, or fifty-two (52) months from date of rule adoption.

e. The requirements of Section C.4 shall apply by fifty-two (52) months from date of rule adoption.

F. This rule will sunset and be of no further force and effect upon the occurrence of any of the following:

a. The monitoring network fails to validate that the CDVAA contributes more than 20% of the PM_{10} level that naturally occurs as measured at the Control Site Monitor.

b. The PMRP projects fail to produce a reduction of PM_{10} as measured by the monitoring network.

Response to State Parks September 28, 2011 Comments on Proposed Rule 1001

1. Any Rulemaking at this stage should focus on the PMRP

Response: The San Luis Obispo APCD appreciates the desire of the OHMVR Division to continue to work collaboratively together on the regional particulate matter problem. Our rule development process is used by all air districts in the state as a means to consistently develop regulations without bias or preferential treatment to any source.

The PMRP is indeed the focus of this particular rule. The PMRP can be drafted to provide flexibility in meeting air quality goals using mitigation strategies that work best for the OHMVR Division and allowing iterative and progressive modifications to the PMRP (with APCO approval) if strategies are found to be insufficient and in need of modification.

Regarding the monitoring requirement in the rule, the Phase 2 study documented substantial differences between PM10 levels measured at the Oso control monitoring site compared to the levels measured at our CDF and Mesa 2 sites and concluded OHV activity was substantially responsible for this difference. State Parks has stated publicly they believe the OHV activity has some contribution to the downwind PM concentrations, but are uncertain of how significant that impact is. The monitoring requirement is designed to measure, on an ongoing basis, the actual impact of OHV activity on elevated ambient PM concentrations measured downwind from the site. Should the monitoring show the contribution from OHV activity is small, the emission reduction requirements for State Parks would be correspondingly small.

2. *There is no validation of comparative PM10 measurement as a basis to support the Draft Rule in order to determine rule compliance.*

Response: As shown in the Phase 2 study, there is a level of natural emissions from any open sand/dirt area. However, PM10 levels measured downwind of the riding area were consistently and substantially higher than those measured downwind of similar, undisturbed dunes in the study. In order to develop enforceable conditions to ensure that natural background emissions are not exceeded, the APCD retained Countess Environmental to assist with developing a performance standard to be incorporated into the fugitive dust rule. The resulting performance standard ensures that State Parks will only be held accountable for emissions above what would naturally occur without OHV activity.

State Parks contends the decision not to use ambient air monitoring for evaluating the emission reduction effectiveness of the DRI pilot studies indicates that monitoring is an inappropriate method to determine compliance; this is incorrect. Ambient air monitoring is an approved and appropriate method to measure air quality levels at the regional, local and neighborhood scale, and to measure the downwind impacts of large emission sources, such as the SVRA. It is not an appropriate method to measure the impacts of very small scale projects like those performed by DRI due to the inability to factor out potentially large influences from other environmental factors outside the boundaries of the projects; both DRI and District staff agreed on that point. The size of the SVRA and scale of the PMRP projects that will be implemented to reduce emissions, however, are large enough to be able to design an ambient air monitoring program that can factor out the majority of those outside influences and provide assurance that the monitoring results accurately reflect the impacts of the upwind source for both the riding area and non-riding area.

A provision in the rule has been added to provide a temporary baseline monitoring program that will address the concerns over the technical aspects of selecting appropriate locations for monitors.

3. There needs to be adequate time for external approvals and for PMRP implementation.

Response: We believe the compliance schedule proposed in the rule is aggressive, yet feasible, based on the numerous agency oversight and permitting requirements facing the operator in complying with the rule. Nonetheless, we recognize the ability of the operator to meet several of the compliance deadlines will partially depend on some factors beyond their control, such as delays due to workload constraints at a permitting agency. The operator will not be held liable for missing compliance deadlines caused solely by circumstances beyond their control. Additional language has been added to the rule in Section F.2. to reflect this intent.

4. Suggested Changes to Rule Language

Response: Most of State Parks suggested changes to the rule language cannot be incorporated without changing the purpose and intent of the rule. However, APCD staff does agree with some of the suggested changes and has proposed the following revisions to the rule based on those comments:

- The Visible Dust Emissions definition has been deleted.
- The performance standard has been revised to replace the 10ug/m3 buffer between the CDVAA monitor and control site monitor with a new metric that would use a 20% difference between the two monitors as the threshold for determining compliance.
- A new clause, Section F.2., has been added to state the operator will not be held liable for missing compliance deadlines caused solely by circumstances beyond their control.

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November 2, 2011

Board of Directors
San Luis Obispo County
Air Pollution Control District
3433 Roberto Court
San Luis Obispo, California 93401

Mr. Larry R. Allen
Air Pollution Control Officer
San Luis Obispo County
Air Pollution Control District
3433 Roberto Court
San Luis Obispo, California 93401

Re: Friends of Oceano Dunes' Updated and Revised Comments Opposing Proposed SLO APCD Rule 1001 (Oct. 12, 2011 Draft)

Dear SLO APCD:

This firm represents Friends of Oceano Dunes, Inc. a California not-for-profit corporation ("Friends"). Friends represents some 28,000 members and users, including local businesses, local land owners and residents, Oceano Dunes SVRA users, and off-highway vehicle (OHV) enthusiasts and supporters. It supports the continued use of Oceano Dunes for OHV recreation, without further restrictions.

These comments are being submitted on behalf of Friends with respect to the SLO APCD's proposed Rule 1001: "Coastal Dune Dust Control Requirements."

Friends believes that the proposed rule is scientifically and legally flawed and is *driven by politics, not science.* There is no sound evidence whatsoever that OHV recreation is a significant contributor to PM-10 levels in SLO County.

Friends is also concerned that the public has been asked to file comments no later than today, November 2, 2011, when staff has not issued a report on the rule that takes into account the September 28, 2011 Board hearing, corresponding public comments, and modifications to the September 6, 2011 draft of the rule. Friends reserves the right to supplement these comments if additional

information is released or provided by SLO APCD.

Additional concerns about, and comments on, the proposed Rule are provided below:

1. The Premise of the Rule That OHV Activity Is Significantly Contributing to Dust and PM-10 from the Coast Is Wrong.

The basic premise of Rule 1001 is that OHV recreation at Oceano Dunes SVRA contributes significantly to dust and PM-10 from the coast. The scientific evidence does not support, and indeed, contradicts this.

Airborne particulates are anything but new to the Nipomo Mesa and surrounding region. The Mesa itself is composed of Pleistocene and Holocene era sand dune deposits, thousands of years old and several hundred feet thick.

Dust and particulate levels created by the sand dunes are a function of winds and naturally occurring processes.

This phenomenon was present before OHV ever existed. Historical records reflect that blowing sand from the dunes in the area from the mid-1800s through the early 1900s ruined barley and other crops. The area was a "breeding place of winds that turned into an inferno of frequent sandstorms about as formidable as those of the Sahara." Neither these winds nor the resulting sand storms had anything to do with OHV recreation.

A 1916 U.S. Department of Agriculture Soil Survey noted that "Santa Maria Valley, being open to the ocean, receives the full force of the west and northwest winds, resulting in the building of extensive sand dunes and the formation of other wind-blown soils."

"A land use survey for only the Nipomo Mesa Management Area was performed in 2007 based on 2007 aerial photography. Based on these surveys, land use in the NMMA has changed dramatically over the past half-century. Urban development has replaced native vegetation at an increasing rate, especially over the past 10 years. The generalized loss of vegetation resulting fro increased from development has likely increased the blowing of dust and sand.

Modern scientific studies have shown that PM-10 material is produced by abrasion every time the wind blows. This is true regardless whether there is vehicle activity on the dunes or the beach. (J.E. Bullard, et al., *Aeolian abrasion and fine particle production from red sands: an experimental study,* 2002.) Recent reports on the western snowy plover suggests that winds in the area were particularly strong during 2010. These documented increased winds are a more likely cause of increased dust recently than OHV recreation which has actually declined from 2008-2010.

Before the recent politically motivated effort, even the SLO APCD discounted any claim that OHV caused sand blowing off the dunes: In 2003, district staff wrote, "the absence of any significant 'weekend or holiday effect' implies that the impact of off-highway vehicle traffic on particulate levels at these monitored locations is minimal." A 2007 study concluded "this study does

not definitively identify the impact to particulate concentrations on the Mesa from off road vehicle use at the Oceano Dunes." Finally, the most recent 2010 study again found direct emissions impact from OHV activity "is not the major factor responsible for the high PM levels downwind from the SVRA."

The Phase 2 Study has not proven a concrete, direct correlation between OHV recreation and impacts on downwind monitors. All that appears to be supportable is that PM-10 impacts tend to be greater during high wind events from sources in the direction of the dunes. In fact, the DRI pilot study showed the emissions potential during typical wind events is not different for areas with OHV use versus areas without OHV use.

Further, SLO APCD staff admits that the PM-10 levels include naturally-occurring dust caused by winds even on the non-riding areas of the SVRA. The SLO APCD has not demonstrated clearly that OHV activity is directly or indirectly causing a significant increase to PM-10 concentrations that otherwise exist due to dozens of other sources. SLO APCD has not shown that contributions from riding areas are causing violations of federal or state PM-10 standards.

SLO APCD has admitted its studies lack any direct measure of OHV activity at Oceano Dunes SVRA. Staff also has admitted that they found "no correlation between OHV activity within the SVRA and PM-10 levels at CDF or Mesa2 [monitoring sites]." It is thus difficult to understand how the SLO APCD can conclude that exceedances are being caused by OHV activity.

Other recent studies of sand dunes elsewhere have concluded that unvegetated dunes produce little or no dust emissions. See U.S. Bureau of Land Management Nellis Dunes Recreation Area Study (2011) [Ch. 12, Section 4.2.5 Recommendations: "(1) ...drivers should stay on the trails at all times except in the unvegetated dunes of unit 1.1 where driving does not increase dust emissions and does not disturb the soil." (2) ...When considering dust emissions generated by ORV use, it is not necessary to reduce the driving speed in the unvegetated dunes (unit 1.1) because that activity has little effect on dust emissions; Ch. 12, Section 2.1.5 Productivity of the Surface Units: "The unvegetated dunes (unit 1.1) produce significantly less dust."; Ch. 12, Section 2.2.1 Dust Production Capacity: "The units with the lowest capacities to produce ORV dust are 3.5 (bedrock) and 1.1 (unvegetated dunes)."; Ch. 12, Section 2.2.5 Deflation Thresholds in ORV Trails: ". . . sandy surfaces require more wind to initiate dust emissions after ORV driving because the disturbance has increased compaction of the sand." Ch. 12, Section 2.2.9 Creation of New Trails: "... sandy surfaces do not increase emissions after disturbance by ORV activity."; Ch. 12, Section 3.1 Risk Maps for Dust Emission Caused by ORV Activity: ". . . the least emissive units from ORV driving alone, are always 1.1 (unvegetated dunes) . . . Therefore, a management plan to decrease direct emission generated during ORV activity would need to encourage or instruct drivers to stay within the areas covered by unvegetated sand dunes (1.1) . . . ."; Ch. 12, Section 3.4 Risk Maps for Total Emission (wind erosion + ORV): "Driving in the central sand dunes has very little effect on total emission. For unit 1.1 (dunes with no vegetation) the emission class is stable over

the entire ORV driving speed range of 0-50 km h-1 for all three grain-size fractions."; Ch. 12, Section 4 Analysis and Recommendations: "In the sandy areas ... wind erosion is the major initiator of dust emission. Due to the large extent of these surfaces, and also because of their high natural mobility, active intervention in these zones is very difficult and may also have a negative ecological impact. ORV limiting measures in these zones have little to no effect because these surfaces produce nearly no ORV-generated dust."; Ch. 12, Section 4.1.1 ORV-Generated Emissions: "a recommendation to lessen dust emissions that is based solely on the emission rates for ORV activities would be to encourage the ORV community to stay in the sand areas (especially the unvegetated sand dunes)."]

Hence, despite claims that there is science supporting the proposed Rule, in fact, there is no credible science establishing that OHV recreation on the dunes creates any significant dust or PM-10 emissions or violations of federal or state standards. The record establishes exactly the opposite.

2. The Proposed Rule Focuses on OHV Recreation for Political Reasons and Ignores Other More Likely Sources of Dust and PM-10.

Draft Rule 1001 applies only to an "operator of a coastal dune vehicle activity area . . . that is greater than 100 acres in size." Of course, everyone knows there is only one such facility: Oceano Dunes SVRA. But that was the target all along.

If OHV at Oceano Dunes SVRA contributes to dust or PM-10, its contribution is minimal. Winds blowing off the coast have been carrying dust inland off the dunes for hundreds of years – long before OHV recreation even existed. If OHV recreation ceased immediately and entirely, winds would continue to blow dust off the dunes. It is what nature does. OHV has just become the SLO APCD's scapegoat for a natural process.

SLO APCD completely ignores the many dirt roads immediately near the monitors and has not evaluated whether those roads are actually causing heightened readings. SLO APCD ignores dirt roads throughout the County. SLO APCD ignores dust from extensive agricultural activity in the area. SLO APCD also turns a blind eye to dozens of other sources, including: unpaved roads, paved roads, industrial and manufacturing sources including the ConocoPhillips Refinery Project, diesel exhaust, smoke from burning, open dirt construction sites, grading and fill operations, construction equipment hauling, road construction, building and housing construction, sea salt spray, and agricultural operations.

These natural and other manmade activities are much more likely to cause elevated PM-10 levels.

3. SLO APCD Has Failed to Show "Necessity" or "Authority" In Violation of Health and Safety Code Section 40727.

Under Health and Safety Code § 40727 (a), before adopting a rule or regulation, the district board must make findings of necessity, authority, clarity, consistency, nonduplication. Given the failure to demonstrate that OHV recreation is significantly contributing to PM-10 exceedances, the SLO APCD has failed to comply with this statute. "Necessity" means that a need exists for the regulation. Since these are natural events, not man made, a rule intended to address OHV riding will have little effect on PM-10 levels and is not "necessary." SLO APCD has failed to show authority to promulgate this rule since this phenomenon is natural, not man made. Finally, it has failed to propose a rule that is written so that its meaning can be easily understood by the persons directly affected by it.

4. The Rule Defines "Coastal Dune Vehicle Activity Area" in Way That is Disconnected from the Definition of "Coastal Zone" Under the Coastal Act, Creating Permitting Jurisdiction Issues.

Rule 1001's definition of "coastal dune vehicle activity area" is different than and ignores the definition of "coastal zone" in the Coastal Act, creating confusion as to what permit approval is needed for any PMRP (and from what governmental entities). This may result in permitting jurisdiction battles, which will make obtaining the required permits for the PMRP within the timeframe specified infeasible, if not impossible.

5. The Proposed Rule's Definition of "CDVAA Operator" Includes the County, Making It Equally Responsible for Fines and Penalties Assessed under the Rule.

The proposed Rule's definition of "CDVAA Operator" is vague and ambiguous. It appears to include the County of San Luis Obispo which is "responsible" for part of the Oceano Dunes SVRA as the owner of the La Grande Tract. The revised rule adds the modifier "daily management," but it would appear this still includes the County. The County is ultimately responsible for the La Grande Tract, even if it has delegated that responsibility. If the APCD is intending to impose responsibility for this rule solely on State Parks, it should define CDVAA Operator as "State Parks." If it does not do so, then it is presumed that SLO APCD intends to include other entities with responsibility for the area, such as the County.

Accordingly, the County also will be responsible for any violations, fines and penalties assessed under the Rule.

As written, the Rule also requires the County to submit a PMRP in addition to, or in conjunction with State Parks, since the County is ultimately responsible for the La Grande Tract (even for daily management, although that responsibility has been delegated). The County therefore will be in part responsible for costs

related to the PMRP including the monitoring costs. Likewise, the Rule makes the County equally responsible for obtaining permits for the PMRP.

6. The SLO APCD Is Exceeding Its Authority By Attempting to Regulate an Event Which Is Not an "Emission" Under State Air Quality Laws.

The proposed Rule attempts to regulate wind blown dust caused by natural high wind events. That is not an "emission" under state air quality laws. In *Western Oil and Gas Assn v. Orange County Air Pollution Control District* (1975) 14 Cal. 3d 411, the California Supreme Court defined emission as discharge or release of pollutants: "The word 'emit' means to 'send out: discharge, release.' "

In *Environmental Defense Fund v. California Air Resources Board* (1973) 30 Cal. App. 3d 829, the Court stated: "Webster's Third New International Dictionary defines 'emission' as something that is sent forth by or as if by emitting. 'Emit' is defined as follows: 'to send out, discharge, release, as to throw or give off or out.'

Thus, the use of the words "discharge or release" implies a conscious human decision in order for there to be an "emission," yet the proposed Rule seeks to regulate emissions caused by natural events, i.e., wind. This is not a situation where a factory is creating emissions, which are then carried off site by the wind. Rather, the wind itself is what causes sand and dust to blow off site.

As such, SLO APCD is exceeding its authority by attempting to impose regulatory controls on a permittee for natural events which are not "emissions".

7. The Proposed Rule's Performance Standard is Arbitrary and Unsupported.

The Rule's proposed performance standard for PM-10 is not based on science, but rather is an arbitrary figure not related to the protection of human health or safety.

In addition, the performance standard assumes that if PM-10 levels are higher at the CDVAA Monitor than the Control Site Monitor, that the difference is caused by OHV riding or operations, or the result of riding on sand in certain areas. This assumption has not been proven scientifically. Differences could also be the result of a variety of other factors (noted in the BlueScape report), but the proposed Rule provides no opportunity for State Parks to demonstrate that the exceedance is due to some factor not in the control of State Parks.

8. The Proposed Rule May Subject the SLO APCD to ESA Liability for the Mandated Implementation of the PMRP Without Regard to Sensitive Species.

If the Rule is adopted, the SLO APCD may be liable under the ESA for mandating action that results in take of sensitive, threatened or endangered

species, without allowing adequate time to prepare an approved habitat conservation plan (HCP), or to obtain an incidental take permit.

Likely control measures include adding vegetation or hay bails to certain areas on the dunes. Adding vegetation could negatively affect the environmental dynamics and functions of this site designated as critical habitat by impacting connectivity and expansion. Placing vegetation in areas where western snowy plover might nest or occupy could adversely affect the plover or its breeding. There needs to be a study on what types of plants can be used and are effective and can be used with existing plants to ensure that there will not be any invasive species, aggressive or nonnative weeds that could impact connectivity or conservation or impact native coastal species, or cause habitat fragmentation or loss. Areas vegetated with new types of plants may attract additional animal species that may prey on the plover or the California Least Tern, two protected species. The location and placement of new plants might affect the plover living area needed for space, food, growth, cover, breeding, reproduction, rearing and protected habitat. The new vegetation might require maintenance, including pesticide applications that impact the coastal dune environment. The placement of hay bales could impact the winds used for dispersal of seeds. "Winds are an essential dispersal vector that helps move Cirsium loncholepis seeds between areas of suitable habitat; as a result, the vegetated islands become essential in maintaining connectivity within and between occurrences and populations."

State Parks is presently working on a habitat conservation plan (HCP) in order to obtain an incidental tale permit under the federal ESA. The PMRP should be incorporated into that planning effort to ensure compliance with the ESA, and the Compliance Schedule adjusted accordingly.

9. The Rule's Proposed Compliance Schedule Is Unachievable on its Face.

The Rule's proposed "compliance schedule" is impossible to comply with. The SLO APCD has acknowledged in public meetings that nothing like this proposed Rule has been attempted or implemented anywhere. Development of the PMRP will take time. Mandating that the PMRP be developed AND all permits obtained within 18 months is entirely unrealistic.

Obtaining a coastal development permit from the Coastal Commission typically takes 2-5 years or more. In light of budget limitations, it will likely take longer in the future. Compliance with CEQA and NEPA typically take 2 years or more. If threatened or endangered species are impacted, an HCP and incidental take permit will be required. HCPs typically take 5-10 years for approval due to resource limitations at the U.S. Fish & Wildlife Service.

Yet, the proposed Rule ignores all of this. It makes the Operator subject to violations and penalties if the PMRP is not approved, but sets a schedule that clearly cannot be achieved based on current processing times for required permits from other governmental agencies. This is ill-conceived, unreasonable and infeasible.

10. The Proposed Rule Varies from All Other Fugitive Dust Rules By Failing to Exempt High Wind Events.

Staff admits that virtually all air quality regulators in the United States which have adopted fugitive dust regulations apply those regulations only under normal wind conditions, i.e., wind speeds below 25 miles per hour. Proposed Rule 1001 is unreasonable in that it fails to include an exemption for high wind events. State Parks and the County should not be considered to be in violation if performance standards are exceeded during high wind events.

11. The Proposed Rule Contradicts the U.S. Environmental Protection Agency's Approach for High Wind Exceptional Events.

The U.S. Environmental Protection Agency, in its "exceptional events" regulation, identifies certain situations where events excuse exceedances of PM-10 standards. See 72 Fed. Reg. 13,560 (2007).

In its "exceptional events" rule-making, EPA provided the following commentary: "It is important to note that natural events, which are one form of exceptional events . . . may recur, sometimes frequently (e.g., western wildfires). For the purposes of this rule, EPA is defining "natural event" as an event in which human activity plays little or no direct causal role to the event in question. *We recognize that over time, certain human activities may have had some impact on the conditions which later give rise to a "natural" air pollution event.* However, we do not believe that small historical human contributions should preclude an event from being deemed 'natural.' "

Thus, the EPA determined that even if human activities have a small, indirect impact on increasing PM-10 when certain natural events occur, that fact should not convert the occurrences to "man made" events that require regulation. High wind events are a typical example: "High wind events are events that affect ambient particulate matter concentrations through the raising of dust or through the re-entrainment of material that has been deposited." High wind occurrences are excused under the EPA rule. Id.

Here, violations of PM-10 standards in the area are almost entirely associated with high wind events – and usually very high wind events. DRI also confirmed that increases in blowing dust from OHV riding areas only occurs at a higher rate than non-riding areas if there are very high winds – 40 miles per hour or more. That level of wind should be considered an "exceptional event."

Hence, proposed Rule 1001 attempts to regulate and control exceedances resulting from what EPA would deem to be an "exceptional event." Rule 1001 completely ignores this typical regulatory approach, again, leading a reasonable person to conclude that this rule-making is politically, not scientifically, motivated.

12. The Proposed Rule Fails To Include Monitoring Site Controls That Ensure That Other Sources of Fugitive Dust Are Not Causing the Exceedance or That Obstructions Are Shielding Control Sites.

The proposed Rule fails to include monitoring site controls that would ensure that other sources of fugitive dust are not causing the exceedance.

According to BlueScape Environmental, the Phase 2 study did not adequately consider or quantify other potential, localized sources of PM-10 and the contribution to monitored concentrations. For example, paved road dust emissions along Highway 1 and from nearby loose soil and unpaved roads during high wind events will undoubtedly impact the CDF monitor. The contribution of these localized sources to PM-10 concentrations at the CDF monitor may be greater than the contribution from the Oceano Dunes SVRA. In addition, these impacts may help explain higher impacts at the CDF monitor than at the Oso control monitor.

Conversely, the Phase 2 study did not examine the effect of upwind obstructions on the ability for fugitive dust from Oceano Dunes to reach the CDF monitor. Tall trees, buildings and other terrain and vegetation obstructions are located directly upwind, that may significantly reduce the contribution of dunes emissions to PM-10 concentrations at the CDF monitor.

The Phase 2 study did not account for variation in silt content and average particle size of soil by location, and associated fugitive dust emissions generation rates. Moving away from Oceano Dunes, it would be expected that surface soil silt content would increase markedly, and particle size drop, due to repeated dropout and re-suspension of blown dust. There would also be a greater contribution of fine dust from other sources such agricultural land, and abrasion processes along paved roads.

13. The Proposed Rule Is Vague, Overbroad and Violates Due Process of Law.

The proposed Rule is vague, ambiguous, and overbroad. The Rule is written in a way that will make passive dust creation caused by high wind events a violation. It is overbroad because the proposed Rule does not does not accurately differentiate between emissions which result from the action of natural forces as opposed to those resulting from some human activity conducted on the land.

A regulation is invalid in that, in its totality, it is so vague that a potential offender cannot determine what he may or may not do to avoid being in violation of the regulation. The proposed Rule appears to hold one in violation of the regulation if the entity is "responsible" for the subject property, whether or not there is any substantial, credible or scientifically sound evidence that the offending entity actively or actually stirred up dust. Again, this overbroad application equally applies to the County.

The overbreath and vagueness violates due process of law. The rule is also void for vagueness.

14. Targeting Only Insignificant PM-10 Emissions from OHV Recreation at Oceano Dunes Violates the Equal Protection Clauses of the U.S. and California Constitutions.

Where the equal protection clause is concerned, the test of constitutionality is whether the regulation is rationally related to a legitimate governmental purpose, and whether there is a rational basis to uphold the classifications or distinctions created by the regulation.

Data shows that there are many much larger sources of PM-10 emissions in the County than OHV recreation, including unpaved roads, paved roads, industrial and manufacturing sources, diesel exhaust, smoke from burning, open dirt construction sites, grading and fill operations, construction equipment hauling, road construction, building and housing construction, sea salt spray, and agricultural operations. Previous County reports state that "emissions from paved and unpaved roads are the main contributor to PM emissions in SLO County, accounting for 47.5 percent of total PM10 emissions." [See also, 2009 inventory suggesting it may be more than 52 percent: unpaved road dust nearly 33% and paved road dust nearly 20%] Yet, the proposed Rule imposes no restrictions related to those emissions or any other fugitive dust emissions. OHV recreation at Oceano Dunes SVRA produces an insignificant level of PM-10 emissions, if any, and yet this activity has been singled out and is oppressively regulated in a way designed to reduce or limit OHV riding at Oceano Dunes SVRA.

The causes of, and the problems associated with, the control and abatement of fugitive dust are greater for other sources such as unpaved roads and agricultural operations than OHV recreation. There is no rational basis for singling out this insignificant emission while ignoring larger more pervasive emission sources. To do so is not rationally related to the goal of reducing fugitive dust and PM-10 emissions, and therefore, the classification is unreasonable and discriminatory. The proposed Rule will result in OHV riding areas being curtailed, adversely impacting OHV enthusiasts and businesses serving that recreational activity. It violates the equal protection rights of Friends, its members, OHV users of the SVRA and State Parks itself.

15. The Proposed Rule Conflicts with State Parks' Powers and Authority under State Law.

State Parks is given broad powers to regulate SVRAs. Public Resources Code § 5090.32(a) grants State Parks the duty and responsibility for planning and development in SVRAs. Subsection (b) gives State Parks authority over "direct management, maintenance, administration, and operation of lands" in SVRAs. Subsection (d) gives State Parks authority over implementation of all aspects of the program. The statute tasks State Parks with repairing and continuously

maintaining areas, preventing erosion and restoring lands within SVRAs. Pub. Res. Code § 5090.35(a). It specifies what agencies that State Parks must consult with, which does not include the County or the SLO APCD. If there is excessive damage or erosion, then State Parks, not any other agency, is authorized to close that portion of the SVRA until soil standards are met. Pub. Res. Code § 5090.35(b). State Parks must evaluate this task in light of its overall mandate to make the fullest public use of the outdoor recreational opportunities at the SVRA. Pub. Res. Code § 5090.43(a).

The proposed Rule imposes a performance standard for PM-10 based on speculation that OHV riding areas increase "emissions" due to riding impacts on the sand dunes. Even assuming that this occurs, by its nature, control of such an impact implicates planning, area closure, erosion control, and soil standard actions that only State Parks is authorized to make. This proposed rule unlawfully constrains State Parks' authority under the SVRA organic act.

The Rule thus exceeds SLO APCD's authority and conflicts with State Parks' jurisdiction, authority and discretion under Pub. Res. Code §§ 5090 et seq.

16. The Proposed Rule Is Based on Speculation That OHV Riding Breaks a Sand Dune "Crust" That Results in Higher PM-10 Emissions In High Wind Events.

The studies sanctioned by the SLO APCD are based on the speculation that the dunes form a "crust" that is broken by OHV riding, which results in greater PM-10 emissions. This borders on the absurd.

The studies fail to provide any details on the so-called "crust." There is no scientific data to confirm that any such crust exists on fluid, ever-changing sand dunes. Likewise, the studies fail to discuss what elements make up the "crust," how the crust is formed or where within the SVRA the crust is found. GBU APCD focused on the crust they saw at the Oso site and assumed that this crust was similar to the crust they had experience with at Owens Lake. This is a speculative leap unsupported by any analysis or data.

If crust really exists and stops sand and particulate from moving why didn't the crust stop moving and blowing sand dunes in the 1800s and 1900s, which had such extensive impacts?

Previous studies at the Oceano Dunes by Greeley in 1994 were designed to test the capabilities of various sand collectors, however, crust was not determined to be an issue. Greeley in 1994, determined that Bagnolds [1941] model and Whites's [1979] formulation most closely agree with the experimental data taken at the Oceano Dunes.

The California Geological Survey (CGS) prepared an evaluation of the report "South County Phase 2 Particulate Study" (Phase 2 report) (incorporated by this reference). In that evaluation CGS criticized the phase 2 report for failing to evaluate regional geology, dune formation, or dune morphology. CGS criticized the report for equating the coastal dune environment of south SLO

County to Owens Lake. Owens Lake is a high desert playa—a broad, very shallow basin with no outlet. "Waters that flow to the basin are mineral-rich and eventually evaporate, leaving behind a durable crust of mineral salts. In the most basic of ways the south county dunes differ from Owens Lake because they are dunes, not a dry lake, and because they are on the coast, not the high desert. And there is no 'stabilizing crust' in the dunes south of the SVRA that is comparable to the salt flats of the Owens Lake playa. There is no 'stabilizing crust' at all. The authors mistakenly identify dune laminae as a 'stabilizing crust.' The laminae, which can be planar or concave, nearly horizontal or inclined, form and obliterate as a process of dune formation and migration and result from the grain sorting and packing processes that occur with saltation (Bagnold, 1965; Hunter, 1977). Different laminae types are present throughout a given dune (Figure 4), whether the dune is in the SVRA or somewhere else (Figures 5 and 6)."

The Phase 2 report documents elevated PM-10 concentrations in the Nipomo Mesa area, but because the report fails to address the geologic setting and natural processes that created the massive dunes sheets in southern San Luis Obispo County and northern Santa Barbara County, it fails to adequately differentiate and evaluate potential PM-10 sources.

17. The Proposed Rule Unlawfully Seeks to Regulate Emissions from OHVs and OHV Recreation.

SLO APCD is authorized under state law to establish a permitting system to regulate nonvehicular sources of air pollution but state law expressly exempts "any vehicle" from that permitting system in Health and Safety Code § 42310. Thus, SLO APCD is not authorized to require a permit for direct emissions from OHVs or the direct emission of dust raised by OHVs moving over the sand.

18. Statutory Authority for the Proposed Rule Does Not Extend to OHV Recreational Parks.

Statutory authority under Health & Safety Code § 42300 to establish a permit system is limited to permitting machines, equipment, or other contrivances that emit air contaminants. [Health and Safety Code, § 42300(a)]

Stationary source is "not defined in the relevant state statutes." [76 Ops. Cal. Atty. Gen. 11 (1993)] CARB defines stationary sources as "Non-mobile sources such as power plants, refineries and manufacturing facilities which emit air pollutants." These are structures, not locations such as parks.

Even if a State park constituted a structure, it does not constitute a stationary source because it does not itself emit pollutants but rather might attract vehicles that the SLO APCD argues indirectly cause dust to be blown off site. Like a parking structure, a state recreational park emits no pollutants, but "instead only attract vehicles which emit pollution, are not stationary sources within the meaning of the Act."

19. The Proposed Rule Unlawfully Seeks to Require a Permit for an "Indirect Source."

APCDs have the authority to regulate indirect sources of air pollution, but, according to an Attorney General opinion, the districts do not have the authority to require permits for indirect sources. [76 Ops. Cal. Atty. Gen. 11 (1993)] The "question presented for analysis is whether districts have the authority under section 40716, or any other statute, to impose a permit system upon indirect sources of air pollution. We conclude that districts do not have statutory authority to require a permit either to construct an indirect source of air pollution or to operate one."

The Attorney General concluded that indirect sources are "exempt from ordinary permitting requirements," but the APCDs may assess fees on indirect source emissions that are regulated by the district to recover costs of district programs related to the indirect sources. [76 Ops. Cal. Atty. Gen. 11 (1993)]

Further, Health and Safety Code § 40716(b) cautions district authority over indirect sources does not extend to land use regulation.

A similar situation occurred in the 1980s -- that situation had to be resolved by the enactment of special legislation for the particular APCD involved: The Great Basin Unified Air Pollution Control District wanted the Los Angeles Department of Water and Power to obtain permits for its "water diversion activities on the ground that they exposed the bed of Mono Lake and thereby caused the emission of wind-blown particulate matter." The issue was ultimately resolved with the enactment of Health and Safety Code § 42316, but the statute did "not address the broader question of the general authority of districts to require a permit in similar situations." The parties agreed to a settlement and dismissal of the lawsuit based on the enactment of § 42316.

Section 42316 applies solely to the Great Basin Air Pollution Control District, not to the SLO APCD.

The proposed Rule's performance standard and requirement to obtain a "Permit to Operate," mean that the proposed Rule is an unlawful attempt to impose a permitting scheme on an indirect source, thus exceeding the SLO APCD's authority under the Health and Safety Code.

20. SB 656 Has Been Repealed and Thus Does Not Authorize this Type of PM-10 Reduction Effort.

SB 656, which was codified as § 39614 of the Health & Safety Code, authorized the California Air Resources Control Board (CARB) and local Air Pollution Control Districts (APCD) to adopt measures to reduce particulate matter (PM) in accordance with a strict timeline and process. However, Section 39614 provided that it would be repealed on January 1, 2011 unless the effective date of the law was extended. The statute has not been extended and thus cannot provide a basis of authority for Rule 1001.

21. SLO APCD Has Failed to Demonstrate That the Proposed Rule Would Promote Attainment of Federal and State Air Quality Standards, In Violation of Health and Safety Code § 40001.

Under Health and Safety Code § 40001, before adopting a rule or regulation, the district board must show that the rule will promote the attainment of state or federal ambient air quality standards. SLO APCD has failed to do so here. As described above, it has also failed to show that there is a problem that the proposed rule will alleviate.

Air Pollution Control Officer (APCO) Larry Allen admitted during the Board meeting (and accompanying Staff Report) on September 28, 2011 that the record does not establish the extent to which OHV riding areas contribute more particulate matter than non-riding (or natural) areas. Nor is the APCD able to establish or recommend control measures. Thus, the proposed rule defers to State Parks the requirement to develop a monitoring network that will establish whether in fact riding areas contribute more PM 10 than is naturally produced on non-riding areas during wind events. Since it is unknown whether this process will or will not confirm that the SVRA is contributing a higher level of particulate matter than measured downwind of naturally occurring control areas, the SLO APCD did not, and could not, have made the required findings.

22. SLO APCD Has Failed to Comply With Health and Safety Code §§ 40703 and 40922, Which Requires Consideration of the Feasibility and Cost of Plans and Control Measures Required by a Proposed Rule.

Under Health and Safety Code §§ 40703 and 40922, before adopting a rule or regulation, the district board must consider and make available to the public, its findings related to the cost effectiveness of a control measure, as well as the basis for the findings and the considerations involved.

SLO APCD has failed to comply with these provisions.

23. The Proposed Rule Is a Discretionary Project Under CEQA Requiring an Analysis of Potential Environmental Impacts Prior to the Rule's Adoption.

CEQA and its administrative regulations require a two-tiered process to ensure that the decisions of public agencies, such as this rule-making, consider environmental impacts. *California Unions for Reliable Energy v. Mojave Desert Air Quality Management District* (2009) 178 Cal. App. 4th 1225. In *California Unions*, the Court of Appeal set aside a district rule regarding the use of road paving to offset increases in airborne dust and other forms of particulate air pollution. The Court also set aside the district's finding that adopting this rule was covered by a categorical exemption in CEQA.

SLO APCD is required by CEQA to conduct the first tier jurisdictional review to determine whether an activity or decision constitutes a project subject to CEQA. California courts have stated that "adoption of a rule or regulation can be a project subject to CEQA" as a matter of law:

"A regulation fitting the description of a discretionary project is a discretionary project under CEQA. (*Wildlife Alive v. Chickering* (1976) 18 Cal.3d 190, 206 . . . [held that the enactment of regulations by the Fish and Game Commission fixing the dates of a hunting season was a project subject to CEQA]; see Pub. Resources Code, § 21000, subd. (g); Off. of Planning and Research, com. foll. Guidelines, § 15378 ["With some activities carried out by government, the plan, control, or regulation being adopted may need to be regarded as the project even though the plan, etc., is being adopted to control activities to be initiated later by other people"]; *Dunn-Edwards Corp. v. Bay Area Air Quality Management Dist.* (1992) 9 Cal.App.4th 644, 657–658 . . . [held that the enactment of regulations relating to architectural coatings was not categorically exempt under CEQA].)

The second tier involves whether or not the project is exempt from CEQA review.

Here, there is no indication that the SLO APCD conducted these first two tiers of CEQA review. The action is thus in violation of CEQA.[1]

24. The Proposed Rule Improperly Attempts to Delegate CEQA Responsibility to State Parks and the County.

The proposed Rule seeks to impose compliance with CEQA on the "CDVAA Operator," i.e., State Parks and/or the County.

"The state [CEQA] guidelines require that the decision-making body or administrative official having final approval authority over a project involving a substantial effect upon the environment review and consider an EIR before taking action to approve or disapprove the project. (State Guidelines, § 15085, subd. (g).) The requirement exists in part because "only by this process will the

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[1] Section 21159 of the Public Resources Code mandates that APCDs perform "environmental analysis" of the "reasonably foreseeable methods of compliance" when it adopts a rule requiring the installation of pollution control equipment, or a performance standard or a treatment requirement. [See also, CEQA Guidelines, Section 15187].

Rule 1001 requires a monitoring program, a particulate matter reduction plan (PMRP) to minimize PM10 emissions, and sets forth a performance standard. The Section 21159 mandate to analyze "methods of compliance" with these rule component and/or requirements.

Rule 1001 contains a deferral of CEQA compliance by stating that the CDVAA operator must comply with CEQA "to the extent any proposed measures identified in the PMRP require environmental review." [Rule 1001(C)(4)] However, Section 21159 states that the SLO APCD can not defer CEQA compliance when it adopts a rule covered by this statutory provision particularly if the "hay and vegetation measures" previously discussed with the Board and staff are deemed "reasonably foreseeable methods of compliance."

public be able to determine the environmental and economic values of their elected and appointed officials...."

In *Kleist v. City of Glendale* (1976) 56 Cal.App.3d 770, the city council tried to delegate review and consideration of the EIR to a special board created by city ordinance. The court held that CEQA does not authorize the lead agency to delegate its CEQA duties to another body.

Public Resources Code § 21067 provides the statutory definition of the term "lead agency" under CEQA: "the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment."

In this case, neither State Parks nor the County has the principal responsibility for promulgation of this proposed rule. CEQA defines a lead agency as "the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment." (Pub. Resources Code, § 21067.) By contrast, a "responsible agency" means a public agency, other than the lead agency, which has responsibility for carrying out or approving a project. Where a project is to be carried out or approved by more than one public agency, one public agency shall be responsible for preparing an EIR or negative declaration for the project. This agency is the lead agency.

So significant is the role of the lead agency that CEQA proscribes delegation. The SLOP APCD cannot do so here.

The proposed Rule is thus in violation of CEQA.

25. SLO APCD Did Not Use Reasonable Standards When Selecting Peer Reviewers or When Tasking the Reviewers.

SLO APCD failed to establish that it used reasonable standards to select peer reviewers or that it undertook due diligence to establish independence and no conflict of interest. SLO APCD also failed to set standards for the peer reviewers to follow when evaluating information related to the proposed dust rule or underlying reports or studies.

Individual letter reviews are more appropriate when a draft document covers only one discipline or when premature disclosure of a sensitive report to a public panel could cause harm to government or private interests. When time and resources warrant, panels are preferable, as they tend to be more deliberative than individual letter reviews and the reviewers can learn from each other. SLO APCD failed to select a panel, but rather sought input from individual reviewers with pre-existing relationships.

The charge to the reviewers should be determined in advance of the selection of the reviewers, which was not done here. In drafting the charge, it should include specific technical questions, which was not done adequately here.

Peer reviewers are best used to distinguish scientific facts from professional

judgments. Most peer reviewers here failed to do that.

Since not all uncertainties have an equal effect on the conclusions drawn, reviewers should be asked to ensure that the potential implications of the uncertainties for the technical conclusions drawn are clear. That also was not done. Peer reviewers should be asked to recommend value-of-information analyses that identify whether more research is likely to decrease key uncertainties. That was not done here. A description of additional research that would appreciably influence the conclusions of the assessment can help an agency assess and target subsequent efforts. That was not done adequately here.

SLO APCD did not adequately establish the relevant expertise of each reviewer.

Another issue is whether government-funded scientists in universities and consulting firms have sufficient independence from the government agencies that support their work to be appropriate peer reviewers. Also, if a scientist has repeatedly served as a reviewer for the same agency, some may question whether that scientist is sufficiently independent from the agency to be employed as a peer reviewer on agency-sponsored projects.

26. The Proposed Rule Unlawfully Attempts to Place the Burden of Compliance with the National Environmental Policy Act (NEPA) on State Parks and the County.

The proposed Rule attempts to impose responsibility for compliance with NEPA on the "CDVAA Operator," i.e., State Parks and/or the County.

The SLO APCD staff misunderstands NEPA. NEPA imposes obligations solely on federal agencies, not on state or local agencies.

27. SLO APCD Failed to Establish the Background Level Caused By Natural Wind Events.

In order to comply with CEQA and with Health and Safety Code provisions related to authority (cited above), SLO APCD must establish what the background levels of dust and PM-10, i.e., what portion of the exceedances are caused by natural wind events regardless of an alleged OHV component.

28. During Any Period of Litigation Challenging this Rule, the Rule Cannot Be Used By SLO APCD or the State As Part of the SIP.

When submitting a SIP or SIP revisions, the "state must provide assurances of legal authority to carry out SIPs and SIP revisions." See Clean Air Act § 110(a)(2)(E)(SIPs must "provide (i) necessary assurances that the State . . . will have adequate . . . authority under State (and, as appropriate, local) law to carry out such implementation plan . . . ").

During any period of litigation challenging this proposed rule, neither SLO APCD nor the State will be in a position to make such assurances.

The proposed rule also does not meet EPA enforceability criteria, and there are no assurances that the State and air district have adequate personnel, funding, and authority to carry out this rule. There is no indication that any emission reductions will be achieved; indeed, it is not clear whether any dust from riding areas is actually causing current violations of ambient air quality standards. There is no clear environmental benefit, equity, or integrity (i.e., a showing that emission reductions are surplus, quantifiable, enforceable, and permanent). Baseline emissions are not known and thus projected emission reductions on a programmatic basis are not quantifiable.

29. The Proposed Rule Does Not Meet Federal Or State Indirect Source Review Program Requirements.

The proposed Rule does not meet federal or state indirect source review program requirements.

30. The Proposed Rule Is an Invalid Indirect Source Review Program Because There Is No Independent Local Land Use Permit That Would Trigger the Proposed Rule.

An ISR rule gets triggered by the land use permit process for covered facilities. Since Oceano Dunes SVRA is already permitted by the California Coastal Commission via a coastal development permit which pre-dates the certified LCP, there is no current need to obtain a development permit. Accordingly, there is no valid discretionary trigger for requiring compliance with Rule 1001. Until State Parks seeks such a development permit, no compliance with Rule 1001 is required.

Sincerely,

/s/

Tom Roth

Response to Comments on Rule 1001
Friends of the Dunes Comment Letter of September 26, 2011

1. ***The premise of the Rule that OHV Activity is significantly contributing to dust and PM10 from the coast is wrong.***
   a. ***The Nipomo Mesa was formed over centuries by blowing sand from the dunes before offroad vehicles (OHV) ever existed. It's a natural process unaffected by vehicle activity.***

Response: There is no doubt sand dunes are a dynamic biological feature and windblown sand migration is a natural phenomenon. However, all three independent studies performed within the Phase 2 Study effort showed substantially higher particulate impacts from the disturbed dunes in the riding area compared to the undisturbed non-riding area. Thus, the study concluded the amount of sand migration and rate at which it is occurring within the SVRA is greater than the natural rate that would occur absent vehicle activity.

This is not a new finding. A review of applicable literature will show numerous other studies that demonstrate significantly greater surface movement and wind entrainment of disturbed soils/sands, and therefore more PM emissions, compared to undisturbed sand/soil. This is why many EPA algorithms used to estimate windblown dust emissions include a factor on whether or not the source area has been disturbed.

   b. ***SLOAPCD studies show no correlation between OHV activity and downwind PM impacts***

Response: That is incorrect. PM10 data collected from March 2008 to March 2009 was compared to vehicle activity from the SVRA provided to us by State Parks for that same period. That comparison found a statistically significant correlation (> 95% confidence level) between PM_{10} levels and OHV activity; it showed average daily PM_{10} concentrations at our Mesa2 monitoring station during the 50 highest use days at the SVRA were 34% higher compared to the 50 lowest use days. Conversely, the analysis also showed no correlation and no difference between average daily PM_{10} levels measured at our Oso control site during those same high use and low use days.

Nonetheless, the Phase 2 study found the most significant impact to be the large difference in PM10 levels measured downwind of the riding area compared to the non-riding area on high wind days. This indicates the indirect impacts caused by vehicles disturbing the dunes and making the sand more susceptible to wind entrainment is the greater concern.

2. ***The proposed rule focuses on OHV recreation for political reasons and ignores other more likely sources of dust and PM10, such as dirt roads and agriculture.***

Response: All potential sources of PM10 that could impact the Nipomo Mesa were studied in the comprehensive Phase 1 and Phase 2 South County PM studies conducted by the District between 2004 and 2010; this included paved and unpaved roads, agricultural

activities, the Conoco Phillips petroleum coke piles, combustion sources and sea salt. These studies conclusively showed that airborne particulate matter impacting the Mesa on high PM episode days predominantly consists of fine sand particles from the Oceano dunes transported to the Mesa under high northwest wind conditions. The Phase 2 study data also showed a distinct lack of high PM10 concentrations when high wind speeds occurred from directions that do not pass across coastal dunes.

3. ***SLO APCD has failed to show "necessity" or "authority" in violation of Health and Safety Code section 40727.***

   Response: The Phase 1 and Phase 2 studies conclusively demonstrate the necessity, and the District has clear authority to adopt and implement this rule. The findings required by H&SC section 40727 have been made in Section VII of the staff report accompanying the rule.

4. ***The rule defines "Coastal Dune Vehicle Activity Area" in a way that is disconnected form the definition of "coastal zone" under the Coastal Act, creating permitting jurisdiction issues.***

   Response: Our regulations are independent of the Coastal Act; thus, no conflict is present in using similar terms to define the areas affected by this regulation.

5. ***The proposed rule's definition of "CDVAA operator" includes the County, making it equally responsible for fines and penalties assessed under the rule.***

   Response: For compliance purposes, our rules typically apply to a single responsible party for the affected entity; in this case, it applies to that entity *"responsible for the daily management of a CDVAA"*. State Parks is currently the sole operator of the facility, as well as the major property owner; thus, they are the agency held accountable for compliance w/regulation.

6. ***The SLOAPCD is exceeding its authority by attempting to regulate an event which is not an "emissions" under state air quality laws.***

   Response: OHV use on the dunes is not a natural occurrence and has been determined to be the primary cause of PM10 emissions emanating from the dunes. Precedence and authority related to OHV activity as an emission source has already been established.

7. ***The proposed rule's performance standard is arbitrary and unsupported, not related to public health and safety, and provides no opportunity for State Parks to demonstrate the exceedance is due to some factor not in the control of State Parks.***

   Response: The performance standard in the rule is based on the health-based State 24-hour average PM10 standard of 50 ug/m3, with a small margin of error for known equipment tolerances. If the performance standard is violated, State Parks will be given the same opportunity provided to any violator of an air district regulation to present documentation of

any mitigating circumstances that could affect the ultimate compliance determination by the District.

8. ***The proposed rule may subject SLOAPCD to ESA liability for the mandated implementation of the PMRP without regard to sensitive species.***

Response: The nature, scope and location of emission reduction projects to be proposed in the PMRP is unknown. The rule, however, requires State Parks to comply with all environmental review and mitigation requirements for any projects proposed in the PMRP before it receives final approval by the APCD. Any potential impacts to sensitive species from implementation of the PMRP will be addressed through that process.

9. ***The rule's proposed compliance schedule is unachievable on its face.***

Response: We believe the compliance schedule proposed in the rule is aggressive, yet feasible, based on the numerous agency oversight and permitting requirements facing the operator in complying with the rule. Nonetheless, we recognize the ability of the operator to meet several of the compliance deadlines will partially depend on some factors beyond their control, such as delays due to workload constraints at a permitting agency. The operator will not be held liable for missing compliance deadlines caused solely by circumstances beyond their control.

10. ***The proposed rule varies from all other fugitive dust rules by failing to exempt high wind events.***

Response: The riding area and non-riding area monitoring comparison in the performance standard is designed to exempt any exceedance of an air quality standard that would naturally occur from PM10 emissions emanating from an open sand sheet undisturbed by OHV activity, under any wind speed condition.

11. ***The proposed rule contradicts the U.S.EPA's approach for high wind exceptional events.***

Response: The Preamble to Federal Register section cited in your comment states:

"Analysis of exceptional events includes evaluation of whether anthropogenic activities contributing to emissions have been controlled to extent possible through reasonable measures."

EPA has specifically disallowed high wind exceptional events findings in areas impacted by OHV activity. In a December 22, 2009 letter to James Goldstene of the California Air Resources Board regarding a request for an exceptional event designation for several PM10 exceedances in the Imperial Valley during high wind events, EPA cites OHV activity in the Anzo Borrego desert as their reason for denying the finding, stating:

"OHV activity indirectly increases PM10 emissions by disturbing vegetation and surface crusts, leaving the surface less stable and more vulnerable to emissions during subsequent winds, and directly causes PM10 emissions by entraining dust through contact between tires and unpaved surfaces."

12. ***The proposed rule fails to include monitoring site controls that ensure that other sources of fugitive dust are not causing the exceedance or that obstructions are shielding control sites.***

Response: We agree it is essential that the riding area and non-riding area monitoring sites be selected to minimize any potential bias from sources other than what they are intended to measure. The criteria in the monitoring plan for selecting the sites will include this requirement, and we will work closely with State Parks during the actual site selection process to ensure the sites selected meet this criterion.

13. ***The proposed rule is vague, overbroad and violated due process of law.***

Response: We disagree. The rule is quite specific on the requirements that must be met to comply with the rule and how to measure compliance.

14. ***Targeting only insignificant PM10 emissions from OHV recreation at Oceano Dunes violates the Equal Protection Clauses of the U.S. and California Constitutions.***

Response: The PM10 emissions inventory for fugitive dust sources in San Luis Obispo County is prepared by the California Air Resources Board. Their calculation methodology is based on generic population and area size factors and does not include specific estimates of emissions from the SVRA. However, the Phase 1 and 2 South County PM Studies were very specific to that area and clearly document the Oceano Dunes as the primary source of emissions impacting PM levels on the Nipomo Mesa. See also response to #2, above.

15. ***The proposed rule conflicts with State Parks powers and authorities under State law.***

Response: The federal Clean Air Act and the California Health & Safety Code give air districts clear authority to regulate open sources of fugitive dust emissions, including those facilities owned and/or operated by state or federal agencies. State Parks specifically recognizes this in their 2008 Soil Conservation Guidelines. Section 2.2 states, in part:

> *2.2. Other Applicable Laws and Regulations*
> *"However, it is the land managers' responsibility to recognize other local, state and federal laws and regulations that are applicable to the assessment and management of OHV areas, especially where unique environmental conditions exist....Examples include . . . the Federal and State Clean Air Acts.*

16. ***The proposed rule is based on speculation that OHV riding breaks a sand dune "crust" that results in higher PM10 emissions in high wind events.***

Response: The proposed rule is not based on speculation nor on the presence or absence of a crust on the dunes; it is based on the actual measurement of substantially higher PM levels downwind of the SVRA than were measured downwind of the undisturbed control site. The presence of a noticeable crust on the undisturbed area and the absence of such a crust in the riding area is just one possible explanation for the difference measured.

17. ***The proposed rule unlawfully seeks to regulate emissions from OHVs and OHV recreation.***

Response: The proposed rule regulates the fugitive dust emissions from a Coastal Dune Vehicle Activity Area/facility, not the vehicles that use the facility.

18. ***The proposed rule unlawfully seeks to require a permit for an "indirect source".***

Response: The Oceano Dunes SVRA facility is a direct source of fugitive dust emissions, as documented in the District's Phase 1 and Phase 2 PM studies. The District holds numerous permits for other fugitive dust sources, such as mining operations and material stockpiles and has clear authority to require such permits.

19. ***The proposed rule violates CEQA.***

Response: The District has performed the required CEQA analyses as presented in the staff report to the Rule, Section VI.

20. ***SB 656 Has Been Repealed and Thus Does Not Authorize this Type of PM-10 Reduction Effort.***

Response: The assertion regarding repeal of SB 656 is irrelevant. The District has the authority and the obligation to regulate PM10 sources within its jurisdiction, particularly those known to cause or contribute to violations of health-based air quality standards.

21. ***SLO APCD Has Failed to Demonstrate That the Proposed Rule Would Promote Attainment of Federal and State Air Quality Standards, In Violation of Health and Safety Code § 40001.***

Response: The Oceano Dunes SVRA is the only known source of particulate emissions contributing to the numerous violations of the PM10 standards measured on the Nipomo Mesa on days when winds are blowing from the northwest, which represents the vast majority of exceedances experienced in that area. Thus, reducing emissions from this source will substantially aid in promoting attainment of Federal and State Air Quality Standards.

22. ***SLO APCD Has Failed to Comply With Health and Safety Code §§40703 and 40922 Which Requires Consideration of the Feasibility and Cost of Plans and Control Measures Required by a Proposed Rule.***

Response: See Section V of the staff report.

23. The Proposed Rule Is a Discretionary Project Under CEQA Requiring an Analysis of Potential Environmental Impacts Prior to the Rule's Adoption.

Response: See section VI of the staff report.

24. The Proposed Rule Improperly Attempts to Delegate CEQA Responsibility to State Parks and the County.

Response: The rule does not delegate CEQA responsibility to State Parks or the County. The agencies ultimately responsible for approving any potential projects identified in the PMRP that could be subject to CEQA/NEPA review are the lead/responsible agencies required to conduct that review prior to issuing any approvals or permits for those projects.

25. SLO APCD Did Not Use Reasonable Standards When Selecting Peer Reviewers or When Tasking the Reviewers.

Response: Peer review in the field of science is typically limited to research articles proposed for publication in scientific or academic journals; how it is performed and by whom has been a topic of ongoing debate in those circles for many years. Peer review is not required and rarely performed, however, in the common process of a regulatory agency conducting studies to determine the source of emissions impacting a specific area. Nonetheless, given the political and public interest in our study, we asked several scientists with expertise in this field to review our analyses prior to publishing the Phase 2 report to verify whether or not our findings were supported by the substantial mass of underlying data collected during the study. All peer reviewers were qualified to review the study and concurred with our findings.

26. The Proposed Rule Unlawfully Attempts to Place the Burden of Compliance with the National Environmental Policy Act (NEPA) on State Parks and the County.

Response: See response to # 24 above.

27. SLO APCD Failed to Establish the Background Level Caused By Natural Wind Events.

Response: The Phase 2 study documented substantial differences between PM10 levels measured at the Oso control monitoring site compared to the levels measured at our CDF and Mesa 2 sites. The Oso data is viewed as representing natural background conditions for that area. The proposed rule requires that similar comparison monitoring be established downwind of the riding area and downwind of a similar non-riding area, which will establish a continually measure a baseline PM10 level representing the natural background conditions.

28. During Any Period of Litigation Challenging this Rule, the Rule Cannot Be Used By SLO APCD or the State As Part of the SIP.

Response: Comment noted.

29. The Proposed Rule Does Not Meet Federal Or State Indirect Source Review Program Requirements.

Response: The affected facility is not an indirect source; see response to # 18 above.

30. The Proposed Rule Is an Invalid Indirect Source Review Program Because There Is No Independent Local Land Use Permit That Would Trigger the Proposed Rule.

Response: The affected facility is not an indirect source.

BLUESCAPE
ENVIRONMENTAL

September 27, 2011

Board of Directors
San Luis Obispo
Air Pollution Control District
3433 Roberto Court
San Luis Obispo, California 93401

Mr. Larry R. Allen
Air Pollution Control Officer
San Luis Obispo
Air Pollution Control District
3433 Roberto Court
San Luis Obispo, California 93401

Subject: Scientific Comments on the South County Phase 2 Particulate Study and Proposed Rule 1001 Coastal Dune Requirements Filed on Behalf of Friends of Oceano Dunes

Dear Honorable Members of the Board of Directors of the San Luis Obispo County Air Pollution Control District:

The South County Phase 2 Particulate Study[1] presents the results of a particulate matter (PM10) study performed by the San Luis Obispo County Air Pollution Control District (APCD) and affiliated organizations. Among other goals, the Phase 2 Study attempts to establish whether off-highway vehicle (OHV) activity in the Oceano Dunes State Vehicular Recreation Area (SVRA) causes or significantly contributes to exceedances of the state 24-hour average PM10 concentration standards at downwind locations on the Nipomo Mesa. APCD also is proposing a new regulation entitled Rule 1001, Coastal Dune Dust Control Requirements, to require the operator of a Coastal

[1] SLOAPCD, *South County Phase 2 Particulate Study*, http://www.slocleanair.org/pdf/PM2-final_report.pdf (February 2010).

Dune Vehicle Activity Area (CDVAA) to prepare and implement a Particulate Matter Reduction Plan (PMRP)[2].

The Phase 2 Study is flawed and technically inadequate, and should not be used as a basis for this or any regulation. The Phase 2 Study does not provide conclusive, direct scientific evidence to show that PM10 generated at the SVRA, including OHV use within the SVRA, is causing or contributing to exceedances of the state 24-hour average PM10 standard. The Study makes sweeping, unsupported and untested conclusions, attempting to loosely "connect the dots," between data and OHV activity rather than performing direct dust emission calculations and dispersion modeling work. The Phase 2 Study ignores important factors that could directly affect monitored concentrations such as localized dust emission sources nearby the PM10 monitors. The use of a control monitor to develop key conclusions introduces significant uncertainty and weakness to the Phase 2 Study. For these and other reasons discussed in this letter, the technical basis for developing a new Rule 1001 regulating OHV activity is inadequate.

As proposed by the SLO APCD, Rule 1001 is neither reasonable nor practicably enforceable. Given considerable uncertainty that will lead to variation in hourly PM10 measurements, the requirement to measure and compare hourly PM10 concentrations at a primary monitor and control monitor is arbitrary. Several important factors affecting PM10 concentrations will be outside of the CDVAA operator's control making the rule vague, unfair and with no practical value. Finally, while appropriate dust abatement techniques may be able to lower PM10 emissions *during high wind events*, there has been little technical review, and there is no scientific evidence, that such techniques will make any difference on lowering Nipomo Mesa PM10 concentrations. Where the impact of regulation is not well known, no regulation, including Rule 1001, should be established.

COMMENTS ON THE PHASE 2 STUDY

1. **The Phase 2 Study is flawed and technically inadequate because the Study does not prove fugitive dust emissions from the SVRA cause 24-hour average PM10 standard exceedances during high wind events.** While the SVRA may contribute to downwind PM10 concentrations including days with exceedances, the contribution is lessened due to distance to PM10 monitors such as the CDF and Mesa2 sites. The contribution will also be lessened due to several transport factors such as deposition, vegetation, and building obstructions that will cause dust to fall out to ground. The Phase 2 Study ignored these transport factors, along with fugitive dust emission sources closer to PM10 monitors that likely have a greater contribution to PM10 exceedances during high wind events. The Phase 2 Study needs to be revised to address these flaws and omissions.

[2] San Luis Obispo Air Pollution Control District, *Rule 1001: Coastal Dune Dust Control Requirements* (Draft), http://www.slocleanair.org/air/pdf/2011/PMStudy/Sept_7_workshop_DRAFTRule1001.pdf (September, 2011).

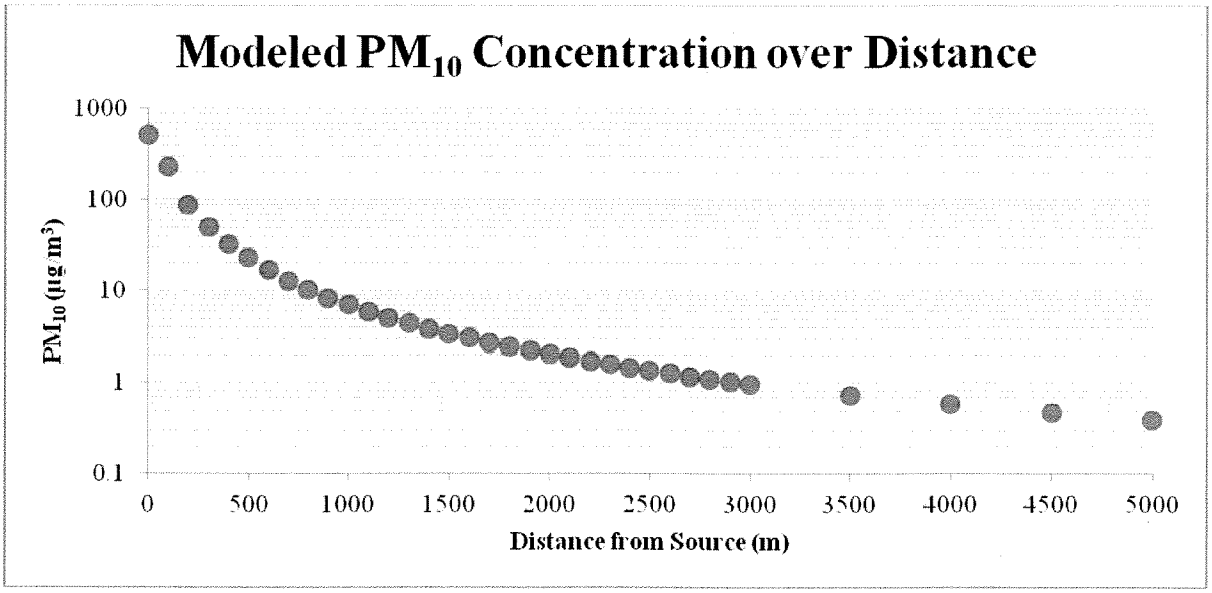
a. ***The Phase 2 Study contends that PM10 dust plumes in Nipomo Mesa are mainly the result of the SVRA. This conclusion is flawed and unsupported with technical data. The emissions potential of the SVRA during high wind events is limited compared to the emissions potential from all upwind areas.*** The Phase 2 Study shows the wind directions during maximum PM10 events in Figure 3-15 (CDF monitor), Figure 3.25 (Mesa2 Monitor) and Figure 3.31 (Oso Monitor). For example, for the CDF monitor, the highest PM10 concentrations are when winds are from 290 to 340 degrees, with the very highest impacts at around 310 degrees. The upwind fetch from monitor site to ocean is about 5,050 meters for CDF at 310 degrees, about 7,100 meters for Mesa2 at 305 degrees, and about 2,500 meters for OSO at 305 degrees. For these monitors, the proportion of open dunes in these directions is only about 27%, 22%, and 74%, respectively. Even if emissions generated per square meter are greater on open dunes in the SVRA, emissions potential exists from all upwind areas. This total upwind emissions potential may be much higher than that portion only from the SVRA. The Phase 2 Study needs to be revised to examine the relative emissions potential of all upwind areas before concluding that primarily the SVRA contributes to PM10 exceedances. This review may also help explain the higher impacts at the CDF monitor than at the Oso control monitor. Oso is closer to open dunes, but has a much smaller upwind fetch than other monitors.

b. ***The Phase 2 Study did not adequately consider or quantify other localized sources of PM10 emissions near monitors, and the contribution of those emissions to monitored concentrations.*** Fugitive PM10 dust impacts at specific monitor locations typically result from nearby emission sources. In other words, impacts from PM10 emissions are likely localized as opposed to impacting regionally. Any fugitive dust emissions from areas along Highway 1, vegetated undeveloped areas, residential and commercial areas, unpaved roads, and agricultural lands close (within 100-500 meters) to the CDF and Mesa2 monitors will undoubtedly have a disproportionate impact as compared to SVRA dust emissions. The Phase 2 Study did not attempt to quantify these localized PM10 emissions, or assess their impact on PM10 concentrations during high wind events.

c. ***The contribution of localized fugitive dust sources to PM10 concentrations at the monitors may be greater than the contribution from the SVRA.*** The Phase 2 Study asserts that the SVRA is a significant source for PM10 emissions impacting the CDF and Mesa2 monitors. However, screening-level dispersion modeling shows this may not be the case.

The SCREEN3 dispersion model was run for a ground-level fugitive dust source with one gram/meter-sec2 emission rate over a 100 meter by 100 meter area. Moderate stability conditions (C stability) and a 10-meter wind speed of 7 meters/sec (15.7 mph)

were used. Table 1 below shows that within 1000 meters from the source, the downwind concentration has already decreased by about a factor of 100 times. Along a 310 degree bearing from the edge of the SVRA riding area to the CDF monitor, a distance of about 3,300 meters, PM10 concentrations drop by about 120 times.



What this result suggests is, not only do PM10 concentrations drop dramatically with distance from SVRA, pound for pound, but also any emissions occurring near a monitor will have a much greater impact than the SVRA. This suggests that the vast majority of PM10 picked up from open dunes at the SVRA on a high wind day would be deposited downwind over a short distance, before it reaches area monitors.

d. ***The Phase 2 Study did not examine the effect of upwind obstructions on the ability for fugitive dust from the Dunes to reach the CDF and Mesa2 monitors.*** Tall trees, low-level vegetation and building obstructions exist directly upwind of the CDF and Mesa2 monitors. These obstructions may significantly hinder the ability for airborne dust emissions from SVRA to reach the CDF and Mesa2 monitors. Again, any blocking mechanism to dust transport would favor greater impacts from nearby emission sources that are not blocked.

e. ***The Phase 2 Study did not account for variation in silt content and average particle size of soil by location, and the associated fugitive dust emissions generation rate.*** Moving downwind away from the SVRA, it would be expected that surface soil silt

content would increase markedly, and average dust particle sizes drop, due to repeated dropout and resuspension of blown dust. There would also be a greater contribution of fine dust from other sources such as agricultural land, and abrasion processes along paved roads. These other dust sources are not available on the SVRA. Lower particle sizes and higher silt content dramatically increase the ability for fugitive dust emissions to occur under high wind conditions, and for any PM10 emitted to remain suspended and not be deposited. The Phase 2 Study needs be updated to examine whether this variation in soil characteristics with distance further from SVRA and closer to PM10 monitors could lead to greater emissions potential and contribution of windblown dust from sources outside the riding areas.

2. **The Phase 2 Study does not prove that fugitive dust emissions and PM10 concentrations due to OHV activity are greater than without that activity.**

   a. ***Neither the Phase 2 Study nor the DRI Pilot study have proved a direct, conclusive correlation with OHV use in the SVRA, and PM10 impacts on downwind monitors.*** The conclusion by the Phase 2 Study that OHV use has a significant impact on downwind PM10 impacts is speculative and not technically supportable. All that appears to be supportable is that PM10 impacts tend to be greater during high wind events from emissions sources in the direction of the SVRA, including non-riding areas. In fact, the DRI pilot study concluded that the emissions potential during typical high wind events is not different for areas with OHV use versus areas without OHV use[3]. The study states that the "PM10 emission potential data suggest that, for the areas tested the exclusion zone emitted PM10 at lower rates for equivalent wind friction speeds over the range tested," however, "...taking into account the uncertainty in the measurements, as represented by the standard deviation of the mean PM10 emission rate, at each of the test wind friction speeds, there is considerable overlap as indicated by the error bars... that makes it difficult to assert if the difference in the mean values is meaningful." The study goes on the say that "To more fully evaluate the difference in emission potential between the exclosure area and the driving area will require additional measurements."

   b. ***OHV use as measured by visitor counts does not correlate to higher PM10 emissions at the CDF or Mesa2 sites as compared with the Oso control site.*** Table 3.2 in the Phase 2 Study has been used by APCD staff to conclude a 25-30% increase in PM10 emissions due to OHV activity. However, this table is erroneous due to calculation errors and misused statistics, and even if the table were correct, it does not prove a causal relationship between OHV activity and increased PM10

[3] Desert Research Institute, *Oceano Dunes Pilot Projects*, http://www.slocleanair.org/air/pdf/2011/PMStudy/DRI_Final%20Report.pdf (September, 2011).

concentrations. The following statement appears in the Major Findings section of the report: "On average, high OHV activity days on the SVRA result in higher downwind PM10 concentrations than low OHV activity days," and this assertion is restated in the summary as a conclusive statement[4]. Of particular concern is the interpretation of this information by Larry R. Allen, APCO, in a letter to Andrew Zilke, District Superintendent of Oceano Dunes District, California Department of Parks and Recreation, dated 4/19/10, where he states the "analysis shows a statistically significant average increase of over 30% in PM10 levels at Mesa 2 on the 40 highest visitation days…" However this perceived increase is based on Table 3.2, which included unpublished data, formula errors, misused statistical methods by ignoring the middle 2/3 of the data to analyze only the highs and lows, and was interpreted by APCD staff as indicating a causal relationship where there was (1) no proof of association at all assuming correct use of the data and (2) no basis to conclude a causal relationship in the table even as published in the report. [5]

3. **The Phase 2 Study did not use dispersion modeling to corroborate the conclusions obtained from measured monitoring data. The fact that no such work was performed is a major flaw in the Phase 2 Study.**

The Phase 2 Study relies on measured wind and PM10 data to support a cause-and-effect supposition to tie SVRA emissions directly to PM10 exeedances at area monitors. To test the conclusions, a dispersion modeling study should have been performed, using an EPA and District-approved model, locally relevant meteorological and terrain data, and conservative modeling inputs.

Dispersion modeling is a standard technical approach used by regulatory agencies to understand the potential impact of emission sources on downwind areas, and compliance with health standards, and is frequently used by air districts to estimate PM10 concentrations to aid in air quality management efforts, including SIP analyses[6]. The relevance of dispersion modeling is discussed in EPA's Guideline on Air Quality Models, which states "Due to limitations in the spatial and temporal coverage of air quality measurements, monitoring data normally are not sufficient as the sole basis for demonstrating the adequacy of emission limits for existing sources. Also, the impacts of new sources that do not yet exist can only be determined through modeling. Thus, models, while uniquely filling one program need, have become a primary analytical tool in most air

[4] San Luis Obispo County Air Pollution Control District, *South County Phase 2 Particulate Study*, http://www.slocleanair.org/pdf/PM2-final_report.pdf (February 2010), 6-3, 6-4.
[5] Tom Reid, TRA Environmental Services, to Daphne Green, Off-Highway Motor Vehicle Recreation Division, 18 May 2010.

quality assessments. Air quality measurements though can be used in a complementary manner to dispersion models, with due regard for the strengths and weaknesses of both analysis techniques…"[7]

APCD cited reasons for not including dispersion modeling in the Phase 2 Study in their response to Ed Waage's comments dated April 20, 2010, including that a modeling study was cost prohibitive, as well as the assertion that "it is well understood in the air quality community that modeling results can be easily manipulated simply by varying one or more of the assumptions the model uses in its calculations."[8]

The Owens Valley Air Quality Modeling Study generated for the Great Basin Unified APCD's Owens Valley PM10 Planning Area State Implementation Plan 2008 Revision provides an example of a case where dispersion modeling has been used to effectively estimate PM10 impacts from windblown dust from Owens Lake, including surrounding dune areas, and test assertions derived from PM10 monitoring. The report states that "based on comparisons with monitoring data, dispersion model simulations using the sand flux as a surrogate for PM10 emissions were able to characterize many aspects of observed dust events at Owens Lake."[9]. The dispersion modeling should include not only the emission sources at the Dunes, but also localized PM10 emission sources near monitors. To verify model performance, PM10 concentrations predicted by the model can be compared to actual measured PM10 values, as was done in the *Owens Valley Air Quality Modeling Study*, and also demonstrated by the Oregon DEQ Medford-Ashland AQMA planning document to show that the model performs well within EPA acceptability specifications.[10] The Desert Research Institute's Oceano Dunes Pilot Projects report provides a means for using measured PM10 emission rates as a function of wind friction speed from the PI-SWERL measurements to use dispersion modeling to evaluate downwind concentrations, and goes so far as to "recommend that to better inform the development of an overall control strategy a

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[6] San Joaquin Valley Air Pollution Control District, *State Implementation Plan PM10 Modeling Protocol*, http://www.valleyair.org/Air_Quality_Plans/docs/2003%20PM10%20Plan/PDF%202003%20PM10%20Plan%20adpt%20app/App%20k-%20%28entire%29%201%20SJV%20PM10%20SIP%20Protocol.pdf (2003)

[7] USEPA 40 CFR Part 51, Appendix W, http://www.epa.gov/scram001/guidance/guide/appw_05.pdf (November, 2005), Section 1.0.b.

[8] San Luis Obispo County Air Pollution Control District to Ed Waage, PhD., 20 April 2011.

[9] Geomatrix Consultants, Inc. to Great Basin Unified Air Pollution Control District, *Owens Valley Air Quality Modeling Study, Final Report*, http://www.gbuapcd.org/Air%20Quality%20Plans/2008SIPfinal/appendices/Appendix%20B%20-%20Air%20Quality%20Modeling%20Report%20-%20Final072707.pdf (July, 2007), 4, 17.

[10] Oregon Department of Environmental Quality, *A Plan for Meeting and Maintaining The National Ambient Air Quality Standards For PM10,* Section 4.14.5.0 Air Quality Dispersion Modeling, http://www.deq.state.or.us/aq/planning/docs/pm10_part4.pdf (December, 2004), 4.

dispersion modeling exercise be undertaken to estimate how much area would need to be controlled at the dunes."[11]

4. **As a function of PM10 emission sources that impact Nipomo Mesa, APCD is misguided in focusing efforts to regulate OHV activities at the SVRA. Most fugitive dust emissions occur from other sources such as paved roads, unpaved roads, and countless sources of windblown dust. SLO APCD should focus instead on regulating these significant PM10 sources.**

   According to the 2009 emissions inventory for San Luis Obispo County, the contribution to PM10 emissions is 32.9% from unpaved roads, 19.7% from paved roads, 14.9% from construction and demolition, 11.8% from residential and marine fuel combustion, 7.2% from farming, and only 6.4% from windblown dust. Presumably windblown dust includes emissions from the 4-5 square mile SVRA as well as any windblown dust anywhere in the 3,300 square mile County. Based on these totals APCD and the residents of Nipomo Mesa would be much better served by controlling vehicle and wind-driven fugitive dust emissions from hundreds of miles of unpaved and paved roads, from lots and construction sites, and agricultural lands, rather than by focusing efforts on the insignificant portion of dust emissions that infrequently emanate from the SVRA.

5. **The Oso site is not an appropriate scientific control site. The ability to use a control site is questionable due to considerable uncertainties that exist in making measurements. This approach weakens the Phase 2 Study.**

   The definition of "control" would be that all is equal except for the varied quantity. With regard to OHV use, there is too much difference between the CDF/Mesa2 and Oso sites and scientific uncertainty to properly define Oso as a control site, with any one factor or combination of factors being truly equal. The Oso site does not have the other nearby dust generation influences. Additionally, the range of wind directions which the CDF site is exposed to spans 273 to 333 degrees, while the range at the OSO site is 293-319 degrees, due to different terrain features (Waage).

COMMENTS ON PROPOSED SLOAPCD RULE 1001 TEXT

As proposed by the APCD, Rule 1001 is neither reasonable nor practicably enforceable. The rule is vaguely written and fails to take into account several factors that are not within the control of the CVDAA operator, yet could potentially affect PM10 concentrations at the monitoring sites.

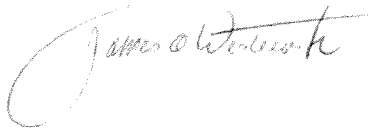
[11] Desert Research Institute, *Oceano Dunes Pilot Projects*, http://www.slocleanair.org/air/pdf/2011/PMStudy/DRI_Final%20Report.pdf (September, 2011), 53.

The following are comments on the draft regulation.

1. Regarding applicability, there is no indication how the CDVAA 100 acre size is determined. It is not clear if the boundaries of a CDVAA include non-vegetated areas only, total land area, etc.
2. The 1.5 mile distance for the CDVAA is arbitrary and will include areas that are not the subject of the regulation, including areas that the public does not have access to, and areas that are not defined as coastal dunes.
3. A definition for Visible Dust Emissions (VDE) is provided, but VDE are not addressed in the proposed regulation.
4. Unpaved Roads are not included as sources of PM10 emissions.
5. There is no definition of the word "comparable."
6. Due to significant variation of monitored PM10 concentrations that will result from uncertainty with varying wind directions, terrain, fetch of dunes, contribution of localized PM10 sources, and a myriad of other reasons, it is not possible with any assurance to use the Control Monitor method for compliance purposes.
7. The rule provides no guidance related to the part of C.1.b requiring description of "...the expected emission reduction effectiveness" of PM10 control measures, particularly to describe how reduction effectiveness is to be measured
8. The numerical limits of Section C.2 are arbitrary and not scientifically supportable.
9. The 24-hour average PM10 requirement in Section C.2 should not be used as a benchmark for issuing violations, due to the inherent uncertainty of the source of PM10 emissions at any given time due to factors including the following:
   - No applicability limitations with regard to wind direction are included. Particularly when the wind is blowing from opposite the direction of the Dunes, it cannot be concluded that the Dunes are the source of the excess PM10.
   - The range of wind directions that this requirement applies to should be equivalent for both the CDVAA and Control monitoring sites, but the rule does not make any reference to wind direction whatsoever.
   - Special circumstances which may increase ambient PM10 emissions, such as wildfire conditions, are not addressed in the rule.
10. As stated above, the degree of uncertainty is too great to support establishing monitoring requirements, and numerical compliance limits.
11. Rule 1001 depends upon the additional agency approvals including the local Planning Agency under CEQA and the Coastal Commission. Any such approvals should be procured before Rule 1001, and the compliance schedule in Section E, becomes applicable. The CDVAA operator has no control over the schedule for agency approvals.

Sincerely,

BLUESCAPE ENVIRONMENTAL
a California Corporation



James A. Westbrook, CCM
Certified Consulting Meteorologist

Attachments

BLUESCAPE
ENVIRONMENTAL

James A. Westbrook

President
Principal Air Quality Scientist

Expertise

Air Quality Permitting & Compliance
Litigation Support
Strategic Business and Project Management
Mitigation Programs
Greenhouse Gas Management
Air Dispersion Modeling
CEQA Air Quality Impact Analysis
Chemical Spill Risk Management
Health Risk Assessment
Air Emissions Inventories
Emissions Credit Banking

Industry Focus

Power Generation
Refineries and Chemical Plants
Oil and Gas Production
LNG Facilities
Aggregate and Asphalt Production
Coating Operations
Pharmaceuticals

Building Materials Manufacturing
Aerospace Industry
Metal Plating Operations
General Manufacturing

Education

MS, Environmental Science, Indiana Univ.
BS, Atmospheric Sciences, UCLA

Certifications

Certified Consulting Meteorologist (CCM)
Certified Permitting Professional (CPP)

Associations / Memberships

American Meteorological Society
Air & Waste Management Association
California Alliance for Distributed Energy Resources (CADER)
LA Bar Association
CA Climate Action Registry

Company Background

BlueScape, Inc.
Kleinfelder
ENVIRON Corporation
Engineering-Science, Inc.

Summary of Experience

In 1997, James A. Westbrook, founded BlueScape Environmental (BlueScape) to help businesses achieve practical, cost-effective air quality compliance solutions. Since then, he has independently grown BlueScape by way of exceptional skills in strategic business planning, marketing, and project management. BlueScape currently serves businesses with annual revenues in excess of one billion dollars, including power generation and manufacturing companies, developers and consulting firms.

Mr. Westbrook helps clients to obtain air permits and achieve strategic business goals by drawing upon his expert skills in regulatory analysis & negotiation, air emissions calculations, greenhouse gas emissions management, dispersion modeling, and human health risk and exposure assessment. Mr. Westbrook serves as an expert witness in litigation cases involving air emissions estimates, dispersion modeling, and health risk assessment. To provide superior customer service, he has assembled a team of engineers and scientists with a wide range of experience and knowledge with industrial equipment, emission control technologies, computer emissions and dispersion modeling tools, and agency contacts throughout the U.S.

Mr. Westbrook actively speaks to industry trade groups regarding air quality compliance issues. He is the co-instructor for the only publicly available training course on the Hotspots Analysis and Reporting Program (HARP) risk assessment software. His work background includes experience obtained at Kleinfelder in Pleasanton, CA, ENVIRON Corporation in Emeryville, CA, and Parsons Engineering-Science in Pasadena, California.

His formal education includes an M.S. in Environmental Science from Indiana University, Bloomington and a B.S. in Atmospheric Sciences from UCLA. He is a Certified Consulting Meteorologist (CCM) and is recognized as a Certified Permitting Professional (CPP) by the South Coast Air Quality Management District.

Select Project Experience:

Air Permitting: Minor New Source Review, PSD and Title V Air Permitting

- ***Title V Permits, Peaking Power Plant, Chowchilla, California.*** BlueScape is currently preparing Title V permit applications for a peaking power plant consisting of 16 lean-burn gas engines, located in Chowchilla in the Valley Air District. The facility recently entered the program due to lowering of the Title V thresholds of NOx and VOC.

- ***Refinery Integration and PSD Review, Annual Emissions Reporting, Confidential Midwest Refineries.*** Project Manager for securing air permits and avoiding major PSD permitting for integration of two refineries located in the Midwest, separated by one mile. Conducted PSD Review of such issues as stationary source definition and common control, project aggregation, projected actual emissions, and capable of accommodating. In addition to integration of refinery operations, future projects included physical modifications and new units. Because the state determined that integration of both refineries was a change in method of operation, any future emissions increases above baseline would trigger major PSD permitting. BlueScape developed a method to use Projected Actual Emissions for integration plus aggregated projects to help the refineries avoid PSD. In addition to PSD review, the refineries hired BlueScape to develop a consistent Annual Emissions Reporting framework for both refineries and create a GHG emissions reporting plan under EPA's MRR program.

- ***Hydrogen Plant Permits, Chevron Refinery, El Segundo, California.*** Project Manager for securing installation permits for a new hydrogen plant, including a 780 MMBtu/hr heater, SCR system, process vents and components. The project was required to replace an old, existing plant under an Order for Abatement. Successfully negotiated installation of the project without requiring scarce and expensive emission credits (PM_{10}, 176 lb/day) that would have rendered the project impossible. Functionally identical replacement and concurrent modification offset exemptions were proposed and accepted by the South Coast AQMD. Negotiated permit conditions to provide operational flexibility during commissioning and startup conditions. Completed dispersion modeling using SCREEN3 and ISCST3 to show that short-term and long term operations will not cause or contribute to an exceedance of the health standards. Completed emission calculations and assembled all supporting documentation required as part of the rule review. Permits were issued in only six months, much less than the typical 1-2 years for similar projects, allowing the plant to be built and started as scheduled. BlueScape was a subcontractor to the Denali Group.

- ***CEC Licensing and Air Quality Permits, Eastshore Energy Facility, Hayward, California.*** Air Quality Project Manager for CEC licensing and air quality permitting for a 115.5 MW peaking power plant consisting of 14 natural gas-fired lean-burn engines. CEC application work supported the Air Quality and Public Health sections of the AFC, including construction emissions and modeling and the health risk assessment. Developed a CEQA PM10 mitigation plan provided to CEC. Participated in workshops and public meetings to resolve issues. Developed air permit conditions for the BAAQMD Final Determination of Compliance (PDOC).

- ***PSD Permit, Confidential Fiberglass Manufacturer, Northern California.*** Project Manager for completion of a PSD air permit application for a fiberglass manufacturing facility located in Northern California. Work included an air quality modeling analysis for PM_{10} and CO emissions. The facility's compliance with federal ambient air quality standards and with allowable PSD increment consumption was assessed. Mr. Westbrook assisted with preparation of a PM_{10} pre-construction monitoring and QA/QC plan, addressing monitor siting issues.

- ***Expedited Distributed Generation Air Permits, RealEnergy Inc., California.*** Managed Phase I & II installation of clean gas-fired internal combustion engines in 10 sites located in the South Coast Region and San Diego County of California. Worked with team members Resource Catalysts and Environmental Compliance Solutions under a very aggressive schedule to successfully obtain permits. Providing RealEnergy with ongoing permitting and compliance management support.

- ***CEC Siting Application for a 62 MW Peaker Turbine Facility, RAMCO Inc. & PG&E, California.*** Project leader with team member Resource Catalysts and other consultants; developed and submitted the licensing application for a peaking generation plant under the California Energy Commission 21-day expedited review process.

- ***Backup Diesel Engine Air Permits, EDS Corporation and the U.S. Navy.*** As subcontractor to Rancho Santa Fe Technologies, prepared air permit applications for five 1 MW diesel-fired engines as part of the U.S. Naval global military intranet system called "SPAWARS."

- ***SIP Permit, Confidential Fiberglass Manufacturer, West Virginia.*** Project Manager for completion of air dispersion modeling services for a fiberglass manufacturing facility located in West Virginia. The work was performed to assess the effect of changing the West Virginia State Implementation Plan on attainment of area PM_{10} NAAQS. On-site meteorological data was processed for multiple tower levels. The SCREEN3 model was used to reduce the number of nearby sources to be included in the NAAQS modeling analyses. The IGM model with ISCST and RTDM was used to model impacts from facility sources. ISCST and COMPLEX I were used to model impacts from nearby sources.

- ***Synthetic Minor Air Permits, Three Prestolite Wire Corporation Facilities in the Midwest and Eastern US.*** Project Manager for completion of synthetic minor air permit applications for telecommunication and automotive wire manufacturing facilities located in Nebraska and Arkansas. Assisted facilities in preparing up-to-date emission inventories and avoiding Title V permitting requirements. For a third facility located in Georgia, negotiated with air pollution control agency staff to obtain an exemption from State air permitting requirements.

- ***PSD Permit, Confidential Fiberglass Manufacturer, Georgia.*** Managed and completed the modeling study to support a PSD application submittal for a fiberglass manufacturing facility located near Atlanta. The facility proposed to add sodium nitrate to raw batch materials to reduce odor-causing emissions of hydrogen sulfide from a melter. As a result, PSD for NO_2 was triggered. The project involved estimating process emissions of criteria pollutants, assessing compliance with NAAQS and increment thresholds for NO_2, and completing other required PSD analyses, including a visibility screening analysis.

- ***Synthetic Minor Air Permit, Fisher-Hamilton Scientific, Two Rivers, Wisconsin.*** Project Manager for completion of a Federally Enforceable State Operating Permit (FESOP) application for a wood furniture manufacturer. Our staff assisted the facility in implementing strategic measures to reduce VOC emissions and avoid Title V permit requirements. Calculations were performed for both actual and potential emissions based on future production scenarios, and drafted permit limits.

- ***Title V Permits, Three California Facilities.*** Assisted with completion of Title V permit applications for the Owens-Brockway glass facility in Tracy, California, the Lodi Metal Tech Facility in Lodi, California, and the Sony Electronics facility in San Diego, California. Lists of Title V-applicable regulations were developed for the facilities, and application forms were completed using client-supplied information.

- ***Air Permits, Confidential Fiberglass Facility, Southern California.*** Assisted a fiberglass facility in obtaining a modified air permit for an increase in production capacity on a highly restricted line. Although no net increase in emissions was expected following regulatory definitions, the permitting agency wanted air emission increases to be calculated using a restrictive methodology. This methodology triggered a Rule 1401 health risk assessment and led to delays in the permitting process. Assisted the facility throughout the process by analyzing the effect of agency requirements and presented ways to express production limits in a manner that would move the project forward. Ultimately, BlueScape succeeded in showing that the facility could expand production without causing significant health risk impacts or requiring emissions offsets. The facility received the modified air permit.

Air Dispersion Modeling Analyses

- ***AERMOD Modeling, Bradwood Landing LNG Terminal, Oregon.*** As a subcontractor to SRA, used the AERMOD model to assess impacts from a proposed Bradwood Landing LNG carrier vessel offloading terminal on the Columbia River. Developed an air dispersion modeling protocol in consultation with the Oregon Department of Environmental Quality. Analyzed impacts of emissions from submerged combustion vaporizers at rugged terrain along the banks of the river. Assisted the design team with exhaust design to optimize engineering design and satisfy applicable air quality thresholds.

- ***OCD Modeling, Clearwater Port LNG Terminal, Ventura, California.*** As a subcontractor to SRA, used the Offshore and Coastal Dispersion Model to assess overwater and onshore impacts from a proposed LNG offloading terminal and regasification platform 13 miles off Ventura County. Developed an air dispersion modeling protocol and completed modeling in consultation with the US EPA and the US Coast Guard.

- ***LAX Construction Equipment Modeling Study, Los Angeles, California.*** As a subcontractor to ECS, completed a dispersion modeling analysis for the proposed expansion of the Los Angeles International Airport. The majority of emissions resulted from diesel-fueled construction equipment. In order to show compliance with the Federal and State ambient air quality standards, completed ISCST3 air dispersion modeling using the ozone limiting technique for NOx emissions.

- ***PSD Modeling Study, Columbia Ridge Landfill, Arlington, Oregon.*** As a subcontractor to SCS Engineers, managed completion of a dispersion modeling study to assess impacts from increased fugitive PM10 emissions from a landfill. Impacts modeled using

AERMOD were compared to the Oregon state ambient standards and increment levels. The project was particularly challenging given the amount of emissions from ground-level sources. Worked closely with the prime contractor to refine the modeling study emissions and source parameter inputs so that future operations will be in compliance with the standards.

- ***Odor Modeling, San Diego Metropolitan Wastewater District (SDMWD), San Diego, California.*** Completed dispersion modeling study using the ISCST3 model to assess potential odor impacts and health risks. The San Diego MWD planned construction of a Wet Weather Storage Facility (WWSF), consisting of two 7 million gallon underground storage tanks, to handle future peak wastewater flows during storm events. Required analysis of potential nuisance odors and health risk impacts as compared to thresholds established by the San Diego APCD under Rule 1200 for surrounding businesses. Developed engineering design data, such as stack height, air flows, and scrubber control efficiency that would be required to meet City's odor design standards of 5 odor units (OU). Used conservative modeling and exposure assumptions, to show that odor impacts and health risks from the Wet Weather Storage Facility would meet design requirements.

- ***Air Dispersion Modeling & Health Risk Assessment, THUMS, Inc., Long Beach, California.*** Owner of natural gas and petroleum production fields, planned to site a 44 MW simple-cycle turbine facility in Long Beach harbor to provide onsite electricity for well pumping. Needed modeling and HRA to show that operation was in compliance with South Coast Air District Rules 1303 and 1401. Modeled impacts from criteria pollutants (NOx, PM10, etc.), ammonia slip, and air toxics found at three candidate site locations. Examined the effect of different stack heights, and the effect of building downwash on air quality impacts. For each candidate site, determined a stack configuration that would result in compliance with the district rules.

- ***Ambient Air Quality Analysis, Motorola 52nd Street, Phoenix, Arizona.*** Lead dispersion modeler for an ambient air quality analyses performed for a semiconductor manufacturing facility. Estimated off-site air quality impacts using the ISCST and SHORTZ dispersion models. From estimates of off-site concentrations and emissions data, compared modeling results to state ambient air quality guidelines. Completed feasibility studies to evaluate the impact of modifying facilities.

- ***Stack Increase Study, Confidential Metal Container Manufacturer, Southern California.*** Entrainment of sulfuric acid emissions released from three stacks into building ventilation intakes was apparently resulting in poor product finish quality for some can batches. As a subcontractor to Kleinfelder, made visual observations at the site and confirmed a potential problem during strong northeast winds. Using the ISCST3 model and ASHRAE guidance, stack height increases needed to avoid intake contamination were estimated. Reconstruction of the stacks was commenced based upon study recommendations.

- ***Indoor Contamination Study, Confidential Hospital, Nevada.*** A hospital in Nevada was evaluating reports of health effects possibly caused by indoor pollutant contamination. An investigation of rooftop stacks revealed that emissions from two boilers were potentially entrained into building ventilation intakes on the lee side (cavity area) of a downwind structure. The ASHRAE ventilation guidance was used to estimate boiler stack height increases recommended to avoid the building cavity zone.

- ***Third-Party Modeling Review; Instantaneous and Short-Term Releases from Multiple Federal Munitions Disposal Facilities, Eastern United States.*** Health risk assessments were performed by the facilities following the USEPA Human Health Risk Assessment Procedures (HHRAP) guidance document. Models proposed for use included OBODM, ISCST3, INPUFF, and TRPUF. Resulting documentation required third-party review by an independent source. The review focused primarily on the appropriateness of modeling input data assumptions, including emissions, source release parameters, and meteorological data. Comments were provided to Booz-Allen, and submitted along with other comments to USEPA and state air pollution agency staff.

- ***Monitoring/Meteorological Data Validation Study, Confidential Municipal Waste Landfill, Southern California.*** Compared vinyl chloride monitoring data to concurrently obtain meteorological measurements. Used on-site meteorological measurements as well as synoptic observations to validate monitoring data.

Litigation Support

- ***Confidential Litigation, CO Poisoning Case, New Mexico.*** Project Manager and Expert Witness for a litigation case involving a CO exposure and poisoning case at a hotel in New Mexico. Performed site investigation and analysis of meteorological data as a preliminary step to indoor CO exposure modeling. Developed procedures to conduct modeling, considering placement of CO monitors and air flow into and out of emission source and exposure areas. The case was settled.

- ***Confidential Odor Litigation Case, Southern California***. Project Manager and Expert Witness for a litigation case involving a pet food manufacturing plant and reports of odors in the community. Reviewed the previous emission calculations and modeling approach completed by a consultant using ISCST3, and updated air quality modeling using AERMOD, the current EPA-required dispersion model for offsite impacts. Meteorological data were updated to nearby wind monitors and using MM5 prognostic upper air data. Peaking factors were developed to extrapolate one-hour average model impacts to 3-minute average impacts. The case is pending trial.

- ***Litigation Case for a Residential Housing Developer, San Diego***. Project Manager and Expert Witness to support a residential housing developer as Defendant. A resident that lived on the road to a new housing developing sued the developer for dust and diesel emissions entering the property, claiming severe asthma and other health impacts. Developed an analysis of ambient ozone and particulate matter concentrations, and pollen data. Reviewed local wind data and proximity of roadways to the plaintiff's house. The case is pending trial.

- ***Confidential Air Toxics Litigation Case, Southern California***. Project Manager and Expert Witness for a toxic tort litigation case in Southern California. The case involved transport of emissions from open burning and open detonation of waste munitions into a residential community. Developed meteorological data for air dispersion modeling using the CALMET system. Dispersion modeling was completed using ISCST3, OBODM, and CALPUFF to assess various historical operational scenarios. Deposed regarding modeling results. Case was settled out of court.

- ***Litigation Support for an Accidental Chemical Release, Confidential Pesticide Manufacturing Company***. Served as an Expert Witness on behalf of the Defendant, a pesticide manufacturing company, that had released chlorosulfonic acid from a tank. The Plaintiff claimed injury from exposure to hydrochloric acid (HCL) generated from the release. Work involved meteorological data analysis to show that the Plaintiff could not have been in contact with an acid cloud, and SLAB dispersion modeling to predict downwind concentrations of HCL. Deposed regarding modeling results. The case ended in a settlement favorable to the Defendant.

- ***Proposition 65 Litigation, Confidential California Facility.*** Prepared a Proposition 65 health risk assessment for a metal polishing and plating facility that uses perchloroethylene in a vapor degreasing operation. A citizen's group contended that the facility failed to warn off-site receptors of perchloroethylene levels above the no significant risk level (NSRL). BlueScape used refined analysis methods to show that, given very conservative exposure assumptions that overstate actual risk, exposure values above the NSRL were confined to locations very near the emissions source.

- ***Proposition 65 Litigation and Evaluation Services, Nine Confidential California Companies.*** Project Manager or Technical Lead in Proposition 65 services ranging from due diligence audits to litigation support. Industries served include battery manufacturers, a glass container manufacturer, a golf club manufacturer, two metal plating facilities, an electronics manufacturing firm, and an airplane parts manufacturing company. Completed community exposure assessments using the SCREEN3 and ISCST models. Evaluated representativeness of assumptions used in litigant's and plaintiff's modeling analyses, including meteorological data inputs, monitoring and emissions data referenced, equipment operating schedules, estimates of indoor concentrations of lead relative to outdoor concentrations, and mobility of worker populations.

- ***Litigation Assistance for a Consortium of Confidential Petroleum Refineries, Texas***. Assisted several petroleum refineries located in Texas in class action litigation involving fugitive benzene emissions from piping and tanks, and chromium emissions from cooling towers. Performed dispersion modeling for benzene impacts using plaintiff's input files and ISCST, but revised benzene emissions estimates reflecting more realistic assumptions. Also, used plaintiffs ISCST and FDM input files to evaluate chromium impacts for various particle sizes and surface roughness lengths.

- ***Air Toxics Litigation, Confidential Chemical Manufacturer, Texas***. A chemical company in Texas was being sued by nearby residents alleging exposure to benzene and other chemicals was causing various health ailments. Depositions from over 30 litigants were reviewed to develop an exposure parameters database. Used a visual basic-driven system to estimate benzene exposure under various scenarios. The scenarios accounted for population mobility, indoor concentrations relative to outdoor concentrations, and movement of population between various micro-environments.

Mitigation Programs

- ***Air Quality Mitigation and Monitoring Support, Confidential California Utility Transmission Project***. With ZMassociates, Project Director providing air quality mitigation support to a major utility. At the outset of the project the utility was required to mitigate more than 200 tons/year of NOx emissions. Refined project emissions estimates for updated route alignment and construction equipment forecasts. The outcome NOx mitigation requirements were removed. Calculated construction and operational GHG emissions and developed a plan for providing mitigation using carbon credits. Led team development of a Construction Emissions Monitoring Plan to track actual usage of construction equipment.

- ***PM_{10} Mitigation Plan, Escondido, California***. Sempra Energy developed a 500 MW power generation facility in Escondido, California. Sempra was required to fund up to $1.9 million for local PM_{10} mitigation, with a preference for diesel exhaust mitigation. Under contract to City of Escondido, developed a PM_{10} mitigation plan identifying potential sources of local diesel mitigation. The mitigation plan considered the cost-effectiveness of diesel mitigation, as well as reducing emissions from other source types. Helped City of Escondido to apply for up to $500,000 in funding for particulate filters for several on-road and off-road diesel vehicles, and new school buses.

- ***PM_{10} Mitigation Plan, Eastshore Energy Facility, Hayward, California***. Project Manager for developing a PM_{10} mitigation plan under California CEQA requirements. The Eastshore Energy facility is not required to mitigate PM_{10} under BAAQMD regulations. However, CEC requires that PM_{10} emissions be mitigated, especially during potential non-attainment periods. Developed a two-prong plan that proposes using BAAQMD-banked emission reduction credits, or a wood stove and fireplace replacement program. The mitigation is currently being negotiated with CEC.

- ***LAX PM_{10} Mitigation Study, Los Angeles, California***. Completed research of PM10 mitigation options for the LAX expansion project. Focus of the research work was on air filtration in air conditioning systems in area schools.

- ***Rule 1309.1 Priority Reserve Rule Review, Southern California***. For a confidential client, closely following Rule 1309.1 Priority Reserve developments. When Rule 1309.1 is updated in August 2007, many restrictions will be placed on facilities need access to the Priority reserve. This will have a significant impact on the market for PM_{10} Emission Reduction Credits within the SCAQMD.

Greenhouse Gas Management

- ***Johns Manville Corporation, Corporate Greenhouse Gas Inventory Management***. Johns Manville is a Berkshire Hathaway Company that manufactures residential and commercial insulation and roofing products (www.jm.com). The company has 50 manufacturing facilities worldwide. BlueScape conducted baseline emissions inventory work focusing on two California facilities that may be subject to AB32 reporting requirements. The 2006 emissions inventory data were be supplied to the California Climate Action Registry, and successfully verified by a third party. On a corporate level, BlueScape is working with Johns Manville to develop corporate strategies to address climate change issues, considering energy efficiency and credit development opportunities, national Climate Registry participation, and insulation product sales.

- ***Greenhouse Gas Footprint Life Cycle Analysis, Confidential LNG Project, Western US***. BlueScape partnered with WorleyParsons Komex to prepare a GHG footprint life cycle analysis for a proposed liquefied natural gas project. The project will obtain natural gas from fields in Asia or Australia, clean and liquefy the gas and transport LNG across the Pacific Ocean to the US West Coast. Regasification and compression of natural gas will be accomplished utilizing four gas turbines. The project is being completed for submittal to the Coastal Commission, US Coast Guard and other agencies as part of a NEPA review. The life cycle GHG impact with and without the project (no action alternative) will be compared. The no action alternative considers forecasted Western US power industry fuel and generation technology mix, including coal, natural gas, renewable, nuclear and hydroelectric, from 2012 to 2050. To complete the work, BlueScape obtained and analyzed utility, CEC and PUC reports.

- ***Confidential Independent Power Producer, Greenhouse Gas Emissions Inventory and Solutions, California.*** BlueScape completed a baseline greenhouse gas emissions inventory for an independent power producer operating nine plants with 500 MW of total power production capacity. At six plants, the company combusts petroleum coke, a fuel with CO_2 emissions similar to coal. The company is facing contract renewal with PG&E, and is concerned that the facilities will not be competitive to natural gas-fired plants. BlueScape is working with the company to analyze possible solutions to reduce GHG emissions ahead of impending AB32

compliance requirements and PG&E contract renegotiation. Options identified to date include boiler oxy-firing, fuel switching, carbon sequestration, load shifting to re-permitted gas-fired power plants, and plant shutdown. The company is also considering investing in renewable energy projects to offset GHG emissions from fossil fuels. The project goal will be to help the company to remain competitive in the rapidly changing California power generation market.

- ***Greenhouse Gas Emissions Inventory Verification, California Climate Action Registry.*** BlueScape has completed verification work on three greenhouse gas emission inventories. The work was completed as a subcontractor to ICF Consulting, for 2006 inventories submitted to the California Climate Action Registry. The companies include Los Angeles County, Driftwood Dairy, and Termo Oil and Gas., all located in the Los Angeles area. The verification work included initial meetings, site visits, auditing of records and calculations, and filing a verification opinion.

- ***Oil Production CO_2 Life Cycle Analysis, Client: Confidential Refinery, California.*** Managed a project to complete a life cycle analysis to compare the CO_2 emissions from extraction and delivery of Los Angeles heavy crude oil to a Los Angeles refinery versus extraction, marine shipping, and delivery of Alaskan or Middle East light crude oil to a Los Angeles refinery. CO_2 emissions for extraction of Los Angeles heavy crude oil were based on an oil production lease's certified California Climate Action Registry emissions. CO_2 emissions for extraction of Canadian light crude oil were based on average natural gas combustion and production data published by the Alaska Oil and Gas Conservation Commission. CO_2 emissions for extraction of Middle East light crude oil were estimated from Los Angeles/Canada data and a reduced water/oil ratio. CO_2 emissions from transportation considered heavy fuel oil combustion in main and auxiliary engines throughout the tanker travel distance, as well as marine diesel combustion by tugs and during maneuvering and hotelling. Results were compiled as a production carbon intensity to show that the higher CO_2 emissions from heavy crude oil production in Los Angeles were offset by the reduced transportation emissions.

Human Health Risk and Exposure Assessment

- ***Diesel Health Risk Assessment, Boeing Corporation, Long Beach***. Project Manager for completion of a health risk assessment for diesel PM emissions from 18 emergency and portable generators at Boeing's facilities in Long Beach. The work was completed using the HARP software. The purpose of the study was to evaluate the potential impacts from the engines, if included in a proposed South Coast Air Quality Management District air toxics rule. The results from the study were used to determine the location and time needed to operate the engines and be in compliance with the proposed rule.

- ***Comprehensive Proposition 65 Audits, Confidential Power Producer, California***. For a confidential independent power producer, completed comprehensive Prop 65 audits for six facilities. The facilities combust petroleum coke, a byproduct of refining. Potential exposure areas covered included occupational and visitor, water discharges, air discharges, and exposure to a co-product from the electricity generation process. A report was prepared stating conclusions and whether there was a need to warn the community.

- ***Duwamish Regional Health Risk Assessment, Seattle, Washington.*** Teamed with Dillingham Software Engineering (DSE), the developer of California Air Resources Board Hotspots Analysis and Reporting Program (HARP), to complete a regional health risk assessment for the Duwamish River Valley just to the south of downtown Seattle. The modeling and health risk study included on-road diesel emissions sources, wood stoves, and criteria pollutant and air toxic emissions from more than 200 industrial facilities. BlueScape was responsible for developing the industrial facility air toxics emissions inventory, and completing a report utilizing modeling output provided by DSE. The study was sponsored by the Washington Department of Health.

- ***AB2588 Health Risk Assessments, Multiple California Facilities***. Project Manager or Technical Lead for more than 20 AB2588 health risk assessment projects for industrial facilities located in Southern California. These included 10 Southern California Edison power plants, a fiberglass manufacturing facility, a spice processing plant, a plumbing supplies plant, the Kwikset manufacturing facility in Anaheim, two petroleum processing/refining facilities, two small parts coatings facilities (hexavalent chromium-based pigments), a resin manufacturer, a specialty resistor manufacturer and two aerospace part manufacturers. Used the SCREEN3 and ISCST3 dispersion models and the ACE2588 and HRA health risk assessment models to calculate and report health risks.

- ***New Source Review Air Permitting Health Risk Assessments, Multiple California Facilities.*** Project Manager or Technical Lead for completing health risk assessments to obtain air permits for a wide range of industrial emission sources located in California, for example, three separate air strippers, a can manufacturing facility, a landfill gas flare, two wood cabinet manufacturing facilities, a fiberglass manufacturing facility, a major refinery, and a power generation company. In the process of

obtaining air permits, BLUESCAPE has used techniques ranging from consulting look-up tables and screening dispersion modeling, to full refined dispersion modeling and risk calculations.

- ***Benzene Exposure Analysis, Confidential Refinery, Appalachian Region***. Lead dispersion modeler for an analysis of potential human exposure to benzene emitted from wastewater processing operations at a medium-sized petroleum refinery. Used the ISCST and COMPLEXI models to estimate ground-level impacts due to fugitive sources such as tanks, pipes, and ponds, as well as point sources such as cooling towers. Estimated potential excess cancer risk under various exposure scenarios, accounting for population mobility, indoor concentrations relative to outdoor concentrations, and movement of population between various microenvironments.

- ***Evaluation of U.S. EPA's use of the HAPEM Exposure Model to Estimate Benzene Emissions from Mobile Sources, Confidential Client***. Lead modeler for evaluating U.S. EPA's application of the HAPEM exposure model to mobile source pollutants, especially benzene. Downloaded CO monitoring data from the Aerometric Information Retrieval System. Using statistical and graphical methods, analyzed the relationship between ambient measurements of CO and tailpipe benzene emissions to critically evaluate U.S. EPA's methodology.

Accidental Release Offsite Consequence Analyses

- ***RMP Offsite Consequence Analysis, Multi-Chem, New Iberia, Louisiana and Denver City, Texas***. As a subcontractor to Denali, Inc., BlueScape completed an offsite consequence analysis for a chemical storage and distribution facility. The facility distributes acrolein, a highly toxic substances used in oil and gas fields in the petroleum industry. The worst-case and alternative release scenarios were assessed, including breach of a storage tank and a PRV release involving a fire. Modeling was completed using RMPComp and Aloha.

- ***RMP Offsite Consequence Analysis, Hill Brothers Chemical Company and Modern Ice and Cold Storage, San Jose, California***. As a subcontractor to Denali, Inc., completed a CalARP (RMP) modeling study for a chemical company that stores and redistributes for sale anhydrous and aqueous ammonia, and a food cold storage facility. For each facility, assessed the worst-case and alternative release scenarios for each process utilizing ammonia, then calculated the source term (ammonia release rates) for each process. The worst-case and alternative case impacts were determined using the DEGADIS and/or other appropriate models or guidance.

- ***Offsite Consequence Analysis, Microchip, Tempe, Arizona.*** A semiconductor manufacturer needed to update its accidental release management plan for compressed gases, hydrochloric acid, and sulfuric acid. The ISCST3 model with one year of meteorological data was used to model compressed gas releases. DEGADIS was used to model acid spills. The radii of impact, based upon the distance to IDLH values, were found to be within the facility boundary. A report presenting the results of the analysis and showing the onsite radii of impact was completed.

- ***Risk Management and Prevention Plan, Komag, Fremont, California.*** For development of an RMPP, analyzed meteorological data to determine typical conditions that could occur during an accidental release. Developed a report section describing typical meteorological conditions in the RMPP.

- ***Accidental Release Models Evaluation, Pure-Etch, Salinas, California***. As part of a CEQA study, an etching solution reclaim facility was required to conduct a "customized" accidental release analysis for a mitigated negative declaration. The chemicals at issue were sulfuric acid, hydrochloric acid, and ammonia. Assisted in the project by locating and evaluating candidate dispersion models for completing offsite consequence analyses.

Air Emissions Inventories

- ***Air Emissions Fee Reports, Johns Manville Corporation, Corona, California.*** Assisted a fiberglass company in Southern California in response to SCAQMD's request for revised Rule 301 emissions inventories for the period 1994-1997 and completed the 1997-1998 report. A full air compliance audit initiated the project to verify permit status and emissions source inclusion. Emission factors were updated to reflect recent source tests and a Title V emissions inventory.

- ***Clean Air Act Emissions Inventory for Two ABEX/NWL Control Systems Facilities***. Managed the completion of facility-wide emissions inventories for two aerospace component manufacturing facilities located in Michigan and Georgia. The emission inventories were submitted to State agencies and became the basis for determining applicable Clean Air Act requirements, including Title V permitting.

- ***Due Diligence Emissions Inventory, Confidential Golf Club Manufacturer, San Diego, California***. A golf club manufacturer was interested in estimating air toxic emissions from one of two facilities. Emissions had not been tracked closely in the past. The project proved to be challenging, since many different paint and solvent products were used, usage logs differed between different production areas, and materials were often transferred from another facility. Data gaps were filled to complete the inventory. Results of the due diligence inventory were compared to local air district regulations to assess compliance.

- ***Dehydration Unit Emissions, Confidential Natural Gas Producer, Western U.S.*** Using natural gas composition information supplied by the client, estimated VOC and hazardous air pollutant emissions from triethylene glycol dehydration units at three facilities. The purpose of the project was to determine if Title V permit applicability thresholds were exceeded. The GlyCalc 3.0 model was used to complete emissions estimates.

- ***AB2588 Emissions Inventory, Johns Manville, Willows, California.*** A fiberglass manufacturing facility was required to update its original AB2588 emissions report. Several new source test results had been completed. Using the source test data and other information sources, a comprehensive air toxics inventory was completed and submitted to the Glenn County Air Pollution Control District using FATES. From the results of the analysis, risk prioritization scores were estimated and the facility was counseled on potential updated risk assessment requirements.

- ***AB2588 Emissions Inventory Plans, Calmat, Southern California***. Completed Air Toxics Inventory Plans for more than 10 sand and aggregate, batch concrete, and batch asphalt plants. Provided detailed information to agencies on processes and emission quantification methods. The plans were the basis for later completion of emissions inventory reports.

Clean Air Regulatory Analyses and Compliance Audits

- ***Confidential Coatings Manufacturing Company, Air Permitting and Compliance – South Coast AQMD*** – A coatings manufacturing facility in Los Angeles required help with emission calculations to avoid Title V major source permitting requirements. BlueScape avoided Title V, by completing alternative emission calculations for more than 20 vessels using EPA's TANKS equations and specific chemical mixture properties. Subsequently, when auditing facility permits, BlueScape found that the facility had not properly permitted several mixing vessels. BlueScape completed permits under SCAQMD's amnesty self-disclosure program, thus avoiding violations. BlueScape is currently working with the facility to triple the amount of throughput in a solvent recovery process. The project will require installation of a vapor condenser to reduce VOC and air toxic emissions increases.

- ***Regulatory Analysis for the Petroleum Industry, Western States Petroleum Association***. Conducted a comparative analysis of over 150 environmental regulations affecting petroleum companies in five key areas: air toxics, new source review, endangered species, hazardous materials, and oil spills. Determined reporting requirements, and assessed inefficiencies and overlaps between regulations.

- ***Clean Air Act Compliance Audits, Confidential National Client***. Task Manager for analyzing the impact of the 1990 Clean Air Act Amendments on over 30 facilities located in 11 states and engaged in a variety of manufacturing activities. Reviewed emissions and process information to determine the applicability of, and compliance with, Federal, State and local air quality regulations. Prioritized issues and gave recommendations for action.

- ***General Motors Environmental Audit, Flint, Michigan***. As a team member with Golden Environmental, completed the air quality audit portion of the environmental for the maintenance services at "Buick City" located in Flint Michigan.

- ***Environmental Compliance Audit, Triptych CD, Stockton, California***. Completed the environmental compliance audit for a company located in Stockton, California, which produces compact discs. Evaluated the facility's compliance with applicable air, solid waste, hazardous waste, and water discharge regulations.

- ***Clean Air Act Compliance Audit, Confidential Aluminum Production Facility, South Carolina.*** Completed a review of Clean Air Act regulations that might apply to the facility as part of an environmental audit. Assessed the applicability of NSPS, NESHAP, MACT, CAA Section 112(r) and other requirements.

Environmental Impact Air Quality Analysis

- ***Air Quality Impact Analysis, Homestead Village, San Ramon, California***. Project Manager for completion of an air quality impact analysis for a hotel development, as part of a CEQA environmental impact report. The analysis was completed efficiently

using BAAQMD guidance and a study previously completed for a shopping center. Using traffic information supplied by another consultant, insignificant project impacts were estimated.

- ***Environmental and Air Quality Impact Review, City of Antioch and Pittsburg District Energy Facility.*** Project Manager retained by The City of Antioch, and Intervener, to review the California Energy Commission's (CEC) Preliminary Staff Assessment for the Pittsburg District Energy Facility. Worked with team members to developed written testimony regarding potential impacts to air quality, water quality, and infrastructure. Attended workshops and hearings to obtain information and present City of Anitoch's concerns to CEC staff.

- ***Air Quality Modeling Analysis, Alta Ski Resort Draft EIR, Utah.*** Revised the air quality impact section of a draft EIR for the Alta Ski Resort. The section was expanded to address lead agency comments regarding potential impacts on ambient air quality, visibility, and PSD increments. The SCREEN3 model and CALINE4 model were used to estimate impacts from direct and indirect sources. A formal response satisfying the comments was submitted.

- ***Traffic and Air Emissions Study, Reno, Nevada***. As part of the environmental impact report for the Southern Pacific-Union Pacific railroad merger, estimated automobile air emissions due to increased traffic delays caused by train trips in downtown Reno. Estimated emissions using MOBILE5. Train emissions were estimated using emission factors supplied by the Washoe County Air Agency.

- ***Air Quality Impact Analysis, Vintage Faire Mall, Modesto, California.*** The Vintage Faire Mall was planning to expand to include additional services with added parking spaces. An analysis was completed to determine air quality impacts from increased automobile trips. The EMFAC7F model was run to obtain vehicle emission factors. Impacts from CO and other emissions were estimated using the CALINE4 model and CEQA guidance.

Papers and Presentations:

- Westbrook, J.A. 2007. How to Calculate and Reduce Fleet Carbon Emissions. Presented at the National Alternative Fuels & Vehicles Conference, Anaheim, California, April.

- Westbrook, J.A. and Sullivan, P.S. 2006. Fugitive Dust Modeling for PM10 Emissions from a Municipal Waste Landfill. Presented at the "Guideline on Air Quality Models: Applications and FLAG Developments — An A&WMA Specialty Conference", Denver, Colorado, April.

- Westbrook, J.A. and Dillingham, J. 2005. *Rule 1401 Health Risk Assessment Course.* One-day course presented in Anaheim, California.

- Westbrook, J.A. and Dillingham J. 2005. *Air Toxics Health Risk Assessment Featuring HARP Software*. Two-day course presented in Anaheim and San Francisco, California.

- Westbrook J.A. 2004. *Environmental Justice & DER.* Presented at the 2004 California Alliance for Distributed Energy Resources Conference, San Diego, California.

- Tarde J.A. and Westbrook J.A. 2003. *Air Quality Modeling in a Highly Industrialized Valley Regime: A Comparison of AERMOD–PRIME to ISCST–PRIME and ISCST3 Results for PM10 Emissions.* Presented at the "Guideline on Air Quality Models; the Path Forward" Conference, Mystic, Connecticut, October.

- Westbrook, J.A. 1998. *Regional Risk Analysis and CALPUFF: A Review of the Tri-State Initiative.* Presented at the 10th Joint Conference on the Applications of Air Pollution Meteorology with the AW&MA, Phoenix, Arizona.

- Westbrook, J.A. 1998. *Facilitating the Air Permitting Process: Strategic Planning Makes a Difference.* Presented at the 1998 Johns Manville Environmental Coordinator's Conference, Denver, Colorado.

- Westbrook, J.A. 1998. *Air Dispersion Models: Tools to Assess Impacts from Air Pollution Sources.* Natural Resources & Environment New Science and Technology Issue. ABA Section of Natural Resources, Energy, and Environmental Law, Chicago, Illinois, Spring.

- Westbrook J.A., and Tarde J.A., 1995. Dispersion Modeling Techniques for Horizontal, Titled or Capped Emission Sources. Presented at the 88th Meeting of the Air & Waste Management Association, San Antonio, Texas.

- Hayes S.R., and Westbrook J.A. 1992. Analysis of Regulatory Requirements for Petroleum Companies in California. Presented at the DOE California Petroleum Industry Environmental Workshop, Bakersfield, California.

BLUESCAPE
ENVIRONMENTAL

Tracy V. Scott

Environmental Engineer

Expertise

Air Permitting
Air Quality Monitoring Support
Proposition 65 Health Risk Assessment
Greenhouse Gas Emission Reporting
Life Cycle GHG
AB32 Mandatory Reporting Compliance
EPA Mandatory Reporting Compliance
AERMOD Dispersion Modeling Software
OCD Dispersion Modeling Software
SCREEN3 Modeling System
SCAQMD Annual Emissions Reporting
HARP Software
Database Management
Title V Permits
PSD Review

Education

MS, Civil Engineering,
San Diego State University
BS, Environmental Engineering,
San Diego State University

Certifications

Engineer In Training (EIT), No. 124759
CARB Certified Visual Emissions Evaluator (VEE)

Associations / Memberships

Air & Waste Management Association (A&WMA)

Summary of Experience

Tracy Scott is an Air and Environmental Engineer at BlueScape Environmental. She is a complement to the BlueScape Environmental team with her knowledge in Environmental Engineering. Prior to BlueScape Environmental, Tracy worked at the County of San Diego Department of Public Works in the Field Engineering Department.

Experience key to Tracy's role at BlueScape Environmental includes her work completing health risk assessments for Environmental Impact Reports, for the South Coast AQMD Rule 1472 regulating diesel engines, for Rules 1401 and 212, and for California Proposition 65, using the Hot Spots and Analysis (HARP) software. Tracy has conducted dispersion modeling using a variety of models including SCREEN3, AERMOD, and the Offshore Coastal Dispersion Model (OCD). Since 2009, Tracy has been involved in air quality mitigation efforts for a major utility construction project, including onsite monitoring of dust control activities and performing official opacity readings for fugitive dust from construction activities in support of Imperial County Rule 800. Tracy has experience developing emission inventories for a variety of sources for air district annual emissions inventories and permit applications for various manufacturing projects, including PSD review for a refinery integration project. Tracy is also experienced in GHG reporting for EPA, voluntary registries and for submission to the California Air Resources Board in compliance with AB32 Mandatory Reporting Requirements. Additionally, Tracy has developed an analysis of the Southern California energy market for a life cycle assessment of GHG emissions for a proposed liquefied natural gas port.

At the County of San Diego, Tracy provided support to the pavement management team for the preparation of annual contracts for concrete rehabilitation, asphalt overlays, and culvert replacement, including improving information tracking methods and participating in preliminary field engineering design.

Tracy's formal education includes a Master of Science Degree in Civil Engineering with specialization in Environmental Engineering and a Bachelor of Science Degree in Environmental Engineering, both from San Diego State University.

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Select Project Experience:

Mitigation Programs

- ***Field Air Emissions Monitoring, Confidential California Utility Transmission Project.*** Led team providing field compliance monitoring support including monitoring of dust control measures for construction activities associated with a major electric utility transmission project in Southern California. As a CARB-certified visual emissions evaluator (VEE), performed official opacity readings during construction activities to show compliance with Imperial County fugitive dust regulations and CPUC mitigation measures.
- ***Air Quality Mitigation and Monitoring Support, Confidential California Utility Transmission Project.*** Project Engineer on team providing air quality mitigation support to a major utility. At the outset of the project the utility was required to mitigate more than 200 tons/year of NOx emissions. Refinement of project emissions estimates for updated route alignment and construction equipment forecasts resulted in removal of NOx mitigation requirements. Calculated construction and operational GHG emissions. Played a key role in development of the Construction Emissions Monitoring Plan and the weekly tracking system currently used to record actual usage of construction equipment for quarterly reports to CPUC and retirement of carbon credits.

Air Permitting: Minor New Source Review, PSD and Title V Air Permitting

- ***Title V Permits, Peaking Power Plant, Chowchilla, California.*** BlueScape is currently preparing Title V permit applications for a peaking power plant consisting of 16 lean-burn gas engines, located in Chowchilla in the Valley Air District. The facility recently entered the program due to lowering of the Title V thresholds of NOx and VOC.

- ***Refinery Integration and PSD Review, Annual Emissions Reporting, Confidential Midwest Refineries.*** Project Engineer on team securing air permits for integration of two separate refineries located in the Midwest, avoiding major PSD permitting. Conducted PSD Review of such issues as stationary source definition and common control, project aggregation, projected actual emissions, and capable of accommodating. In addition to integration of refinery operations, future projects included physical modifications and new units. Because the state determined that integration of both refineries was a change in method of operation, any future emissions increases above baseline would trigger major PSD permitting. BlueScape developed a method to use Projected Actual Emissions for integration plus aggregated projects to help the refineries avoid PSD. In addition to PSD review, the refineries hired BlueScape to develop a consistent Annual Emissions Reporting framework for both refineries and create a GHG emissions reporting plan under EPA's MRR program.

Greenhouse Gas Management

- ***Johns Manville Corporation, Corporate Greenhouse Gas Inventory Management.*** Johns Manville is a Berkshire Hathaway Company that manufactures residential and commercial insulation and roofing products (www.jm.com). The company has 50 manufacturing facilities worldwide. Developed baseline emissions inventory work for two California facilities ahead of AB32 reporting requirements. The 2006 - 2008 emissions inventory data were supplied to the California Climate Action Registry, and successfully verified by a third party. Beginning with the 2009 emissions inventory, transitioned reporting to The Climate Registry.

- ***Greenhouse Gas Footprint Life Cycle Analysis, Confidential LNG Project, Western US.*** BlueScape partnered with WorleyParsons Komex to prepare a GHG footprint life cycle analysis for a proposed liquefied natural gas project intended to import LNG from Australia or Asia and regasify off the U.S. West Coast. Developed comparison of life cycle GHG impact with and without the project (no action alternative). The no action alternative considered forecasted Western US power industry fuel and generation technology mix, including coal, natural gas, renewable, nuclear and hydroelectric, from 2012 to 2050. Obtained and analyzed utility, CEC and PUC reports to complete the work.

Air Dispersion Modeling Analyses

- ***OCD Modeling, Clearwater Port LNG Terminal, Ventura, California.*** As a subcontractor to SRA, used the Offshore and Coastal Dispersion Model to assess overwater and onshore impacts from a proposed LNG offloading terminal and regasification platform 13 miles off Ventura County. Developed an air dispersion modeling protocol and completed modeling in consultation with the US EPA and the US Coast Guard.

- ***AERMOD Dispersion Modeling, PSD Modeling Study, Confidential Midwest Refineries.*** Conducted AERMOD air dispersion modeling to evaluate the impact of lifting operational constraints on annual average fuel use in boilers and heaters. Analyzed the ability of refinery units to run up to full potential-to-emit without requiring additional permit or operational changes.

Human Health Risk and Exposure Assessment

- ***Diesel Health Risk Assessment, Boeing Corporation, Long Beach***. Health risk assessment for diesel PM emissions from 18 emergency and portable generators at Boeing's facilities in Long Beach. The work was completed using the HARP software. The purpose of the study was to evaluate the potential impacts from the engines, if included in a proposed South Coast Air Quality Management District air toxics rule. The results from the study were used to determine the location and time needed to operate the engines and be in compliance with the proposed rule.

- ***Health Risk Assessment for Environmental Impact Report, Confidential Client, Los Angeles***. Lead engineer for development of health risk assessment for the proposed operational expansion of a major port tenant. Evaluated the potential impact to public health due to temporary construction activity as well as increased long term container ship traffic relative to existing CEQA and NEPA baseline operations. The HRA was completed using the AERMOD dispersion model, HARP On-Ramp and HARP software.

Response to BlueScape Environmental

Comments on the Phase 2 Study:

1. ***The Phase 2 Study is flawed and technically inadequate because the Study does not prove fugitive dust emissions from the SVRA cause 24-hour average PM10 standard exceedances during high wind events.***

a) The Phase 2 Study contends that PM10 dust plumes in Nipomo Mesa are mainly the result of the SVRA. This conclusion is flawed and unsupported with technical data. The emissions potential of the SVRA during high wind events is limited compared to the emissions potential from all upwind areas.

Response: The bountiful technical data supporting the conclusion that the SVRA is the primary PM10 source during high concentration episodes is summarized in Section 6 of the Phase 2 Study report. Your contention that the areas outside the SVRA have more potential to impact the CDF and Mesa monitors ignores a major uncontested finding of the Phase 2 study. Finding 8 of Section 6.1 of the Phase 2 report is that vegetated dunes do not emit windblown particles. This finding was based on the following data:

- Sandcatchers placed in sparsely vegetated areas upwind of the monitors, between the monitor and the SVRA never collecting any sand/soil over the entire period of the sand flux study. Without any sand/soil movement there cannot be any wind blow dust emissions from these areas.
- The Phase 2 study data showed a lack of high PM10 concentrations with high wind speeds from directions that do not cross open sand sheets, but do pass over vegetated areas of the dunes.

Since publication of the Phase 2 study, the DRI study in the SVRA also confirmed the lack of significant emissions potential from vegetated areas of the dunes.

The fetch upwind from the CDF and Mesa2 monitors between the monitors and the open dunes along the trajectory you cite is almost completely vegetated with a similar density to the non-emissive vegetated areas sampled in the Phase 2 study. Because these areas have little to no windblown dust emissions potential, the only other upwind source between these monitors and the Pacific Ocean is the open sand sheets that are almost entirely in the SVRA.

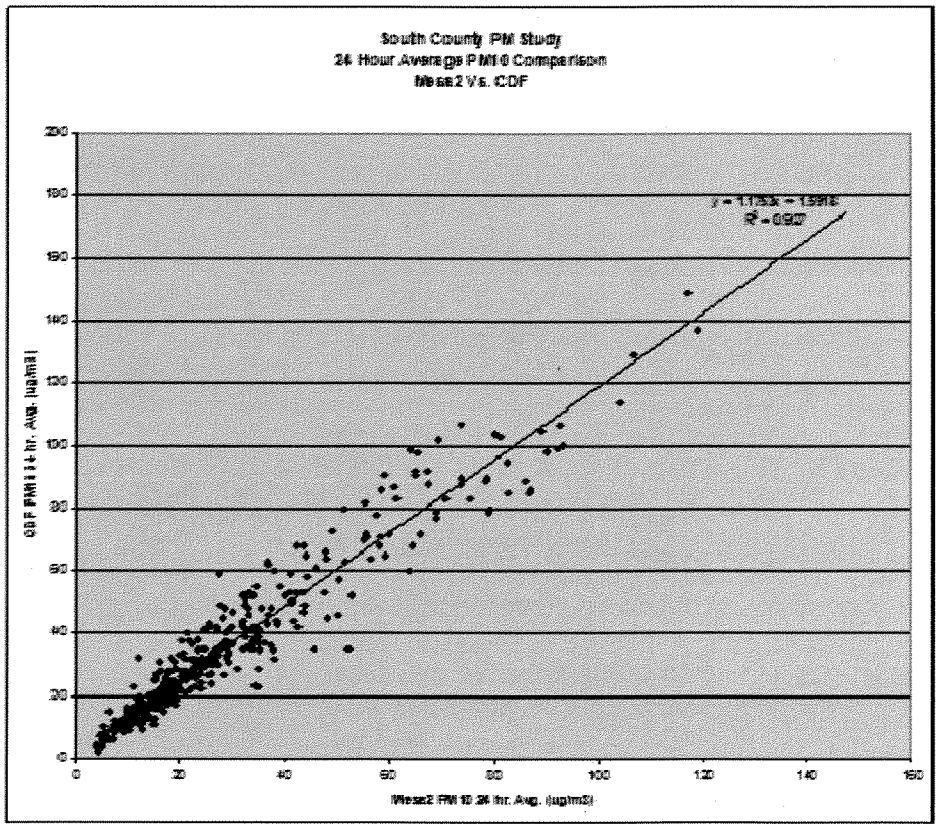
b) The Phase 2 Study did not adequately consider or quantify other localized sources of PM10 emissions near monitors, and the contribution of those emissions to monitored concentrations.

Response: All potential sources of PM10 that could impact the Nipomo Mesa were studied in the comprehensive Phase 1 and Phase 2 South County PM studies conducted by the District between 2004 and 2010; this included paved and unpaved roads, agricultural activities, the Conoco Phillips petroleum coke piles, combustion sources and sea salt. These studies conclusively showed that airborne particulate matter impacting the Nipomo Mesa on high PM episode days predominantly consists of fine sand particles from the Oceano dunes transported to the Mesa under high northwest wind conditions. The Phase 2 study data also showed a distinct lack of high

PM10 concentrations when high wind speeds occurred from directions that do not pass across coastal dunes.

Your contention that PM10 sources within 100 to 500 meters of the monitors will "*undoubtedly have a disproportionate impact as compared to SVRA dust emissions*" lacks any corroborating data. Moreover, if one simply looks at the land features in the direction where the high PM10 concentrations occur there are no significant fugitive dust sources other than the SVRA. As discussed in the response to 1a above, the vegetated areas (rangeland) surrounding both monitors have been shown to be insignificant sources on high PM days. Other than this vegetated rangeland, the only other land features in this area are paved commercial buildings, parking lots and vegetated and watered residential yards. There is one dirt road close to the typical trajectory for high PM10 concentrations upwind from the Mesa2 monitor. This road has a locked gate and is used only by the rancher to access his rangeland; traffic on this road is limited to an occasional single vehicle. Emissions from one vehicle on a single dirt road 500 meters upwind would be insignificant in relation to the levels and continuous nature of the dust events measured at Mesa2.

Additionally, the data from the CDF and Mesa2 sites strongly suggests they are measuring emissions from the same large source, not two separate local sources. Figure 3.50 from the Phase 2 report (reproduced below) shows a very strong correlation between the PM10 readings from the two monitors. Such a strong correlation would be highly unlikely if these monitors were impacted by different localized sources rather than the same source.



Finally, the very large and easily visible plume of dust emissions originating from the SVRA that impacts these sites on episode days has been well documented in many photos, videos, and observations made by local residents and district staff.

c) The contribution of localized fugitive dust sources to PM10 concentrations at the monitors may be greater than the contribution from the SVRA.

Response: One does not have to run a screening model to know that emissions from most sources decrease with downwind distance due to atmospheric dispersion and other factors. However, neither this fact nor your model run provide any evidence that contradicts the District finding that the major source impacting these monitors during high PM10 episodes is the SVRA. As noted in the 1a and 1b responses above, there are no other significant sources of windblown particulate upwind from the CDF or Mesa2 monitors other than the SVRA.

Your model run does demonstrate how the Oso control site, being so much closer to the open sand sheets, will experience far less dispersion of the windblown dust than the monitors downwind of the riding area, which are much further from the emission source. The fact that the Oso monitor measured significantly lower PM10 concentrations during most dust episodes, even when so much closer to the source, substantially bolsters the Phase 2 study finding that PM10 concentrations downwind from disturbed sand/soil are much greater than downwind from undisturbed areas.

d) The Phase 2 Study did not examine the effect of upwind obstructions on the ability for fugitive dust from the Dunes to reach the CDF and Mesa2 monitors.

Response: There are no obstructions upwind of the Mesa2 or Oso sites; however, there are some trees and commercial buildings about 150 meters upwind from the CDF site. The only potential influence of these small obstructions would be to absorb a small amount of the SVRA dust before it reached the monitors at CDF. If that were the case, then the PM10 measurements at that site are underestimating the actual impacts of dust emissions from the SVRA that would otherwise be measured in the absence of those obstructions. If such an influence does indeed exist, we believe it would be quite small given the size of the dust plume relative to the size of the potential obstructions and their distance from the monitoring site.

e) The Phase 2 Study did not account for variation in silt content and average particle size of soil by location, and the associated fugitive dust emissions generation rate.

Response: That is incorrect. Soil samples were taken upwind of every drum sampler site operated by the Delta Group and analyzed for particle size, silt content and elemental composition. That analysis showed similar particle size and composition for all sites except the agricultural soils, which had higher silt content and different composition. The study data demonstrated quite clearly that the agricultural areas were not a significant source during PM episodes, and that vegetated areas do not have high emissivity potential.

2. The Phase 2 Study does not prove that fugitive dust emissions and PM10 concentrations due to OHV activity are greater than without that activity.

a) Neither the Phase 2 Study nor the DRI Pilot study have proved a direct, conclusive correlation with OHV use in the SVRA, and PM10 impacts on downwind monitors.

Many years of research by the District and others has created a significant weight of evidence that OHV use in the SVRA is a significant contributing factor in the high PM concentrations measured on the Nipomo Mesa. To date, the District is unaware of any new measurements that have created a weight of evidence of the contrary.

To summarize this evidence:

- Measurements of downwind PM concentrations by the District as well as an independent academic organization (The Delta Group) clearly showed significantly higher PM concentrations downwind from the SVRA than similar control areas where OHV activity does not occur. The Delta Group analysis showed a correlation between downwind PM concentrations and upwind fetch of disturbed sand. Note the control areas and the monitor locations used by the District and the Delta Group were selected by State Parks representatives.
- Measurements and analysis by another independent agency (Great Basin Unified APCD) showed significantly higher rates of sand movement in the SVRA than in similar areas without OHV activity for the same wind conditions.
- District analysis of PM10 data collected from March 2008 to March 2009 (the largest data set available when the Phase 2 study was published) was compared to vehicle activity from the SVRA provided to us by State Parks for that same period. That comparison found a statistically significant correlation (> 95% confidence level) between PM10 levels and OHV activity; it showed average daily PM10 concentrations at our Mesa2 monitoring station during the 50 highest use days at the SVRA were 34% higher compared to the 50 lowest use days.
- The DRI pilot project study of the "emission potential" comparison between a riding area and a non-riding area showed, on average, that the riding area had a greater emission potential than the non-riding area, which increased as wind speed increased. While the DRI emission potential measurements did have a high rate of variability and instrumentation problems, their findings were consistent with the results of the Phase 2 study.

This substantial weight of evidence, gathered from not just District research but the research of three other independent organizations, strongly supports the conclusion that OHV activity causes emissions from the SVRA to be higher than they otherwise would be without such activity. This conclusion is also supported by numerous other studies in other areas. A review of applicable literature clearly shows that disturbed sand/soil has a significantly greater potential for windblown dust emissions than un-disturbed sand/soil. Many algorithms used to estimate PM emissions from open areas include a factor for soil disturbance as a result of the commonly understood fact that disturbed sand/soil causes greater windblown dust emissions than undisturbed sand/soil.

b) OHV use as measured by visitor counts does not correlate to higher PM10 emissions at the CDF or Mesa2 sites as compared with the Oso control site.

It is correct there was a minor error in the Phase 2 report table presenting the analysis of the 50 high to 50 low vehicle activity days compared to measured PM10 levels. However, after

correcting for this error, the overall results did not significantly change (see response to TRA comments). The document cited by Bluescape as a reference for this comment, however, had a significant error in their analysis: TRA erroneously used sigma theta values in place of PM10 values from the CDF site, which invalidates those calculations.

The District stands by its corrected analysis, which shows a statistically significant average increase of over 30% in PM10 levels at Mesa 2 on the 50 highest visitation days compared to the 50 lowest visitation days. Nonetheless, the District has always contended that the contribution of direct emissions from OHV activity is likely small compared to the secondary emissions caused by the OHV activity disturbing the soil and making it more susceptible to wind entrainment.

3. The Phase 2 Study did not use dispersion modeling to corroborate the conclusions obtained from measured monitoring data. The fact that no such work was performed is a major flaw in the Phase 2 Study.

Response: The use of modeling in the Phase 2 PM study was considered during the study design process but was not included, primarily because State Parks representatives strongly objected to the use of a model; the estimated $50,000 cost was also prohibitive.

Models can be a useful tool in understanding dispersion from area sources; the necessary input data was gathered during the study, so modeling could still be performed if funding and staff resources were available. However, it is important to note that modeling relies on numerous assumptions that need to be made by the modeler. It is well understood in the air quality community that modeling results can be easily manipulated simply by varying one or more of the assumptions the model uses in its calculations. The study design team, which included State Parks, concluded that introducing these assumptions would likely add more opportunity for professional disagreement while not adding significant value to the study.

The literature is filled with empirical (data directed) field studies that reach well-supported conclusions and reproducible results using one-dimensional analyses. In a study where the intent is to determine if a source can be detected, and important source characteristics are lacking (e.g., emission rates), empirical analysis is the appropriate technique, as in this case. Had the goal of our study been to develop a gridded concentration field downwind of a known source, then we would agree that modeling would have been an important tool in such an effort.

One of the goals of the Phase 2 study was to evaluate PM emission rates and ambient downwind concentrations with and without OHV activity. Models can be very useful tools in estimating the spatial extent and concentration gradient from a particular source as well as estimating the reductions in emissions needed to reduce downwind pollutant concentrations to a particular concentration; however, the only way a model can determine an emission rate is from monitoring data. The GBUAPCD project referenced earlier by Bluescape calculated the emission rate by adjusting the emission rate and its relation to sand flux in the model until the model results matched the empirical monitoring data. We agree with your citation of a statement in the DRI study that a model would be useful in calculating the emission reductions needed to successfully mitigate the dust emissions; however, that statement in no way suggests a model should be used to determine the emission rate of a specific area.

4. As a function of PM10 emission sources that impact Nipomo Mesa, APCD is misguided in focusing efforts to regulate OHV activities at the SVRA. Most fugitive dust emissions occur from other sources

such as paved roads, unpaved roads, and countless sources of windblown dust. SLO APCD should focus instead on regulating these significant PM10 sources.

Response: All potential sources of PM10 that could impact the Nipomo Mesa were studied in the comprehensive Phase 1 and Phase 2 South County PM studies conducted by the District between 2004 and 2010; this included paved and unpaved roads, agricultural activities, the Conoco Phillips petroleum coke piles, combustion sources and sea salt. These studies conclusively showed that airborne particulate matter impacting the Nipomo Mesa on high PM episode days predominantly consists of fine sand particles from the Oceano dunes transported to the Mesa under high northwest wind conditions. The Phase 2 study data also showed a distinct lack of high PM10 concentrations when high wind speeds occurred from directions that do not pass across coastal dunes.

The PM10 emissions inventory for fugitive dust sources in San Luis Obispo County is prepared by the California Air Resources Board. Their calculation methodology is based on generic population and area size factors and does not include specific estimates of emissions from the SVRA. However, the Phase 1 and 2 South County PM Studies were very specific to that area and clearly document the Oceano Dunes as the primary source of emissions impacting PM levels on the Nipomo Mesa.

5. The Oso site is not an appropriate scientific control site. The ability to use a control site is questionable due to considerable uncertainties that exist in making measurements. This approach weakens the Phase 2 Study.

Response: The definition of control in your comment would be correct for a laboratory study where it is possible to control all variables; however this was a field study. Field studies commonly utilize controls such as upwind monitors or downwind monitors under different conditions. In such studies, the inherent variability in the environment being sampled makes it inevitable there will be some differences other than the condition being tested between sampling sites. The goal in any field study design is to minimize these other differences and/or understand the differences so they can be taken into account.

Selecting the control sites (Oso and others) was a crucial part of the study design process. After careful evaluation, State Parks representatives specifically selected Oso and the other control site locations as most comparable to the SVRA. At that point in time State Parks was satisfied that the differences between the control and SVRA sites were small enough to justify the use of these sites.

The District believes the differences between the Oso site and the Mesa2 and CDF sites, when taken together, do not change the results of this comparison. While there are differences between the Oso control area and the SVRA, when the sum of these differences are cumulatively considered, it is clear the significantly higher concentrations measured downwind from the SVRA represent a valid conclusion that more PM10 is emitted in the SVRA than the Oso control area. Your own modeling analysis quite clearly demonstrates how the significantly closer proximity of the Oso site to the open sand source will dramatically overstate the downwind PM concentrations at that site compared to Mesa2 or CDF (*see APCD response to Pismo Beach comments for additional discussion on this*).

Comment on Proposed SLO APCD Rule 1001Text:

1. ***Regarding applicability, there is no indication how the CDVAA 100 acre size is determined. It is not clear if the boundaries of a CDVAA include non-vegetated areas only, total land area, etc.***

Response: The 100 acre size limit was designed to limit this regulation to coastal dune areas with potentially significant emissions and not inadvertently regulate an unidentified coastal dune source with a small emission potential. The Oceano Dunes SVRA as is the only affected source currently identified by the District. All land areas within the boundaries of the SVRA where vehicle activity is allowed are subject to the rule.

2. ***The 1.5 mile distance for the CDVAA is arbitrary and will include areas that are not the subject of the regulation, including areas that the public does not have access to, and areas that are not defined as coastal dunes.***

Response: As the definition states, a CDVAA is any area within 1.5 miles of the mean high tide line where public access to coastal dunes is allowed for vehicle activity. If there is no vehicle activity, the rule does not apply.

3. ***A definition for Visible Dust Emissions (VDE) is provided, but VDE are not addressed in the proposed regulation.***

Response: This definition has been deleted.

4. ***Unpaved Roads are not included as sources of PM10 emissions.***

Response: This rule applies to the CDVAA and is not meant to address unpaved roads. Emissions from unpaved roads are the subject of a separate control measure adopted by the APCD Board prior to the discovery that the Oceano Dunes is the dominant contributor to PM standard violations in the South County. That measure has not yet been brought forward as a regulation.

5. ***There is no definition of the word "comparable."***

Response: Our regulations do not define common English words well understood by the general populace.

6. ***Due to significant variation of monitored PM10 concentrations that will result from uncertainty with varying wind directions, terrain, fetch of dunes, contribution of localized PM10 sources, and a myriad of other reasons, it is not possible with any assurance to use the Control Monitor method for compliance purposes.***

Response: The District's Phase 1 and Phase 2 PM studies have clearly documented the Oceano Dunes SVRA as the only significant source contributing to exceedances of the state PM10 standard measured on the Nipomo Mesa during high northwest wind conditions. The Phase 2 study data also showed a distinct lack of high PM10 concentrations when high wind speeds occurred from directions that do not pass across coastal dunes. The APCD retained Countess Environmental and Dr. Chatten Cowherd from the Midwest Research Institute to assist with developing an appropriate performance standard for this rule to ensure the CDVAA operator is only held responsible for PM10 levels above natural background. The control site monitor location should be comparable to the CDVAA monitor in all ways except the presence of upwind vehicle activity; all other factors influencing the PM levels measured at the control site monitor should similarly influence the PM levels measured at the CDVAA. The riding area and non-riding area (control) monitoring sites must be selected to minimize any potential bias from sources other than what they are intended to measure. The criteria in the

monitoring plan developed by State Parks for selecting the sites should include this requirement; APCD staff will work closely with State Parks during the actual site selection process to ensure the sites selected meet this criterion.

7. ***The rule provides no guidance related to the part of C.1.b requiring description of "…the expected emission reduction effectiveness" of PM10 control measures, particularly to describe how reduction effectiveness is to be measured.***

   Response: Numerous studies have been conducted where researchers have estimated the effectiveness of control measures. Such estimates are typically expressed in terms of "percent reduction" from a given baseline of emissions. The rule does not require any individual measure in the PMRP to meet a specific reduction effectiveness threshold. The requirement to specify the estimated effectiveness is to provide a relative understanding of how each measure is expected to perform in the field. This will be one of the key factors evaluated by APCD in our approval determination for the PMRP.

8. ***The numerical limits of Section C.2 are arbitrary and not scientifically supportable.***

   Response: The numerical limits were determined using the performance standard developed with the assistance of Countess Environmental and Dr. Chatten Cowherd, taking into account known monitoring equipment tolerances. Nonetheless, we have since modified this provision of the rule to replace the 10 ug/m3 difference factor with a difference factor of 20%, as suggested by State Parks in their comment letter.

9. ***The 24-hour average PM10 requirement in Section C.2 should not be used as a benchmark for issuing violations, due to the inherent uncertainty of the source of PM10 emissions at any given time due to factors including the following:***

   - ***No applicability limitations with regard to wind direction are included. Particularly when the wind is blowing from opposite the direction of the Dunes, it cannot be concluded that the Dunes are the source of the excess PM10.***

   Response: The Phase 2 study data, and all CDF and Mesa 2 PM measurements since then, show a distinct lack of high PM10 concentrations when high wind speeds occurred from directions that do not pass across coastal dunes. The rule requires the riding area and control site monitor locations to be comparable in all ways except the presence of upwind vehicle activity; this includes the influence of prevailing winds. The monitors must be located directly downwind of their respective areas, ensuring they will not measure the influence of any other potential sources of PM emissions.

   - ***The range of wind directions that this requirement applies to should be equivalent for both the CDVAA and Control monitoring sites, but the rule does not make any reference to wind direction whatsoever.***

   Response: The rule requires the riding area and control site monitor locations to be comparable in all ways except the presence of upwind vehicle activity; this includes the influence of prevailing winds.

- ***Special circumstances which may increase ambient PM10 emissions, such as wildfire conditions, are not addressed in the rule.***

Response: An exceptional events exemption has been added to the rule, section D.1.

10. As stated above, the degree of uncertainty is too great to support establishing monitoring requirements, and numerical compliance limits.

Response: See response to questions 6, 8 and 9 above.

11. Rule 1001 depends upon the additional agency approvals including the local Planning Agency under CEQA and the Coastal Commission. Any such approvals should be procured before Rule 1001, and the compliance schedule in Section E, becomes applicable. The CDVAA operator has no control over the schedule for agency approvals.

Response: We believe the compliance schedule proposed in the rule is aggressive, yet feasible, based on the numerous agency oversight and permitting requirements facing the operator in complying with the rule. Nonetheless, we recognize the ability of the operator to meet several of the compliance deadlines will partially depend on some factors beyond their control, such as delays due to workload constraints at a permitting agency. The operator will not be held liable for missing submittal compliance deadlines caused solely by circumstances beyond their control. A provision specifying this has been added to the rule, section F.2.

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November 2, 2011

The Honorable Bruce S. Gibson
Chair Person
Air Pollution Control District County of San Luis Obispo
San Luis Obispo, California 93401

Subject: Draft Rule 1001, Coastal Dunes Dust Control Requirements.

Dear Chair Person Bruce S. Gibson,

California State Parks' OHMVR Division (State Parks) welcomes the opportunity to provide this letter in response to the Notice of Public Hearing dated October 12, 2011 regarding the Adoption of a New Rule to Implement Dust Control Requirements on Coastal Dunes where Vehicle Activity Occurs. (See draft Rule 1001 dated 10/12/2011.) By these comments, State Parks hopes to continue assisting the APCD and your Board to address the issue of high PM10 levels on the Nipomo Mesa measured during naturally occurring high wind events.

To date, State Parks has worked together with the APCD and the County to fund and implement a number of projects and efforts to measure dust levels and implement specific dust control strategies. Recent efforts include implementing pilot projects to test dust control methods, funding a contract to conduct regular street sweeping on Pier Avenue in Oceano, participating with the County and APCD staff in a Management Oversight Committee and Technical Advisory Committee, and providing matching funding for a community monitoring program to test PM10 levels at receptor sites on the Nipomo Mesa.

In this spirit of collaboration, we are taking this opportunity to provide the following comments on the rule. Please note these comments were prepared and submitted prior to the release of a staff report by the APCD for the upcoming noticed meeting. As such, State Parks will submit further remarks or comments to respond to the staff report as needed.

1. The Temporary Baseline Monitoring Program must be implemented collaboratively prior to adopting the rule.

In reviewing the revisions to the proposed Rule 1001 that have been made since the Board's meeting on September 28, 2011, State Parks is pleased the provision has been made for a Temporary Baseline Monitoring Program, but, notes that the temporary Baseline Monitoring Program must be implemented collaboratively prior to adopting the rule.

The absence of data from an agreed upon baseline monitoring system means the Board is unable to determine that the rule as proposed will, in fact, result in alleviating the problem of particulate matter emissions and promote the attainment or maintenance of the PM10 ambient air quality standard on the Nipomo Mesa. The District's responsibility for making this determination before adopting the rule is spelled out in California Health and Safety Code Section 40001 (c).

Prior to adopting any rule or regulation to reduce criteria pollutants, a district shall determine that there is a problem that the proposed rule or regulation will alleviate and that the rule or regulation will promote the attainment or maintenance of state or federal ambient air quality standards. [Emphasis added.]

Scientific studies to date have not sufficiently established measureable differences between naturally occurring PM10 and PM10 arising from the OHV recreation activities on the SVRA. Even the Executive Summary of the Phase 2 Study at page iii states that the data strongly suggest, but are not conclusive, that more particulate matter may be indirectly emitted as a result of vehicular activity on the dunes. Further, the Desert Research Institute's study of pilot projects indicates the potential exists for control measures that will reduce the movement of sand during high wind events experienced on the dunes. But, no correlation was made or conclusions reached as to the potential effectiveness of such measures in alleviating the PM10 exceedances as measured by the District's monitoring stations. As was discussed during the Board's September 28 meeting, the data produced to date do not provide sufficient information on the amount of particulate matter that is produced from the Oceano Dunes State Vehicular Recreation Area (SVRA) when compared with particulate matter that is produced from areas where no riding occurs. In the absence of this information, neither the APCD staff nor State Parks is in a position to propose a plan for controlling emissions caused by riding, because those emission levels are not known. Because of this, the District is unable to determine that the rule will alleviate the problem or promote the attainment of the PM10 standard. Thus, contrary to the requirement above, the rule proposes to defer this determination.

State Parks agrees that a Temporary Baseline Monitoring Program is an essential step to inform the development of a Particulate Matter Reduction Plan (PMRP) that includes a long-term monitoring program that provides assurance that possible PMRP-proposed control measures will be successful. State Parks has demonstrated its willingness to work with the APCD, and will voluntarily continue in that spirit to ensure a valid monitoring system will be implemented at State Parks' expense.

As the Temporary Baseline Monitoring Program proceeds, State Parks and the District will be in a position to consider and agree on potential control or mitigation measures should the monitoring results demonstrate there is an excess of particulate emissions from the motorized recreation area over the non-motorized recreation control area(s). This will enable the Board to determine the potential effectiveness of the control measures and to meet its obligation to evaluate the cost effectiveness of proposed measures before adopting the rule. The District's obligation to evaluate and rank potential control measures prior to rule adoption is found at Health and Safety Code Section 40703.

In adopting any regulation, the district shall consider, pursuant to Section 40922, and make available to the public, its findings related to the cost effectiveness of a control measure, as well as the basis for the findings and the considerations involved. A district shall make reasonable efforts, to the extent feasible within existing budget constraints, to make specific reference to the direct costs expected to be incurred by regulated parties, including businesses and individuals.

40922. (a) Each plan prepared pursuant to this chapter shall include an assessment of the cost effectiveness of available and proposed control measures and shall contain a list which ranks the control measures from the least cost-effective to the most cost-effective.
(b) In developing an adoption and implementation schedule for a specific control measure, the district shall consider the relative cost effectiveness of the measure, as determined under subdivision (a), as well as other factors including, but not limited to, technological feasibility, total emission reduction potential, the rate of reduction, public acceptability, and enforceability.

State Parks is entitled to know what the expectations, as well as the expense of implementation, will be prior to being held to an enforceable rule. Without baseline information to monitor against, it simply is not possible to evaluate the potential cost of control measures or their potential effectiveness.

2. The APCD may not impose a requirement to obtain an operating permit for an indirect emission source.

Item C. (5) of the proposed rule states, "All facilities subject to this rule shall obtain a Permit to Operate from the Air Pollution Control District by the time specified in the Compliance Schedule." Section 42300 (a) authorizes the APCD to establish a permit system for articles, machines, equipment, or other contrivance; but not for an indirect source such as the SVRA.

Every district board may establish, by regulation, a permit system that requires, except as otherwise provided in Section 42310, that before any person builds, erects, alters, replaces, operates, or uses any article, machine, equipment, or other contrivance which may cause the issuance of air contaminants, the person obtain a permit to do so from the air pollution control officer of the district.

The Phase 2 Study, Executive Summary, p. iii, states only that the data strongly suggest that OHV activities involve indirect emission impacts that are the primary cause of the high PM levels measured on the Nipomo Mesa during episode days. [Emphasis added.]

The SVRA is not an article, machine, equipment, or other contrivance. It is a public recreational area operated in a naturally occurring coastal beach and sand dune environment. Such an indirect source cannot be classified as an "article, machine, equipment, or other contrivance" as required by Section 42300 (a). (See also, Office of the

Attorney General Opinion No. 92-519, March 11, 1993: 76 Ops. Cal. Atty. Gen. 11, 1993 WL 112942 (Cal.A.G.))

3. Section C. 3. of the draft rule dated 10/12/11 does not adequately account for allowable monitoring equipment tolerances when measuring PM10.

Federal Equivalent Method (FEM) PM10 monitors as defined in 40 Code of Federal Regulations Part 53, PM10 establish a sampling effectiveness of such that the expected mass concentration is within +/- 10% of that predicted for an ideal sampler. Therefore, if there is 50 $\mu g/m^3$ present in the ambient air, the instrument may measure anywhere from 10% lower, which would be 45 $\mu g/m^3$, or 10% higher, which would be 55 $\mu g/m^3$. This creates an potential variation of 10 $\mu g/ m^3$ when the actual level of PM10 is 50 $\mu g/m^3$. At all other levels, the potential variance would be different.

For instance, at 100 $\mu g/m^3$, the instrumentation is only required to be accurate to within 10% lower (90 $\mu g/m^3$), or 10% higher (110 $\mu g/m^3$). This means the range of accuracy could vary by as much as 20 $\mu g/m^3$. At this level of PM10, the 10 $\mu g/m^3$ variance allowed by the draft rule would not allow for the +/- 10% limitation of the measurement instrumentation.

4. Section C.3. of the draft rule should not require the state to achieve a concentration of 55 $\mu g/m^3$ at times when the control site reads a far higher level.

The draft rule Section C.3. requires the CDVAA operator to reduce PM10 emissions from the activity area of the park to 55 $\mu g/m^3$ any time the difference in measurement between the control site and the CDVAA monitor site exceeds 10 $\mu g/m^3$. This potentially obligates State Parks to reduce PM levels below naturally occurring levels that exceed the ambient air quality standard.

For example, if the control site measured a concentration of 90 $\mu g/m^3$ and the OHV site measured 110 $\mu g/m^3$, the state would be considered out of compliance due the difference between the two sites exceeding 10 $\mu g/m^3$, and the OHV site exceeding 55 $\mu g/m^3$. As the rule is written, the state would not be in compliance until the SVRA site is at 55 $\mu g/m^3$, well below the control site measurement. The state cannot mitigate beyond ambient levels.

5. The relationship between the standards proposed in the draft rule and PM10 measurements on the Nipomo Mesa is unclear.

We are concerned the rule does not account for the relationship between real-time monitoring data at Mesa 2 and CDF and emissions monitored at the SVRA. The intent of the draft rule is to address PM10 that exceeds the state standard as officially determined by measurements taken at the APCD monitoring stations on the Nipomo Mesa. The rule must clarify the relationship between the temporary monitoring sites at the park and the permanent monitoring sites at Mesa 2 and CDF to specify how a violation of the state or

federal standard at Mesa 2 or CDF relates to compliance with the performance standards at the SVRA.

6. New technical data and analysis

State Parks continues to have concerns regarding conclusions and data presented in past studies. State Parks' technical consultants have analyzed additional concerns in the documents listed below:

a. Attachment 1. New data concerning correlation between Oceano Dunes SVRA vehicle activity and measured PM10 concentrations on the Nipomo Mesa from April 1, 2009 to June 30, 2011 (letter dated November 2, 2011 from TRA Environmental Sciences, Inc.)

b. Attachment 2. Report by the California Geological Survey, presented to Daphne Greene, Deputy Director, State Parks, dated November 1, 2011. Subject: In consideration of Draft Rule 1001 proposed by the San Luis Obispo County Air Pollution Control District: An analysis of Wind, Soils, and Open Sand Sheet and Vegetation Acreage in the Active Dunes of the Callender Dune Sheet, San Luis Obispo County, California

7. Necessary requirements for compliance with CEQA prior to adoption of a draft rule.

CEQA Guideline § 15187 requires completion of an environmental analysis of the reasonably foreseeable methods by which the rule or regulation will be achieved. This environmental analysis must be considered at the time of adoption of the rule or regulation establishing a performance standard or a treatment requirement.

The draft rule, if adopted, will establish a specific performance standard uniquely applicable to vehicle activity areas in a coastal dune environment. Further, the draft rule requires the implementation of particulate matter emission monitoring as well as the installation and implementation of air quality control measures designed to reduce the level of particulate emissions from the park activity area. CEQA Guideline § 15187 (c) requires the environmental analysis to include: (1) An analysis of the reasonably foreseeable environmental impacts of the methods of compliance; (2) An analysis of the reasonably foreseeable feasible mitigation measures relating to those impacts; and (3) An analysis of reasonably foreseeable alternative means of compliance with the rule or regulation, which would avoid or eliminate the identified impacts.

Based on the record to date, including APCD staff reports and presentations, suggestions included in the Phase 2 Study, and pilot projects tested in the DRI Pilot Project study, implementation of certain control measures is reasonably foreseeable. Increased vegetation in the natural dunes is suggested as a potential control measure in the Phase 2 Study and was evaluated as a potential measure for reducing sand movement in the DRI Pilot Project Study along with the installation of straw bales. The rule further requires the

design and implementation of a particulate matter emission monitoring program on a temporary basis as well as a long-term monitoring network. The monitoring and related equipment will be installed in a sensitive dune habitat and have impacts on that environment that require environmental analysis. Likewise, the potential control measures will have environmental impacts that need to be evaluated pursuant to CEQA.

Activities which may be initiated by the proposed rule would occur in a unique sensitive coastal dune environment and habitat, which would deprive the APCD of reliance on Categorical Exemption 15308 that might otherwise exempt actions to improve the environment.

Rule 1001 is a project subject to CEQA review prior to adoption. The APCD is the Lead Agency for CEQA purposes and the environmental analysis must be developed and submitted to the APCD Board of Directors at the time it considers adopting the proposed rule. No such environmental analysis has been completed.

8. Until standards for a legally and scientifically justified rule, including cost-effective monitoring and control measures, are more fully developed, State Parks should not be subjected to the possibility of fines.

As noted in the September 28, 2011 staff report to the Board, failure of State Parks to comply with the terms in the rule will subject State Parks to a fine of up to $1,000 per day. (Health and Safety Code Section 42400.) At the same time, many of the requirements of the rule are not yet fully clear.

Adoption of the rule requires the Board make findings of clarity. (Health and Safety Code Section 40727 (a) and (b) (3).) As a legislative body, the Board has no power to delegate to the APCO the Board's power to determine when State Parks is acting unlawfully and subject to a fine. Delegation of uncontrolled discretion is an impermissible delegation of the Board's legislative power. To be effective, the rule must set forth with clarity some norm or standard by which State Parks may know when its actions and proposed plans would be in violation of the rule as intended by the Board. Because the proposed rule commits application of the rule to the APCO's discretion, the rule must set up a uniform standard for the APCO and State Parks to follow. (See: California Jurisprudence 3d, Municipalities §352; R.W. Agnew v. City of Culver City (1957) 147 Cal.App.2d 144.)

The October 12, 2011 draft rule requires the CDVAA (State Parks) to develop and implement an APCO-approved Temporary Baseline Monitoring Program and a PMRP containing an APCD-approved monitoring network, control measures, and Track-Out Prevention Program. These are new concepts designed by the APCD to attempt to address the presence of PM10. Neither the Temporary Baseline Monitoring Program nor PMRP are used in any other context so far discovered by, or made known to, State Parks. As such, a uniform standard or standards for monitoring locations; sampling methods and equipment; operational and maintenance policies and procedures; data handling, storage, and retrieval methods; quality control and quality assurance procedures; and related information are

absent from the rule. Thus, what is an acceptable standard is left to the discretion of the APCD/APCO. The draft rule does not yet provide State Parks with a clear understanding of the expectations for an acceptable submittal. Approval is fully subject to the discretion of the APCO.

Additionally, State Parks is required to obtain all required permits from appropriate land-use agencies and other affected governmental agencies and ensure the requirements of CEQA and NEPA are satisfied to the extent needed. Each of these requirements also is accompanied by a compliance schedule. Other land-use or governmental organization approvals are beyond the control of State Parks. Thus, as written, the draft rule proposes that State Parks may be subject to fine if it is unable to obtain the requisite land-use approvals. Also, the rule as written predetermines that any action or control measure approved by the APCO must be found acceptable in any CEQA or NEPA environmental analysis or State Parks may, again, be subjected to possible fine.

If State Parks submits plans by the compliance date, it is not yet sufficiently clear at what point it would be subject to a fine should a submitted plan or other document fail to meet the expectations or as yet unknown standards of the APCO for an approvable plan or program or fail to obtain other land-use approvals or comply with other environmental requirements within the timelines established by the compliance schedule. The APCD/APCO would be given discretion uncontrolled by the APCD Board to determine when to find State Parks in violation of the rule with regard to the acceptability of plan submittals or best efforts to diligently pursue the necessary land-use permits and environmental clearances.

State Parks is committed to assisting and working with the APCD to implement a temporary monitoring program and to determine potentially effective control measures. We look forward to discussing our concerns outlined in this letter and continuing to work together on these complicated air quality issues.

Sincerely,

Phil Jenkins, Chief
OHMVR Division

cc: APCD Board Member
Larry Allen APCD, Executive Director

Response to State Parks November 2, 2011 Comments on Proposed Rule 1001

1. ***The Temporary Baseline Monitoring Program must be implemented collaboratively prior to adopting the rule.***

   a. ***Scientific studies to date have not sufficiently established measureable differences between naturally occurring PM10 and PM10 arising from the OHV recreation activities on the SVRA. The rule should be delayed until baseline monitoring determines if those differences exist.***

Response: This comment misstates the actual findings and statements made in the Phase 2 study, which documented substantial differences between PM10 levels measured at the Oso control monitoring site compared to the levels measured at our CDF and Mesa 2 sites. As a stated on Page iii of the Executive Summary:

> *"The major findings resulting from detailed analysis of the diverse and comprehensive data sets generated during the Phase 1 and Phase 2 South County PM Studies clearly lead to a definitive conclusion: OHV activity in the SVRA is a major contributing factor to the high PM concentrations observed on the Nipomo Mesa."*

The difference between naturally occurring PM10 and PM10 arising from the OHV recreation activities on the SVRA has already been established through the Phase 2 study; thus, delay of the temporary monitoring requirement is not necessary or appropriate. That requirement was directed by the APCD Board to establish current baseline air quality conditions downwind of the riding area and a comparable non-riding area to help determine the actual effectiveness of the PMRP measures once they are implemented. The District absolutely intends to work collaboratively with State Parks in the process of designing and implementing both the temporary and long-term monitoring requirements.

Many studies have documented the ability of a variety of measures and methods proven to reduce emissions of fugitive dust from dune environments and similar sources. Implementation of such measures will reduce particulate emissions from the SVRA that contribute to high PM10 concentrations on the Nipomo Mesa, which will promotes attainment of the PM10 standard and satisfies California Health and Safety Code (H&SC) Section 40001(c).

   b. ***The District is required to evaluate the cost effectiveness of control measures prior to adopting a rule.***

Response: The District has satisfied H&SC Section 40703 in Section V of the rule staff report. H&SC Section 40922 referenced in your letter was crafted for rules that apply to regional pollution issues, and more specifically ozone attainment plans. In this instance, the Oceano Dunes SVRA is the major and only emission source identified that could be controlled. The rule, however, does not require specific control measures; rather, it is a

best management plan approach that provides discretion the operator to choose the most cost effective measures capable of achieving the air quality goals of the rule.

The District absolutely intends to work collaboratively with State Parks in designing and implementing the temporary monitoring requirement.

2. ***The APCD may not impose a requirement to obtain an operating permit for an indirect emission source.***

Response: An indirect emission source is a common term used for shopping centers, commercial and retail establishments and similar facilities that generate vehicle trips and miles traveled to and from their facility, resulting in indirect emissions attributable to the facility. The Oceano Dunes SVRA is not an indirect emissions source. While vehicle trips to and from the facility would be considered indirect emissions, by allowing and managing the additional vehicle use and activity at the dune facility itself, State Parks is altering and operating a *"contrivance which may cause the issuance of air contaminants"* as described H&SC section 42300 (a). The operation of the park is altering the natural state of dunes leading to higher than natural particulate emissions; thus, H&SC section 42300 (a) is satisfied.

3. ***Section C. 3. of the draft rule dated 10/12/11 does not adequately account for allowable monitoring equipment tolerances when measuring PM10.***

Response: This section of Rule 1001 has been modified as suggested by State Parks in your September 28, 2011 letter; thus, this comment no longer applies.

4. ***Section C.3. of the draft rule should not require the state to achieve a concentration of 55 µg/m3 at times when the control site reads a far higher level.***

Response: The rule requires State Parks to reduce PM emissions from the SVRA to natural background levels as determined by PM measurements at the control site monitor. The rule provides a 20% compliance buffer by allowing the operator to have demonstrated compliance whenever the 24-hour average PM10 concentration measured at the riding area monitoring site is less than 20% above the 24-hour average PM10 concentration measured at the control site for the same calendar period. Compliance with this provision is only required when the 24-hour average PM10 concentration measured at the riding area monitoring site is above 55 ug/m3.

5. ***The relationship between the standards proposed in the draft rule and PM10 measurements on the Nipomo Mesa is unclear.***

Response: Establishing a relationship between the sites is not the intent of the rule. The intent is to reduce the impact from the SVRA to a level that would occur in an undisturbed area; the particulate matter reduction plan (PMRP) is designed to achieve

that goal. The monitoring limits provide a mechanism to ensure the PMRP meets the goal.

6. ***New technical data and analysis***

   a. ***Attachment 1. New data concerning correlation between Oceano Dunes SVRA vehicle activity and measured PM10 concentrations on the Nipomo Mesa from April 1, 2009 to June 30, 2011 (letter dated November 2, 2011 from TRA Environmental Sciences, Inc.)***

   Response: See separate response to SP Attachment 1, TRA comments

   b. ***Attachment 2. Report by the California Geological Survey, presented to Daphne Greene, Deputy Director, State Parks, dated November 1, 2011. Subject: In consideration of Draft Rule 1001 proposed by the San Luis Obispo County Air Pollution Control District: An analysis of Wind, Soils, and Open Sand Sheet and Vegetation Acreage in the Active Dunes of the Callender Dune Sheet, San Luis Obispo County, California.***

   Response: See separate response to SP Attachment 2, CGS comments

7. ***Necessary requirements for compliance with CEQA prior to adoption of a draft rule.***

   Response: The District has complied with the requirements of CEQA; see Section VI of the revised staff report for the rule.

8. ***Until standards for a legally and scientifically justified rule, including cost effective monitoring and control measures, are more fully developed, State Parks should not be subjected to the possibility of fines.***

   Response: We believe the compliance schedule proposed in the rule is aggressive, yet feasible, based on the numerous agency oversight and permitting requirements facing the operator in complying with the rule. Nonetheless, we recognize the ability of the operator to meet several of the compliance deadlines will partially depend on some factors beyond their control, such as delays due to workload constraints at a permitting agency. The operator will not be held liable for missing compliance deadlines caused solely by circumstances beyond their control. Section F.2 has been added the rule to clearly state this intent.

   The H&SC also defines a variance procedure under the jurisdiction of the APCD Hearing Board to provide a mechanism for relief when a party cannot comply with a rule due to conditions beyond their reasonable control.

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To: Daphne Greene and Phil Jenkins, Off-Highway Motor Vehicle Recreation Division

From: Chris Dugan

Date: November 2, 2011

Re: New Information on Oceano Dunes SVRA Vehicle Activity and downwind PM10 that affects Rule 1001

Introduction

The San Luis Obispo County Air Pollution Control District (APCD) is proposing Rule 1001, Coastal Dune Dust Control Requirements, which requires the operator of a coastal dune vehicle activity area to minimize emissions of inhalable, coarse particulate matter (PM) with an aerodynamic diameter between 2.5 and 10 microns, or PM10, from the area under its control. The presumed need for this rulemaking activity is primarily based on findings published by the APCD in its South County Phase 2 Particulate Study (APCD 2010, hereafter referred to as Phase 2 Study).

This memo summarizes new information for the California State Parks Off-Highway Motor Vehicle Recreation Division (CSP) to consider regarding vehicle activity at Oceano Dunes State Vehicular Recreation Area (Oceano Dunes SVRA) and PM10 concentrations measured downwind and in the vicinity of Oceano Dunes SVRA. This information includes data and information that affects the purpose and need for, and feasibility of, Rule 1001, particularly the proposed Air Pollution Control Officer-approved PM10 monitoring network contained in this rule.

New Data and Evidence

New data demonstrates there was no direct correlation between Oceano Dunes SVRA vehicle activity and measured PM10 concentrations on the Nipomo Mesa from April 1, 2009 to June 30, 2011; new information recently supplied by the APCD, suggests Figure 3.54 of the Phase 2 study depicts uncorrected EBAM PM10 concentrations for the Oso south control site, thereby under-reporting PM10 concentrations at this control site by approximately 30 percent. This information is summarized below.

1. **New data from April 1, 2009 to June 30, 2011 demonstrates there was no direct correlation between Oceano Dunes SVRA vehicle activity and measured downwind PM10 concentrations during this time.**

Notably, the Phase 2 Study did not find a strong direct association between Oceano Dunes SVRA vehicle activity and downwind PM10 concentrations during the April 1, 2008 – March 31, 2009 study time period (APCD 2010 3-52, 53). New data for the time period April 1, 2009 to June 30, 2011 continues to demonstrate that there is no direct association between Oceano Dunes SVRA vehicle activity and downwind PM10 violations.

Although the time period April 1, 2009 to June 30, 2011 represents an 820-day timeframe, gaps in the monitoring data collected at the APCD's CDF and Mesa2 monitoring stations reduce the amount of publicly available data coverage for this time period to approximately 300 days at CDF and 640 days at Mesa2. All PM10 data was obtained through the California Air Resources Board's Air Quality and

Meteorological Information System, AIRS Nos. 060792007 (CDF) and 060792004 (Mesa2) (ARB 2011a and 2011b). Figures 1 and 2 compare daily Oceano Dunes SVRA vehicle counts versus the 24-hour average PM10 measurements made at CDF and Mesa2 during this time. The R-squared value, or the magnitude of the variation in one variable that is proportional to the variation in another variable, for the CDF and Mesa2 data is approximately 0.5 and 0.04 percent, respectively, meaning vehicle activity cannot be used to accurately predict downwind PM10 concentration because its effect on downwind concentrations is miniscule (R-squared values approaching -1 and 1 indicate a stronger correlation between actual and predicted measurements).

Figure 1
24-hour CDF PM10 vs. Daily Vehicle Count
August 29, 2010 to June 30, 2011

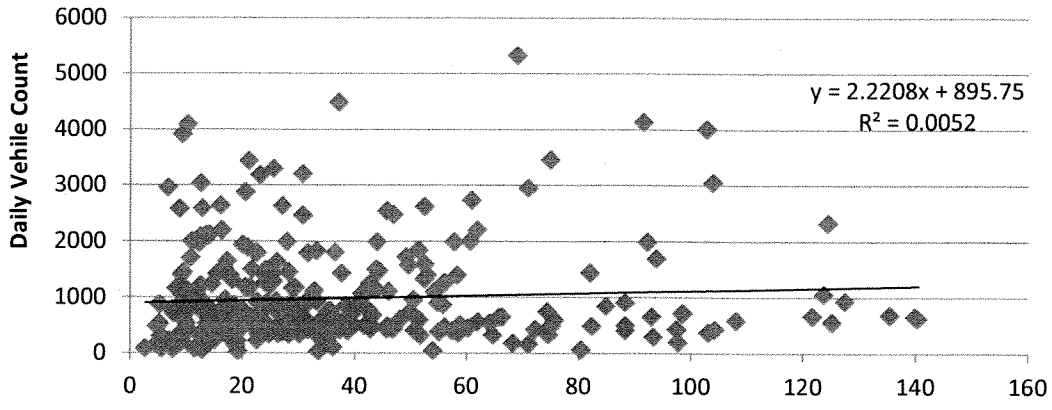
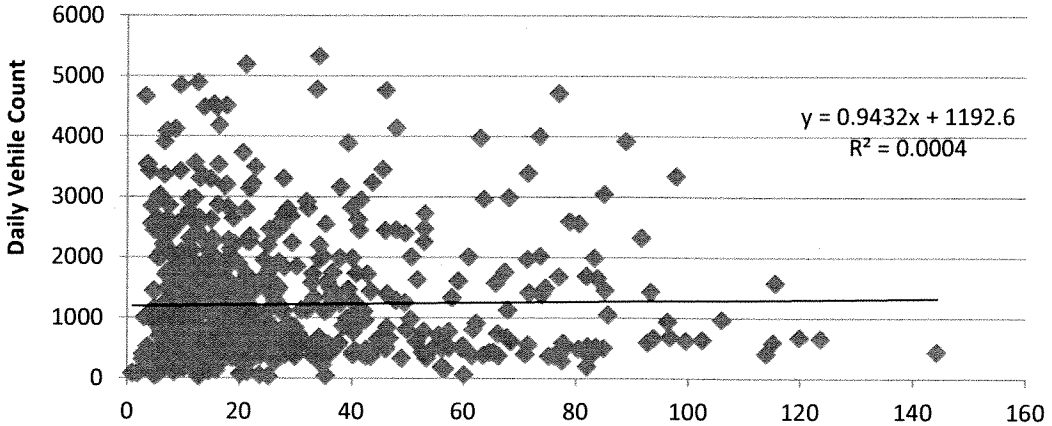


Figure 2
24-hour Mesa2 PM10 vs. Daily Vehicle Count
April 3, 2009 to June 30, 2011



The Phase 2 Study also examined potential differences in 24-hour average PM10 concentrations during high and low vehicle activity days, finding statistically significant results for mean Mesa2 PM10 concentrations only. TRA Environmental Sciences (TRA) submitted comments to the APCD for consideration on May 18, 2010 that demonstrated this analysis was based on unpublished, incorrect data that contained substantial formulaic errors and misuse of statistical tests for significance (TRA 2010). To date, we are not aware the APCD has responded to these comments. TRA is unclear as to whether the lack of a response signifies APCD staff has accepted these comments as correct. Regardless, TRA is providing additional, new information as an update to our previous comments.

Lumping and comparing high and low vehicle activity days, as was done in the Phase 2 Study, ignores the majority of the daily vehicle activity data that has the least variability from the sample mean and that also contributes to the overall association, or lack thereof, with downwind PM10 concentrations. Even assuming this type of analysis could be used to look for an association, as Table 1 shows, a Student T-Test performed on the data from April 1, 2009 to June 30, 2011 demonstrates that the difference between the mean downwind PM10 concentrations at CDF (n=74) and Mesa2 (n=161) for the highest and lowest 25 percent of Oceano Dunes SVRA daily vehicle counts is not statistically significant at the P=.05 level.

Table 1
Average PM10 Concentration for Highest and Lowest 25% of Vehicle Activity Days

Scenario	Number of Days above PM10 Standard / Daily Average Vehicle Count		24-Hour Average PM10 Concentration	
	CDF	Mesa2	CDF	Mesa2
Highest 25%	17 days / 2,215 vehicles	23 days / 2,698 vehicles	37.6	27.2
Lowest 25%	21 days / 285 vehicles	20 days / 326 vehicles	32.4	24.2
Difference	-4 days / 1,930 vehicles	3 days / 2,372 vehicles	5.2	3.0
Statistical Confidence (1-P)			88.6%	88.4%

Table 1 indicates the number of days where the 24-hour average PM10 concentration exceeded 50 $\mu g/m^3$ at CDF was lower for high vehicle activity days than for low vehicle activity days. The converse is true for Mesa2. Table 1 also indicates that differences in the PM10 concentrations between high and low vehicle activity days presented in Table 1 have a less than 95 percent chance that they are not the result random variation in measurements. The fact that this biased test demonstrates the lack of a statistically significant difference between high and low visitation days provides evidence that measured downwind PM10 levels are not directly related to daily Oceano Dunes SVRA vehicle activity.

To further emphasize this point, Table 2 ranks and compares, by day, the average vehicle activity and downwind PM10 data for the 282 days since April 1, 2009 when both CDF and Mesa2 were concurrently operating.

Table 2
Average PM10 Concentration for Highest and Lowest 25% of Vehicle Activity Days

Day	Average Vehicle Count	24-Hour Average PM10 Measurement	
		CDF	Mesa2
Tuesday	539	34.5	24.5
Wednesday	590	37.6	27.7
Monday	619	38.5	26.4
Thursday	733	37.9	27.1
Sunday	1,268	33.7	22.4
Friday	1,343	39.6	29.7
Saturday	1,945	30.5	21.1

Note that Table 2 indicates the lowest 24-hour average PM10 measurements from more than 275 days worth of data were observed on Saturday, the day with most vehicle activity data.

2. New information suggests Figure 3.54 of the Phase 2 Study depicts uncorrected EBAM PM10 concentrations for the Oso south control site, thereby under-reporting PM10 concentrations by 33 percent.

The Phase 2 Study discloses that APCD staff made two corrections to wind speed data and PM10 measurements recorded at the Oso south control site. First, using the power law to correct for differences in recorded wind speed heights, two-meter Oso wind speeds were multiplied by 1.259 to approximate ten-meter wind speeds (APCD 2010 3-22). Second, to ensure PM10 measurements made at Oso with a non-Federal Reference Method (FRM) EBAM monitor would be comparable to PM10 measurements made at Mesa2 with a FRM TEOM monitor, Oso EBAM PM10 monitors were collocated with the Mesa2 TEOM PM10 monitor, resulting in the application of a single correction factor to all EBAM data when winds were greater than 10 miles per hour (mph) (APCD 2010 3-21, A-5).

These correction factors affect the data the APCD published as part of its Phase 2 Study. We are only able to provide this analysis now, however, given APCD only provided the requested raw data files from the Phase 2 Study containing the wind speed and PM correction factors on October 17, 2011. (File ~9361228.xlsx)

The applied correction factors most notably affect Figure 3.54 of the Phase 2 Study, which is reproduced below (APCD 2010 3-43). Note that average Oso PM10 concentration is approximately 90 $\mu g/m^3$, but clearly below 100 $\mu g/m^3$.

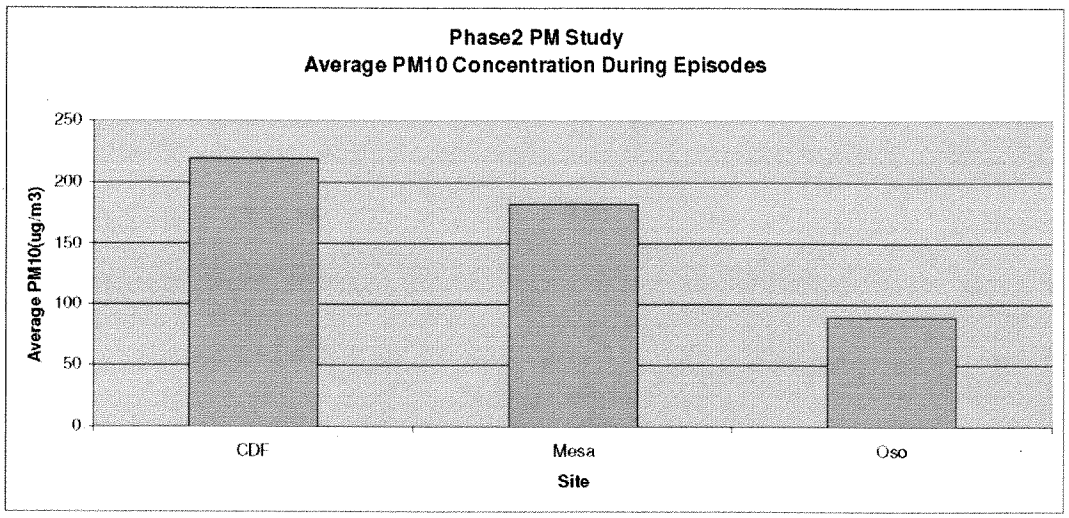
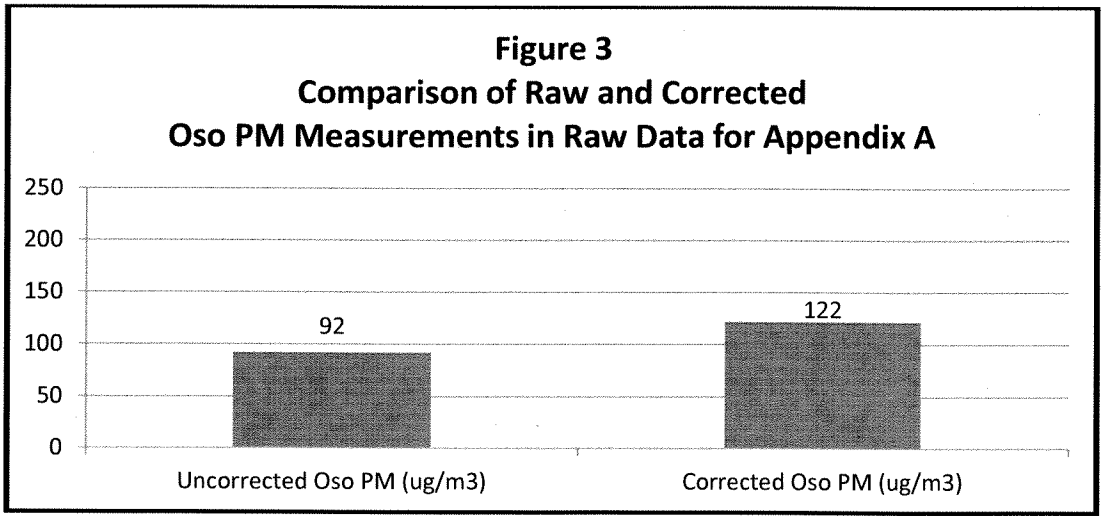


Figure 3.54 – Comparison of Average Downwind PM10 Concentration During Episodes

The Phase 2 Study identifies four steps that were taken to focus comparisons of downwind PM10 concentrations and produce Figure 3.54 above: 1) Days where the 24-hour average PM10 concentration at Mesa2 exceeded 50 µg/m^3 were identified as "episode" days; 2) data from episode days was manually examined to exclude hours where the PM10 concentration was below 50 µg/m^3; 3) data from episode days was manually examined to exclude hours when winds were calm; and 4) data from episode days was manually examined to exclude hours when winds did not pass over open sand sheets.

A review of the raw data file provided by the APCD on October 17, 2011 suggests that Figure 3.54 incorrectly depicts Oso average PM10 concentrations. By following the four steps listed above, the raw Appendix A data provided by the ACPD yields Figure 3 as follows:



Since the Phase 2 data does not explicitly list all of its assumptions, the above graph assumes "calm" winds are winds less than two mph and winds from the west-northwest and northwest pass over open sand sheets (280 – 320 degrees). Changing these underlying assumptions slightly (i.e., winds from 270 – 330 degrees or 300 – 330 degrees) does not change the fact that the raw data for Appendix A of the

Phase 2 Study provided by the APCD indicates that only uncorrected, Oso PM10 values averaged less than 100 µg/m3 during Mesa2 episode days. Corrected Oso PM10 values averaged more than 100 $\mu g/m^3$ during these times. As shown in Figure 3 above, the difference between uncorrected and corrected Oso PM10 values is as much as 30 $\mu g/m^3$, or approximately 30 percent of the Oso PM10 values reported in the Phase 2 Study. While this value is still lower than the CDF and Mesa2 PM10 values presented in Figure 3.54 of the Phase 2 study, it does indicate that the Phase 2 Study may have erroneously presented Oso PM10 concentrations, which directly affects the ability to monitor potential differences in PM10 downwind of sand sheets that are and are not open to vehicle activity.

Conclusions

The Phase 2 study concluded that "open sand sheets disturbed by OHV activity emit significantly greater amounts of particulates than undisturbed sand sheets under the same wind conditions." The APCD has used this finding to develop draft Rule 1001, at the heart of which is a Particulate Matter Reduction Plan (PMRP) and a PM10 monitoring program. Rule 1001 presumes this PM10 monitoring program will be able to detect differences in PM10 concentrations downwind of sand sheets open to vehicle activity and sand sheets that are not open to vehicle activity and thus guide the successful implementation of the PMRP. The new data and evidence summarized above, however, suggests this assumption is not true. PM10 concentrations downwind of sand sheets not open to vehicle activity may be higher than previously estimated, and there is no direct relationship between vehicle activity and downwind PM10 concentrations, making any monitoring program subject to natural or other yet unidentified phenomena that cannot be attributed to Oceano Dunes SVRA vehicle activity. We are concerned about using such a monitoring program as a basis for rulemaking activity.

References

APCD 2010. San Luis Obispo County Air Pollution Control District (ACPD). *South County Phase 2 Particulate Study.* San Luis Obispo, CA. February 2010.

ARB 2011a. California Air Resources Board (ARB). "Air Quality Data Query Tool." *Air Quality and Meteorological Information System*. ARB. April 30, 2010. Web. October 2011. < http://www.arb.ca.gov/aqmis2/aqdselect.php>

ARB 2011b. California Air Resources Board (ARB). "Meteorological Data Query Tool." *Air Quality and Meteorological Information System*. ARB. August 30, 2011. Web. October 2011. <http://www.arb.ca.gov/aqmis2/metselect.php>

TRA 2010. TRA Environmental Sciences. "Published Phase 2 Report data does not support claims of association between Oceano Dunes State Vehicular Recreation Area visitation numbers and PM10 downwind." Memo from Tom Reid to Daphne Greene, Off-Highway Motor Vehicle Recreation Division. Menlo Park, CA. May 18, 2010.

RESPONSE TO TRA COMMENTS

1. ***New data from April 1, 2009 to June 30, 2011 demonstrates there was no direct correlation between Oceano Dunes SVRA vehicle activity and measured downwind PM10 concentrations during this time.***

Response: TRA contends the table in the Phase 2 report presenting the analysis of the 50 high to 50 low vehicle activity days compared to downwind PM10 concentrations contained a major formulaic error. That table did, in fact, contain a minor error: staff miscounted the rows of data in the spreadsheet and used a 50 row count in the calculation rather the 51 rows actually present. Correcting this error does not significantly change the overall results, as shown below:

Table With Error as Presented in Phase 2 Report

	Highest 50 days for vehicles	Lowest 50 days for vehicles	Highest days - Lowest days	Statistical Confidence of Data (1-P)
Average SVRA Vehicles	3738	380	3357	
Average Mesa2 PM_{10}	32.1	24.2	7.9	96.4%
Average CDF PM_{10}	37.1	31.7	5.4	87.8%
Average Oso PM_{10}	27.7	28.8	-1.1	69.4%

Corrected Table

	Highest 50 days for vehicles	Lowest 50 days for vehicles	Highest days - Lowest days	Statistical Confidence of Data (1-P)
Average SVRA Vehicles	3756	379	3377	
Average Mesa2 PM10	32.2	24.0	8.2	96.7%
Average CDF PM10	37.3	31.3	6.0	87.1%
Average Oso PM10	27.7	30.2	-2.5	69.6%

The District stands by its corrected analysis that shows a statistically significant (>95% confidence) average increase of ~ 34% in PM10 concentrations measured at Mesa2 on the 50 highest vehicle activity days compared to the 50 lowest activity days for the period March 2008 to March 2009. The TRA analysis of new data also shows that both the CDF and Mesa2 sites measured higher average PM10 concentrations on the highest 25% of vehicle activity days compared to the lowest 25% of activity days. The statistical confidence level of the TRA analysis does not meet the commonly used threshold of 95%, but it does demonstrate an 88-89% confidence level.

Nonetheless, as stated in the Phase 2 report and in many other instances since, the District believes the contribution of direct emissions from OHV activity (as measured by the analyses discussed above) is minor compared to the secondary emissions caused by OHV activity disturbing the sand surface, enabling greater entrainment of sand particles by the wind than would otherwise occur without that activity.

2. ***New information suggests Figure 3.54 of the Phase 2 Study depicts uncorrected EBAM PM10 concentrations for the Oso south control site, thereby under-reporting PM10 concentrations by 33 percent.***

Response: TRA's assertion that raw, uncorrected Oso PM10 data was utilized in the Phase 2 report, including Figure 3.54, is incorrect. The District has confirmed, yet again, that the Oso PM10 data was corrected by the results of the methods inter-comparisons at Mesa2, as outlined in Appendix A, and was utilized in the corrected form in the Phase 2 report analysis and in Figure 3.54.

The difference between the data in Figure 3.54 and the analysis performed by TRA Environmental is due to a difference in TRA's assumptions of what data represents the dust event. As outlined in the Phase 2 report, the intent of the study was to compare downwind PM concentrations due to windblown dust events; thus, the appropriate comparison between sites is to compare downwind concentrations when dust events are present and exclude the majority of data when dust events are not taking place. As discussed in the Phase 2 report, each day where either Mesa2 or CDF measured a 24 hour concentration over 50ug/m3 was manually evaluated to average the data for only those hours when a dust event was occurring. A number of factors were used by the analyst to make the determination of when the dust event was present; those factors are summarized in the Phase 2 report. Any hour of data that was determined not to be part of a dust event was excluded in the averaging calculations made for each site. Had TRA presented the averaged results for Mesa2 and CDF, using the same assumptions they made in calculating the Oso averages, the Mesa2 and CDF averages would likely also show a difference. Had TRA Environmental compared other Oso PM10 data presented in the Phase 2 report, such as Figures 3.31, 3.32, 3.41, 3.45, 3.47, 3.48, 3.53, 3.56, 3.59 where no assumptions on averaging period were made, it would be clear that only corrected Oso PM10 data was utilized.

It is important to note that District data from Oso, Mesa2, and CDF is not the only data documenting this relationship. Similar independent comparisons made by the Delta Group for their drum sampler data showed the same pattern as the District comparisons. The Delta Group data had more sites to compare and showed a correlation between downwind PM concentrations and upwind fetch of disturbed soil.

Finally, TRA was provided the requested file within a few days of making a formal request to the District. The District is more than willing to work with TRA to demonstrate to their satisfaction that only the corrected Oso PM10 data was utilized in the Phase 2 study report.

DEPARTMENT OF CONSERVATION

Managing California's Working Lands

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To: Daphne Greene
Deputy Director
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Off-Highway Motor Vehicle Recreation Division
1725 23rd Street, Suite 200
Sacramento, CA 95816

From: Will J. Harris
California Geological Survey
801 K Street, Suite 1324
Sacramento, CA 95814

Date: November 1, 2011

Subject: In consideration of Draft Rule 1001 proposed by the San Luis Obispo County Air Pollution Control District: An analysis of Wind, Soils, and Open Sand Sheet and Vegetation Acreage in the Active Dunes of the Callender Dune Sheet, San Luis Obispo County, California.

Introduction

In September 2011, the San Luis Obispo County Air Pollution Control District (SLOAPCD) issued —Coastal Dunes Dust Control" Draft Rule 1001 (Draft Rule). The Draft Rule pertains to the active dunes of the Callender Dune Sheet where the Off-Highway Motor Vehicle Recreation Division (Division) of California State Parks (CSP) manages the Oceano Dunes State Vehicular Recreation Area (Oceano Dunes SVRA) and related facilities, in south San Luis Obispo County (Figures 1 and 2).

The SLOAPCD developed the Draft Rule based on findings presented in its February 2010 report, —South County Phase 2 Particulate Study" (Phase 2 report). From the Phase 2 data, the SLOAPCD concluded that when strong seasonal winds blow from the northwest, saltation-generated PM10 is a significant source of particulate impacting the Nipomo Mesa area of San Luis Obispo County and that saltation (defined below) happens more readily (with less wind) in the dunes where off-highway vehicle (OHV) recreation occurs.

In a coastal dune environment, after tides and waves bring sand and finer sediment to the shore, wind is the primary means of sediment transport. The wind-driven migration of sand, where grains bounce and creep along beach and dune surfaces, is called saltation. Smaller dust-sized particles can be released in the saltation process when a grain impacts a sandy surface. Some of this smaller material has a diameter of 10 microns or less. Material of this

size range is generically called PM10. PM10 is generally not visible to the eye and can become entrained in the air with sufficient wind.

At the May 2010 meeting of the SLOAPCD Board, the Division acknowledged that PM10 impacts the Nipomo Mesa when strong, seasonal winds blow, and also that PM10 can be generated by the saltation process as dunes form and migrate landward. But based on three independent reviews of the Phase 2 report data (California Geological Survey (CGS), 2010A; Illingworth and Rodkin, Inc. (I&R), 2010; and TRA Environmental Sciences, Inc. (TRA), 2010), the Division maintained that the SLOAPCD position—that more saltation and more PM10 results from OHV recreation in the dunes—is unfounded

Purpose

This document was prepared by CGS at the request of the Division. It is to examine the primary mechanism that forms the dunes—the wind. The purpose is to consider wind speeds measured within the OHV riding area of the Callender Dunes with the foundation of the Draft Rule, the Phase 2 report, which claims saltation in the OHV riding area occurs with lighter winds than in other areas of the dunes and so produces more PM10.

Additionally, the compositions of soils mapped in south San Luis Obispo County by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) are examined. Specifically, the distribution of these soils based on their clay content is presented as a consideration of other sources which contribute to PM10 detected on the Nipomo Mesa.

Finally, CGS examines the earliest aerial photographs of the Callender Dunes, taken in 1930 and 1939, and compares that imagery with 2010 aerial imagery of the dunes. The intent is to document change in two natural features of the dunes which influence the degree to which saltation in a coastal dune environment occurs, namely vegetation and open sand sheet acreage.

Background

At the May 2010 SLOAPCD Board meeting, the Division expressed a willingness to work cooperatively with San Luis Obispo County representatives (SLO County) and SLOAPCD to better quantify and potentially mitigate occurrences of elevated PM10 concentrations detected on Nipomo Mesa. This initiated the development of a Memorandum of Agreement (MOA) between the agencies. Through the MOA process the Division, SLO County, and the SLOAPCD were to develop pilot projects which would examine possible variations in the potential to emit PM10 within the dunes and to determine the effectiveness of different strategies for minimizing saltation. This was a first step to collaboratively develop a Particulate Matter Reduction Plan (PMRP).

As agreed by all parties, a consultant, the Desert Research Institute (DRI), was contracted to assist in the pilot project design and to implement the pilot projects.

In its September 15, 2011 Final Project Report, DRI issued its findings from the pilot project work, indicating that there is very little variation in the potential to emit PM10 in the dunes, whether inside the OHV riding area or in areas where OHV riding is prohibited (DRI, 2011).

DRI also examined how sand movement—and therefore saltation—was affected by vegetation and by the patterned placement of hay bales. Both the vegetation and the hay bales were found to effectively limit sand movement, though quantifying an effect on downwind PM10 concentrations could not be determined (DRI, 2011).

Concurrent but independent of the pilot project work, SLOAPCD staff developed the Draft Rule. The Draft Rule was presented at a September 7, 2011 public workshop in Grover Beach and at the Board's September 28, 2011 meeting.

The Draft Rule calls for the development of a PMRP, as was discussed in the earlier MOA process.

The Draft Rule also calls for PM10 monitoring directly downwind of the OHV riding area and downwind of at least one —control" location—open sand sheets where OHV riding is restricted. Through a PM10 concentration comparison process between a —control" PM10 monitoring station and a PM10 monitoring station downwind of the OHV riding area, compliance with the Draft Rule would be determined. If the PM10 concentration comparison process indicated the Division was not in compliance, daily fines could be imposed on the State of California by SLOAPCD until the Division demonstrated that it had returned to compliance with the Draft Rule.

The information presented in the following sections was prepared in consideration of the Draft Rule.

Wind Over the Dunes and Emissivity

Comparing Peak Wind Speeds

In June 2010, Sonoma Technologies, Inc. (STI), installed a tower scaffold equipped with three anemometers and wind vanes in the OHV riding area of the Oceano Dunes SVRA. The wind measuring devices were positioned on the tower at 2, 7, and 10 meters above the sand surface. The location of the tower, called S1, and the OHV riding area at Oceano Dunes SVRA are shown in Figure 2, attached.

The S1 Tower was one of four wind monitoring stations to be installed in the Callender Dunes as part of a scope of work prepared jointly by CGS and TRA (CGS, 2010B) for the Division. The installation of the S1 Tower was permitted by SLO County, but due to permitting constraints that extended to the California Coastal Commission, the other towers have not been installed.

The intent of installing the wind stations is to more comprehensibly understand the effects of terrain on wind speed within the dunes and to measure winds where saltation occurs. Wind data from the S1 Tower was essential for the pilot project work conducted by DRI, and the continued collection and analysis of S1 wind data is to inform the PMRP development process.

The S1 Tower was positioned in the foredune area of the OHV riding area, in approximate alignment along the prevailing wind direction line with two downwind air monitoring stations operated by the SLOAPCD, stations CDF and Mesa 2 (Figure 2). The S1 location also approximately coincides with sand mass measurements made as part of the SLOAPCD's Phase 2 investigation to correlate sand movement in the OHV riding area with wind speed measured at the CDF station.

A second tower, S2, was planned for the interior dunes, near the eastern boundary of the OHV riding area and in alignment with S1 and Mesa 2. However, as indicated above, that tower has yet to be installed due to permitting constraints.

The northwest prevailing winds that have created the Callender Dunes are strongest in the spring months, and so the potential for saltation is greatest during this time. Accordingly, wind data from March, April, and May of this year, as measured at the S1 Tower, and from the CDF and Mesa 2 stations, are examined herein. Specifically, peak hourly-averaged wind speeds for each day during the three spring months were examined (Note: Data from the CDF and Mesa 2 stations were acquired via a link to the California Air Resources Board website provided on the SLOAPCD website: http://www.slocleanair.org/air/stations.php. Data from S1 was provided by STI).

The plots of the peak wind speed data—in miles per hour (mph)—from each station are displayed together on Figures 3, 4, and 5. The figures display March, April, and May 2011 data, respectively. The figures also indicate the days of the respective spring month, the hour of the day when the peak wind occurred, and the direction from which the hourly-averaged peak wind originated. A break in a plotted line indicates data were unavailable for that day, presumably due to equipment calibration and/or repair.

From the plots, it is evident that the S1 Tower records the strongest winds, with some measurements exceeding 30 miles per hour (mph). The lightest peak winds were recorded at the CDF station, with most measuring between 5 and 10 mph, for all three months.

There appears to be some wind speed correlation between the S1 Tower and Mesa 2 station based on the charted lines, where a similar pattern of peaks and troughs is apparent. The pattern can be faintly discerned in the plot of CDF data as well. However, time of day for the recorded peak wind at each location does not correlate. For example, on April 6, the hourly-averaged peak wind at S1 was nearly 30 mph (29.75 mph), averaged during the 1700 hour (from 5 to 6 PM) (Figure 4). At Mesa 2, the wind peak on that day was 18.9 mph, averaged during the 1400 hour (from 2 to 3 PM). And the peak wind speed at CDF occurred during the 1100 hour (11 AM to 12 PM) and measured 9 mph.

Examination of other peaks yield the same conclusion: the times of the peak winds are not the same—with one exception. Peak winds measured on March 24, 2011 all occurred during the 1500 hour (from 3 to 4 PM), but these winds came from the south-southeast (Figure 3).

Because the times of the peak winds do not coincide, and because the figures show only the recorded peak wind at each station for a given spring day, it appears that the observed

correlation pattern only reflects the regional fluctuation in wind speed, illustrating when winds in general are strong or calm in the south county. It is beyond the scope of this analysis to determine why the times of peak prevailing winds recorded at each station do not coincide. Because some of the peaks are separated by as much as six hours, such as those recorded on April 6, 2011, and then at other times the difference is less, though still significant, it seems unlikely that the recording clocks at each station are not in general synchronicity.

Wind and Emissivity

As stated earlier, the DRI pilot project study used S1 wind data in its analysis of sand movement in the OHV riding area. Additionally, as part of its investigation, DRI positioned a 2-meter high anemometer upwind of an area where the Division had successfully reintroduced native vegetation. The anemometer was approximately 1.5 miles south of the S1 Tower, outside of the OHV riding area, and located about the same distance from the shore as the S1 Tower. DRI noted, based on nearly three weeks of recorded wind measurements (from April 15 to May 4, 2011) that the wind data recorded at that anemometer are —very similar in magnitude and frequency" to the wind data collected at the two meter high anemometer positioned on the S1 Tower (DRI, 2011). This is an indication that wind from the prevailing wind direction advances over the dunes at approximately the same speed, with some variance for localized topography. From its pilot project testing at different locations within Oceano Dunes SVRA, DRI (2011) also found that the emissivity of a dune surface—its potential to emit PM10— shows little variability, whether the dune is inside or outside the OHV riding area.

Based on the wind and emissivity consistencies within the dunes, it appears that the potential for sand saltation to generate PM10 is the same throughout the active dunes, whether the saltation occurs inside or outside the OHV riding area.

Clay Fines

The NRCS defines clay fines as mineral soil particles less than 2 microns in diameter (NRCS, 2008). As a soil textural classification, clay contains 40 percent or more clay fines.

As part of an earlier analysis to assess potential sources of PM10, CGS examined the percent clay component of soils in south San Luis Obispo County (CGS, 2011A and 2011B). To do this, CGS illustrated the soils mapped by the NRCS based on their percent clay content (presented in CGS 2011A and Figure 6, herein). Soil groupings were made for soils containing 0 to 1% clay, 1 to 10% clay, 10 to 20% clay, and 20 to 50% clay (Figure 6).

A quick review of Figure 6 shows that the beach and active dune sands, marked by their NRCS soil unit number designations, 107 and 134, respectively, contain the least amount of clay, and so are grouped in the 0 to 1 percent clay class. These materials actually contain no more than 0.5% clay, per the NRCS (2008), which is in agreement with grain size analyses of these sediments conducted by CGS (2011A) and DRI (2011).

All other materials downwind of the Callender Dune Sheet contain much more clay, including flood plain sediments from Arroyo Grande Creek, which lie north, northwest, and west of the Nipomo Mesa and contain more than 30% clay (Figure 6). Additional clay-rich and silt-rich

flood plain and alluvial sediments are found northwest, and southerly adjacent to, the Mesa 2 air monitoring station.

Dirt roads traverse these deposits, allowing access for agricultural workers and their equipment to till, plant, and harvest row crops grown in fields composed of these sediments. Wind over barren fields and general agricultural and earth-moving operations on these soils have the potential to stir PM10, making it difficult to discount these soils of the south county as a potential PM10 source impacting the Nipomo Mesa, particularly given their reservoir of PM10-sized particles.

Open Sand Sheet Acreage

The imagery displayed in Figure 2, included herein, displays 2010 aerial photography acquired from the National Agricultural Imagery Program (NAIP). This imagery was compared to the earliest aerial photographs available of the active dunes of the Callender Dune Sheet to discern changes in vegetation and open sand sheet acreage over time.

Digital scans of aerial photographs from a 1930 flight survey of the dunes (Fairchild, 1930) were combined with scans of a 1939 aerial survey of the dunes conducted by the United States Army (US Army, 1939) to give a complete picture of the active dunes in the 1930's. The resolution of 1939 photographs is relatively good, but these photos did not cover the easternmost portions of the active dunes. The resolution of 1930 photographs is comparatively poor, but these images did capture the eastern edge of the active dunes.

Using geographic information system software (GIS), the images were sized to a common scale, spliced together, and geographically referenced so that the imagery from the 1930's could be draped over the 2010 NAIP imagery (Figure 7).

The extent of open sand sheet and dune vegetation acreage displayed in the 1930's imagery was digitized using GIS, as was that displayed in the 2010 NAIP imagery, so that changes in open sand sheet acreage and vegetation coverage could be quantified.

It is important to note that vehicle recreational activity along the coast in the south county in the 1930's was limited to the hard-pack sand near the shore. According to Linda Guiton-Austin, who, as curator of the Oceano Railroad Depot Museum, has chronicled the history of the dunes in the south county, the recreational use of vehicles equipped with the technology to traverse inland, onto the active dunes, did not grow until 1950's (Guiton-Austin, 2011). Ms. Guiton-Austin also notes that in the early 1900's fast-growing European beach grasses and ice plant were planted in the foredunes where Oceano Dunes SVRA is presently. This was done in an effort to stabilize sand underneath and around the La Grande Beach Pavilion, a structure built at the time to draw tourists and potential land investors. The pavilion ultimately collapsed in ruin due to shifting sands (Guiton-Austin, 2011).

Despite these and other limited anthropogenic influences, the 1930's imagery is a reasonable representation of the dunes previous to the influence of OHV activity and the Division management of Oceano Dunes SVRA, which began in 1983.

The acreage changes are illustrated in Figure 8, attached. The yellow shading displays the area of open sand that has remained the same for 70 years. The green shading indicates where dune vegetation has encroached onto open sand as of 2010. Blue shading indicates where vegetation in the 1930's is not present in 2010.

Between the southernmost and northernmost boundaries of Oceano Dunes SVRA, including the Pismo Dune Preserve, the amount of open sand sheet acreage has decreased approximately 650 acres since the 1930's (Figure 8), which conversely represents an increase in vegetation acreage by the same amount.

When 1930's to 2010 acreage changes are examined from south of the Pismo Dune Preserve and north of Oso Flaco Lake, which approximately delineates the northern and southern limits of the majority of the OHV riding area (see dashed lines on Figure 8), the decrease in open sand sheet acreage, and corresponding increase in vegetation, is approximately 196 acres.

As indicated by the 1930's imagery displayed in Figure 7 and by some of the blue shading in Figure 8, foredune vegetation has diminished within the Oceano Dunes SVRA boundaries. This is probably due to increased recreational activity in the dunes, including OHV recreation, which became increasing popular starting in the 1950's (Guiton-Austin, 2011), as well as natural dune forming processes. Despite this loss, it is important to note that the greater vegetation acreage gains shown in Figure 8 represent in part successful native vegetation planting projects like those undertaken by the Division. A vegetation analysis performed by CSP staff shows that the amount of vegetation within and near the OHV riding area, as measured between the years 1985 and 2003, increased approximately 80 acres (CGS, 2007) (Note: The dashed lines on Figure 8 also correspond to the approximate northern and southern limits of this survey). Additionally, at current staffing levels, Division personnel plant between 10 and 25 acres of native vegetation within the boundaries of Oceano Dunes SVRA annually (Glick, 2011).

Overall, the 1930's to 2010 aerial imagery comparison shows open sand sheet acreage in the dunes has been significantly reduced (Figure 8), resulting in a significant net reduction in the amount of saltation that occurs naturally in this dune setting.

Conclusions

The comparative PM10 monitoring proposed as part of the Draft Rule is based on an incorrect calculation. The calculation, presented in the Phase 2 report, implies that sand saltation, and therefore PM10 generation, occurs more readily (with less wind) in that portion of the coastal dunes disturbed by OHV recreation. This was determined by coupling sand movement measurements made in the foredunes of the OHV riding area with wind data collected at the CDF station, approximately 2.5 miles from the shoreline. That error was previously presented to the SLOAPCD Board in reviews of the Phase 2 report (CGS, 2010 and I&R, 2010) and has been reconfirmed by the S1/CDF wind data comparison made herein. Wind data collected at the S1 Tower, located in the foredunes of the OHV riding area where sand saltation occurs, does not correlate with CDF wind data. Winds measured at S1 are significantly stronger than at CDF, and the timing of daily peak winds at S1 do not temporally correlate with much weaker

peak winds recorded at CDF. Based on these inconsistencies and the incorrect conclusion presented in the Phase 2 report regarding saltation in the OHV riding area, comparative PM10 monitoring conducted for enforcement purposes is not warranted and should be removed from the Draft Rule language.

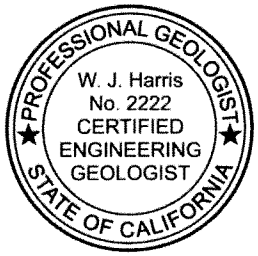
Winds measured at different locations within the dunes, though at about the same distance from the shore, compare similarly (DRI, 2011). The potential of a dune surface to emit PM10—whether the dune is inside or outside the OHV riding area—shows little, mostly insignificant variability (DRI, 2011). Given these consistencies, it appears that the potential for wind to generate PM10 from saltation is the same throughout the dunes, and it appears that the potential results from natural dune formation and migration processes.

Vegetation coverage of open sand sheet acreage has increased significantly since the 1930's. In turn, this has caused a significant reduction in sand grain saltation, and a corresponding, though undetermined, reduction in the potential to generate PM10. Quantifying how vegetation and other saltation-reducing measures taken in the dunes will influence PM10 concentrations on the Nipomo Mesa will be complex, and at best, only an estimate, which will be difficult to verify because other PM10 sources impacting the Nipomo Mesa have not been characterized.

Continued native vegetation planting projects undertaken annually by Division staff will continue to reduce saltation and potential PM10 emissions.

Should you have any questions regarding this evaluation, please feel free to call.

Respectfully submitted,



original signed by:

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cc: Phil Jenkins, Chief, OHMVR Division
Tim La Franchi, OHMVR Division
Andy Zilke, Superintendent, Oceano Dunes SVRA

Figures attached:

Figure 1: Coastal Dunes of Central California
Figure 2: Oceano Dunes State Vehicular Recreation Area and Vicinity
Figure 3: S1, Mesa 2, and CDF Wind Data, March 2011
Figure 4: S1, Mesa 2, and CDF Wind Data, April 2011
Figure 5: S1, Mesa 2, and CDF Wind Data, May 2011
Figure 6: Clay Fraction of Soils Surveyed by NRCS, Oceano Dunes SVRA and Vicinity
Figure 7: 1930's Aerial Imagery, Oceano Dunes SVRA and Vicinity
Figure 8: Comparative Analysis of 1930's and 2010 Aerial Imagery, Oceano Dunes SVRA and Vicinity

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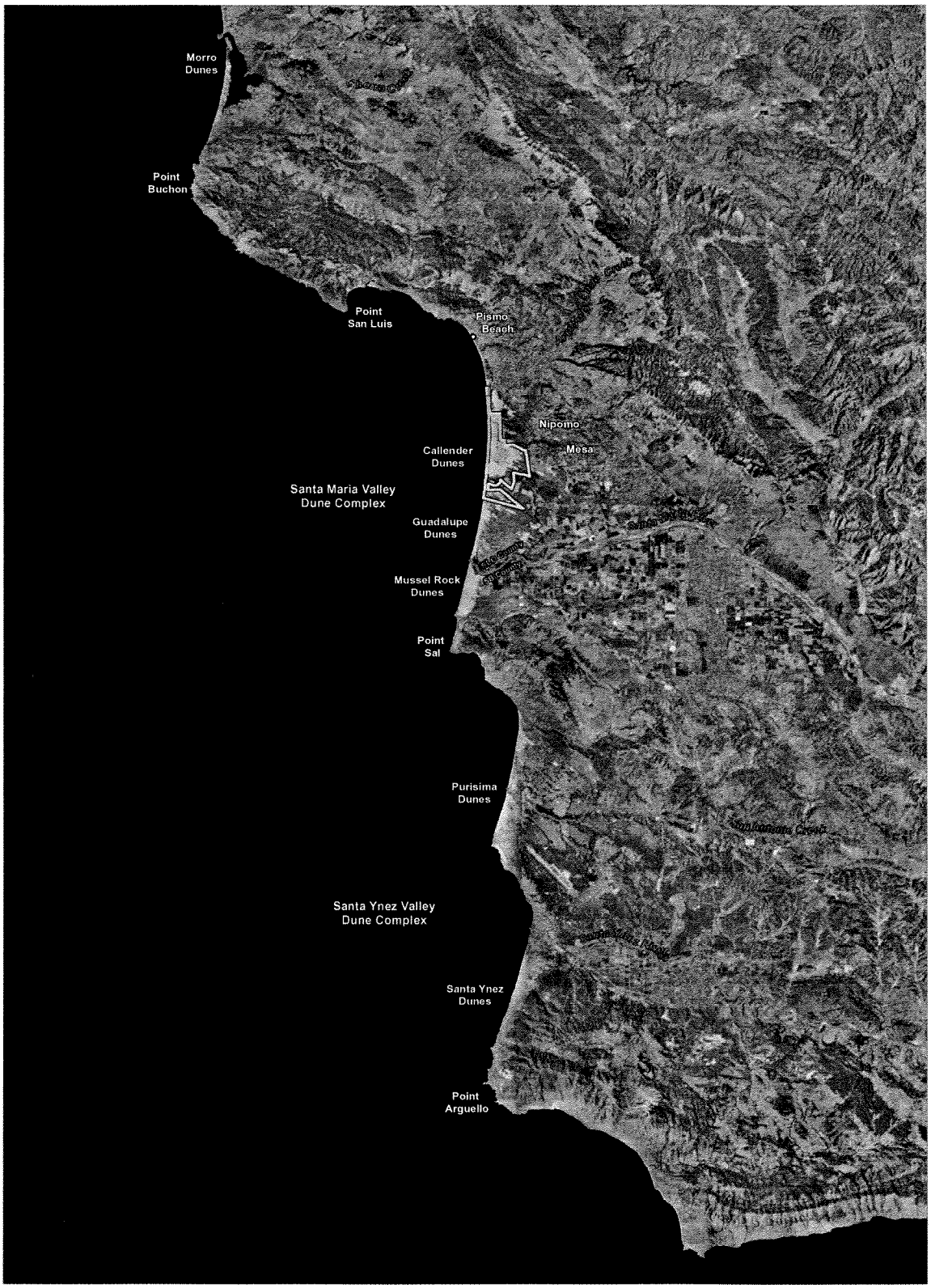

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Figure 1

Coastal Dunes of Central California

Oceano Dunes State Vehicular Recreation Area Park Boundary

Off-Highway Vehicle Riding Area

N

0 2.5 5 10
Miles

Map Scale: 1:320,000

Source: NAIP, 2010, US Department of Agriculture - Farm Service Agency

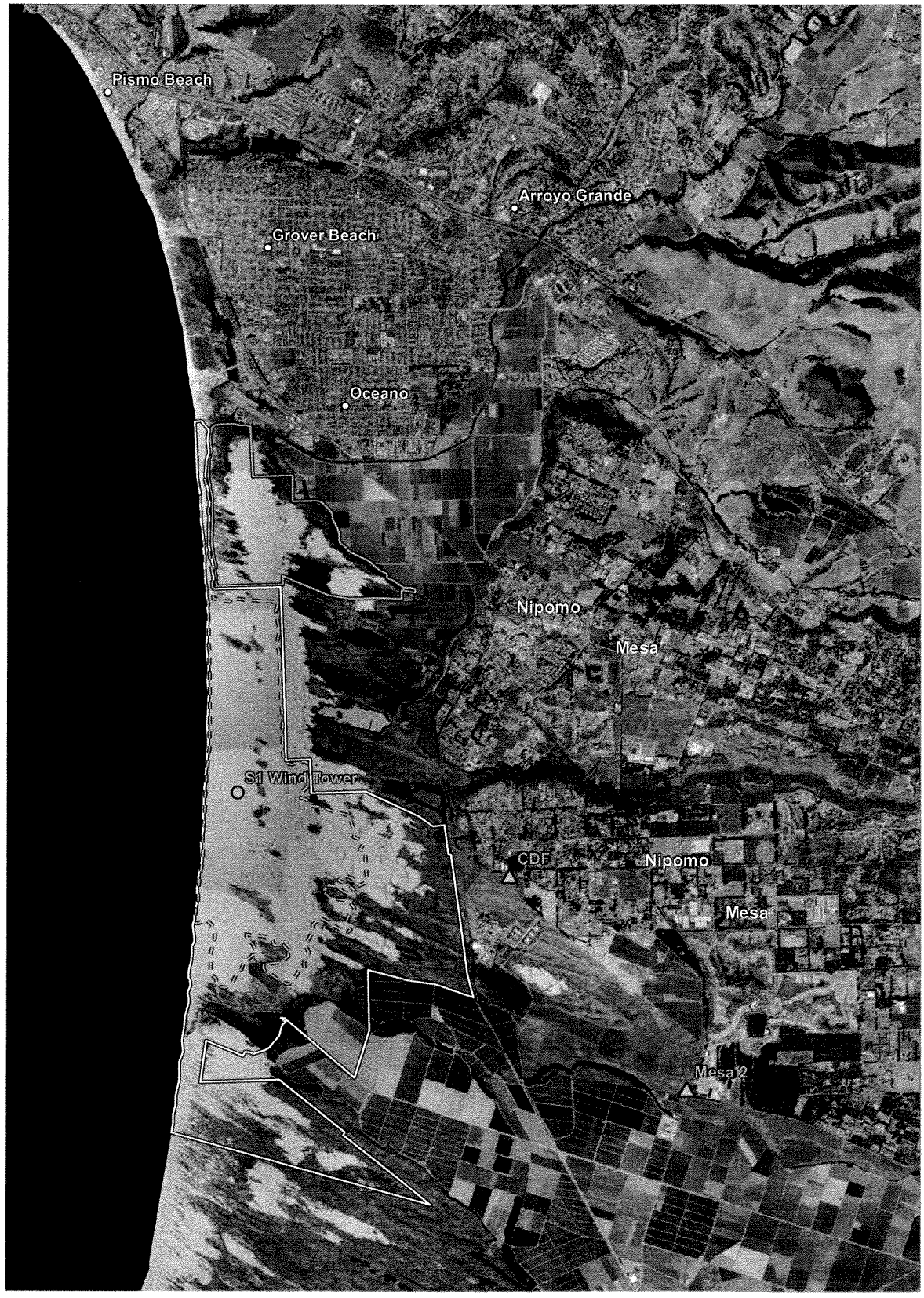

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Figure 2

Oceano Dunes State Vehicular Recreation Area and Vicinity

- Oceano Dunes SVRA State Park Boundary
- Off-Highway Vehicle Riding Area
- Dune Preserve
- S1 Wind Tower
- CDF and Mesa 2 Air Monitoring Stations

N

0 0.5 1
Miles

Map Scale: 1:48,000

Source: NAIP, 2010, US Department of Agriculture - Farm Service Agency

The Maximum Daily Value of Average Hourly Wind Speeds in Miles per Hour (mph)
For S1 Wind Tower and Mesa 2 and CDF Stations
Between March and May

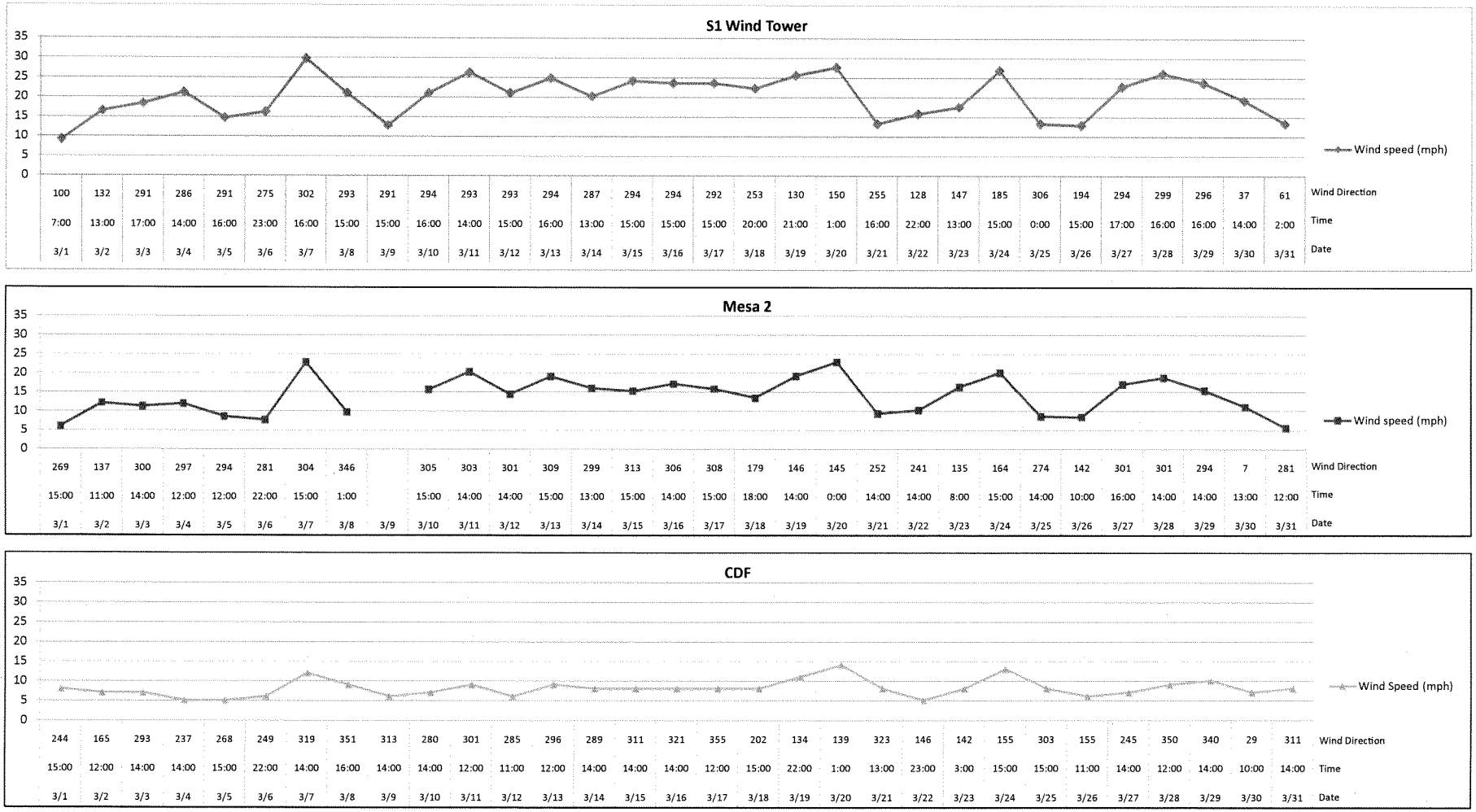


Figure 3 – S1, Mesa 2, and CDF Wind Data, March 2011, San Luis Obispo County, California

The Maximum Daily Value of Average Hourly Wind Speeds in Miles per Hour (mph)
For S1 Wind Tower and Mesa 2 and CDF Stations
Between March and May

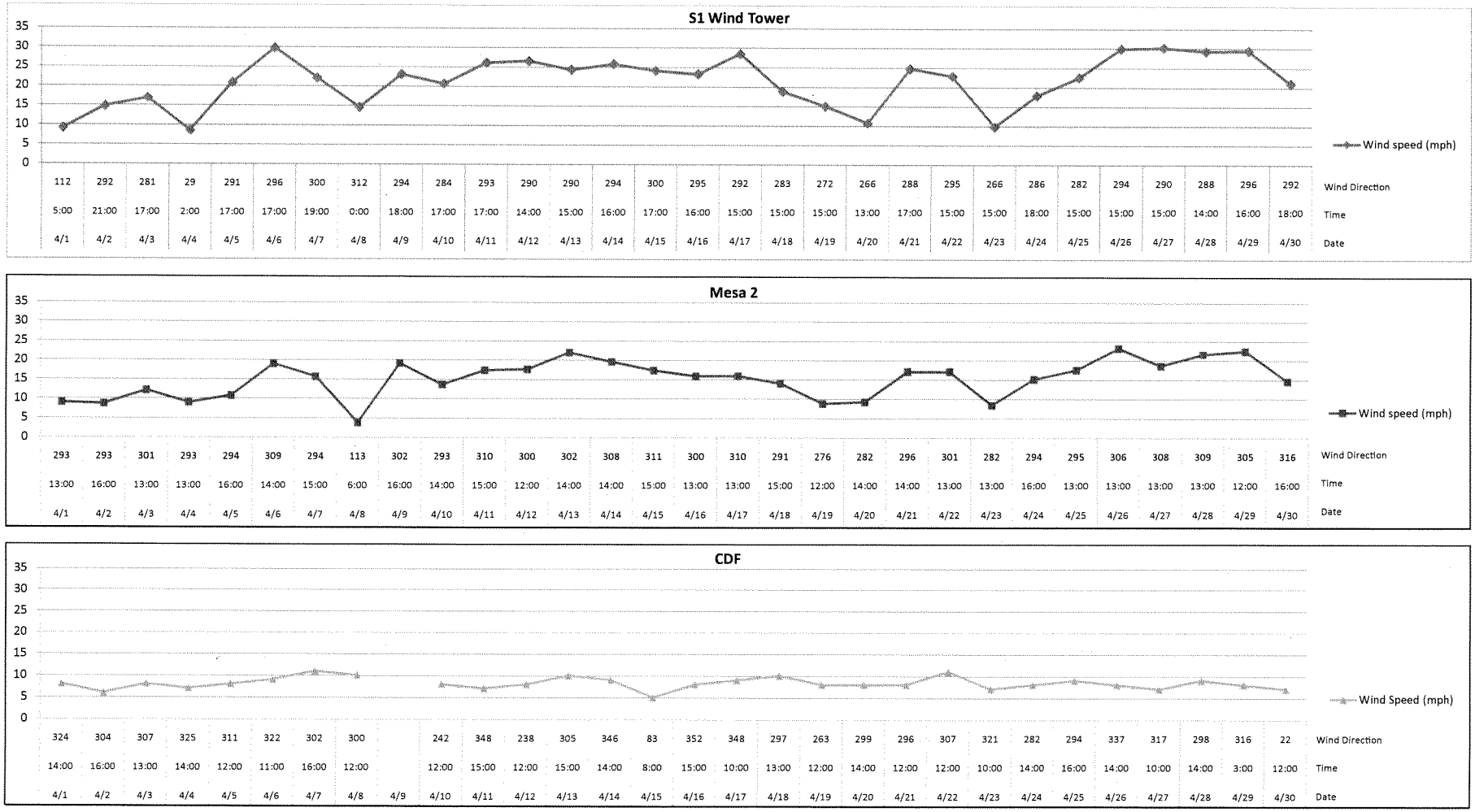
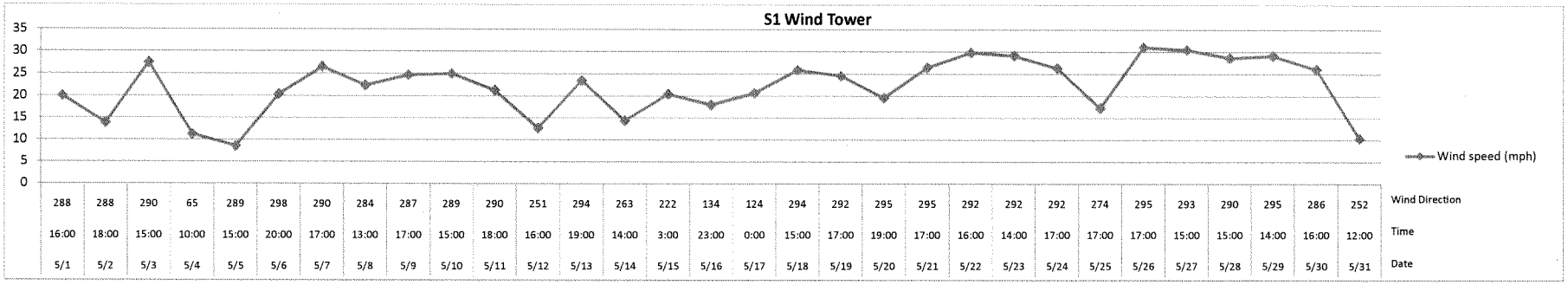
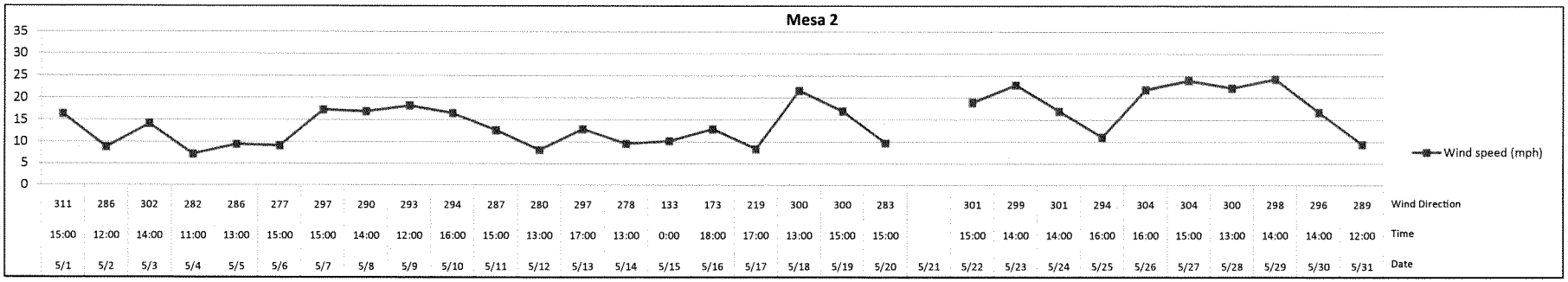


Figure 4 – S1, Mesa 2, and CDF Wind Data, April 2011, San Luis Obispo County, California

The Maximum Daily Value of Average Hourly Wind Speeds in Miles per Hour (mph)
For S1 Wind Tower and Mesa 2 and CDF Stations
Between March and May





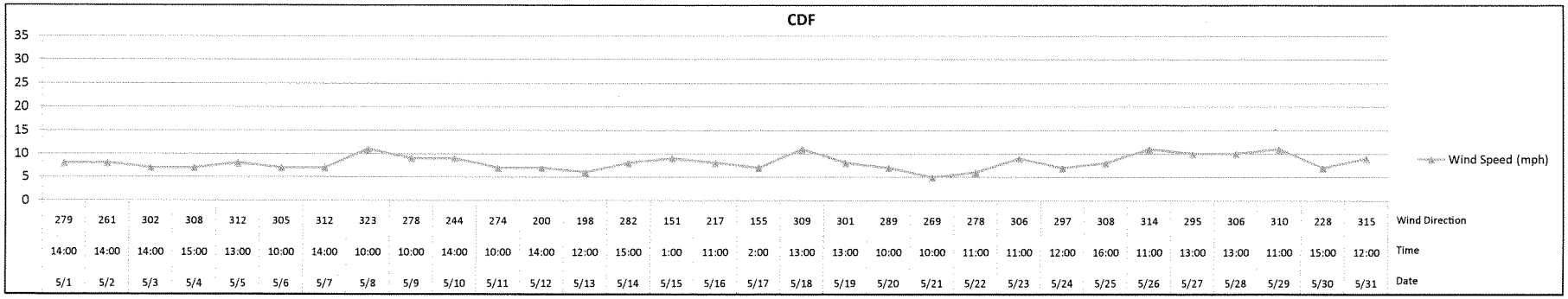
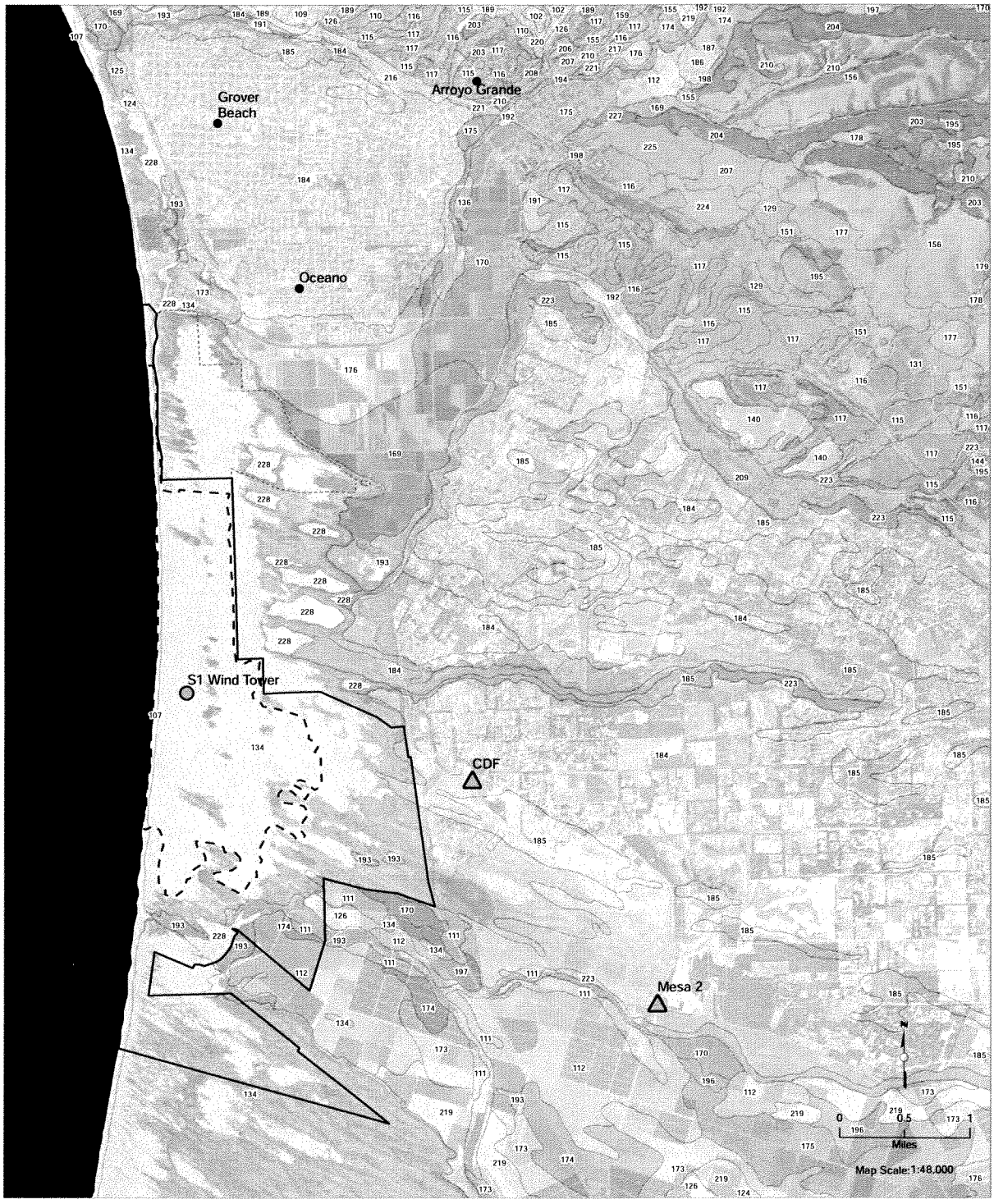


Figure 5 – S1, Mesa 2, and CDF Wind Data, May 2011, San Luis Obispo County, California



Soils Grouped by Percent Clay

- 0% to 1% (actual = 0 to 0.5%)
- 1% to 10% (actual = 2.5% to 7.5%)
- 10% to 20% (actual = 13.0% to 18.5%)
- 20% to 50% (actual = 21.0% to 50%)

- Oceano Dunes SVRA State Park Boundary
- Off-Highway Vehicle Riding Area
- Pismo Dune Preserve
- S1 Wind Tower
- CDF and Mesa 2 Air Monitoring Stations

Soil Map Unit with Percent Clay Indicated

102: 5%	129: 47.5%	169: 27.5%	189: 2.5%	208: 23.5%
103: 5%	130: 47.5%	170: 31%	190: 2.5%	209: 30%
107: 0.5%	131: 47.5%	173: 15%	191: 15%	210: 27.5%
108: 2.5%	134: 0.5%	174: 22.5%	192: 2.5%	216: 15%
109: 2.5%	135: 13%	175: 31%	193: 5%	217: 21%
110: 2.5%	136: 13%	176: 13%	194: 0.5%	219: 2.5%
111: 14%	140: 7.5%	177: 31%	195: 0%	220: 2.5%
112: 18.5%	142: 14%	178: 31%	196: 21%	221: 0%
115: 22.5%	151: 26.5%	179: 31%	197: 31%	222: 0%
116: 22.5%	155: 27.5%	181: 31%	198: 31%	223: 0%
117: 22.5%	156: 27.5%	184: 3.5%	203: 30%	224: 50%
124: 2.5%	158: 23.5%	185: 3.5%	204: 30%	225: 50%
125: 2.5%	159: 23.5%	186: 16%	206: 31%	227: 50%
126: 2.5%	160: 23.5%	187: 16%	207: 31%	228: 0%

Figure 6

Clay Fraction of Soils Surveyed by NRCS

Oceano Dunes SVRA and Surrounding Areas

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Sources: Natural Resources Conservation Service (NRCS), 2008, Soil Survey of San Luis Obispo County, California, Coastal Part; NAIP, 2009, US Department of Agriculture - Farm Service Agency

Figure 7

Oceano Dunes SVRA State Park Boundary
Pismo Dune Preserve

0 0.5 1
Miles

Map Scale: 1:32,000

1930's Aerial Imagery
Oceano Dunes State Vehicular Recreation Area and Vicinity

Source: Fairchild, 1930; US Army, 1939; NAIP, 2010, US Department of Agriculture - Farm Service Agency

Acreage Results within Oceano Dunes SVRA & Pismo Dune Preserve Boundaries	Total Acres
Open Sand Sheet Present in 1930's and 2010 Imagery	2,618
Vegetation Gain (Open Sand Sheet Present in 1930's Imagery Only)	968
Vegetation Loss (Open Sand Sheet Present in 2010 Imagery Only)	316

Total Vegetation Gain: 652

Acreage Results for Land Bounded by dashed lines	Total Acres
Open Sand Sheet Present in 1930's and 2010 Imagery	1,861
Vegetation Gain (Open Sand Sheet Present in 1930's Imagery Only)	450
Vegetation Loss (Open Sand Sheet Present in 2010 Imagery Only)	254

Total Vegetation Gain: 196

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Oceano Dunes SVRA State Park Boundary

Pismo Dune Preserve

N

0 0.5 1
Miles

Map Scale: 1:32,000

Figure 8

Comparative Analysis of 1930's and 2010 Aerial Imagery
Oceano Dunes State Vehicular Recreation Area and Vicinity

Source: Fairchild, 1930; US Army, 1939; NAIP, 2010, US Department of Agriculture - Farm Service Agency

Response to State Parks November 2, 2011 Letter,
Attachment 2: California Geological Survey

1. ***New wind data collected by State Parks at their S1 meteorological tower site located in the foredunes of the OHV riding area does not correlate with the CDF wind data used in the Phase 2 study to calculate sand saltation. Winds measured at S1 are significantly stronger than at CDF, which is located approximately 2.5 miles from the shoreline. The Phase 2 sand flux/saltation calculations were made by coupling sand movement measurements made in the foredunes of the OHV riding area with wind data collected at the CDF station. This new data shows those calculations are incorrect.***

   Response: The wind analysis referenced above compares data from State Parks S1 meteorological site on the dunes to winds measured at our CDF site to conclude that, because they are significantly higher than CDF, they are more representative of winds across the dunes and the sand flux calculations performed for the Phase 2 report are incorrect. This assumption ignores other data that shows wind speeds similar to CDF on the coast to the north at Grover Beach. More importantly, however, the S1 meteorological site is located in a flat beach area ¼ mile from the shoreline and is measuring winds directly off the ocean before encountering any significant terrain.

   Wind speeds decrease with distance from the ocean due to increased friction over the land surface. They are also significantly altered and slowed as they encounter terrain features, such as sand dunes. All sand flux sensors used in the Phase 2 Study were located further from shore than S1, and in complex terrain with significant terrain features upwind. The 3 "beach" threshold sand flux sensors were about ½ mile from shore, while the inland sensor locations ranged from 1 to 1.5 miles from shore; these were actually closer to CDF as the crow flies than they were to the S1 site.

   It is important to note that the Oso control site wind tower was located in complex terrain nearly a mile from the ocean and from ½ to 1 mile inland from where the Oso sand flux measurements were taken. In addition, the Oso sand flux sensor was located at a significantly higher elevation than the Oso wind sensor on a wide open sand sheet with no obstructions in the vicinity. All these factors combined strongly indicate that the wind speeds used to calculate sand flux/saltation for the Oso control site were likely considerably lower than the actual winds influencing saltation at the Oso sand flux sensor sites.

   In hindsight, we now know the only way to accurately measure sand flux is to measure winds at the exact location that sand flux is being measured due to the ability of complex terrain and distance from shore to create micro scale winds that influence sand movement in a specific location. Thus, we agree that winds measured at the CDF site may not be representative of the winds experienced at the SVRA locations where the Phase 2 sand flux sensors were located. Unfortunately, the only way to determine if the Phase 2 sandflux analysis is flawed would be to re-do the experiment and have a wind sensor at each sand flux monitor.

   We do not believe conducting a new experiment is necessary to confirm or disprove the sand flux findings in the Phase 2 study. The scientific literature is replete with this same finding from many different researchers. A review of applicable literature clearly shows that disturbed sand/soil has a significantly greater potential for windblown dust emissions than undisturbed sand/soil. Many algorithms used to estimate PM emissions from open areas include a factor that increases the emissions estimate if the soil is disturbed due to the commonly understood fact that disturbed sand/soil causes greater windblown dust emissions than undisturbed sand/soil.

2. ***The comparative PM10 monitoring proposed as part of the Draft Rule is based on the incorrect Phase 2 sand flux analysis and is therefore inappropriate to require.***

   Response: The comparative PM10 monitoring proposed for the rule is not based on the sand flux analysis; it is based on the ambient air monitoring conducted by APCD and the drum sampler studies conducted the UC Davis Delta Group during the Phase 2 study. Both of these monitoring efforts showed significantly higher PM concentrations measured downwind from the SVRA compared to PM levels at the control site. This indicates that comparative monitoring is the appropriate method for measuring the effectiveness of the PMRP.

3. ***Winds measured at different locations within the dunes, though at about the same distance from the shore, compare similarly (DRI, 2011). The potential of a dune surface to emit PM10—whether the dune is inside or outside the OHV riding area—shows little, mostly insignificant variability (DRI, 2011). Given these consistencies, it appears that the potential for wind to generate PM10 from saltation is the same throughout the dunes and results from natural dune formation and migration processes.***

   Response: The two DRI citations are misleading. Just because two sensors measured similar winds does not prove that the winds are all homogenous across the study area, as described in the response to #1, above. The DRI measurements of emissions potential were performed for only a very small riding area and non-riding area. Nonetheless, the DRI measurements overall showed that the non-riding area had a lower emissions potential than the riding area they tested. High variability in their readings and instrument problems, however, led them to conclude that it would be difficult to say definitively that the non-riding area had lower emissions potential.

4. ***Vegetation coverage of open sand sheet acreage has increased significantly since the 1930's, in part due to successful revegetation efforts undertaken by State Parks. In turn, this has caused a significant reduction in sand grain saltation, and a corresponding, though undetermined, reduction in the potential to generate PM10. Quantifying how vegetation and other saltation-reducing measures taken in the dunes will influence PM10 concentrations on the Nipomo Mesa will be complex, and at best, only an estimate, which will be difficult to verify because other PM10 sources impacting the Nipomo Mesa have not been characterized. Continued native vegetation planting projects undertaken annually by Division staff will continue to reduce saltation and potential PM10 emissions.***

   Response: Vegetation has been shown to be highly effective at reducing sand movement and the saltation process that leads to airborne particulate under high winds. The success of State Parks' revegetation efforts suggests that may be an important strategy to include in the PMRP. It is incorrect, however, to suggest that other emission sources impacting the Nipomo Mesa have not been characterized and may discount the effectiveness of such reduction efforts.

   All potential sources of PM10 that could impact the Nipomo Mesa were studied in the comprehensive Phase 1 and Phase 2 South County PM studies conducted by the District between 2004 and 2010; this included paved and unpaved roads, agricultural activities, the ConocoPhillips petroleum coke piles, combustion sources and sea salt. These studies conclusively showed that airborne particulate matter impacting the Nipomo Mesa on high PM episode days predominantly consists of fine sand particles from the Oceano dunes transported to the Mesa under high northwest wind conditions. The Phase 2 study data also showed a distinct lack of high PM10 concentrations when high wind speeds occurred from directions that do not pass across coastal dunes.

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VIA EMAIL

Wednesday, 2011 November 2

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SUBJECT: COMMENTS ON PROPOSED COASTAL DUNES DUST CONTROL DRAFT RULE 1001

Honorable Chair & SLOAPCD:

I am pleased to submit comments to the San Luis Obispo Air Pollution Control District (hereinafter, "SLOAPCD") pertaining to the proposed ***Coastal Dunes Dust Control Draft Rule 1001*** (hereinafter, "proposed rule").

I am a resident of the City of San Luis Obispo and of the County of San Luis Obispo and am a party in interest as an avid advocate, working in the public interest, to preserve and enhance public access and use of Oceano Dunes State Vehicular Recreation Area ("ODSVRA"). Such access and use is mandated by state statute pursuant to California Public Resources Code §5090 et seq.

I believe the proposed rule is significantly lacking in scientific foundation, is legally flawed, and that the public has been excluded from full participation in the rulemaking process, relevant information and the rulemaking record as required by California statute (California Health & Safety Code §40725 et seq.)[1] This rulemaking process has further failed to fulfill all statutory requirements.

1. Exclusion of public participation in the rulemaking process in regards to the underlying "Phase 2 Particulate Study".

On March 24, 2010, the SLOAPCD Board "received and filed" the "South County Phase 2 Particulate Study" which constitutes a major underlying scientific basis for the proposed rule. At that Board meeting, much public comment was devoted to the lack of consideration given to criticism and questions regarding the scientific validity of the Phase 2 Study. Air Pollution Control Officer ("APCO"), Larry R. Allen, promised on the record:

> ***"We will answer the questions that were posed by State Parks and by Mr. Waage and by the Friends of the Dunes."***[2]

Additionally, SLOAPCD Board deliberations at that same meeting included many similar promises:

> **Director Mecham:** ***"Will the Board be considering the questions from others? The answer was yes."***
>
> **Director Gibson:** ***"If there are lingering concerns—absolutely. That may well lead to the necessity of further study as we contemplate what regulatory or mitigating measures we need to take."***
>
> **Director Patterson:** ***"The motion doesn't preclude doing further analysis on those issues that have been raised in the process."***
>
> **Director Vardas:** ***"Your duty is to… try to disprove the alternative hypothesis."***
>
> **Director Achadjian:** ***"This is not the end of what we've heard. That's still open for discussion."***

[1] All further statutory references are to the California Health & Safety Code, unless otherwise indicated.
[2] Referring to comments on the Phase 2 Study submitted by California State Parks in conjunction with the California Geological Survey (letters, March 18, 2010 and March 22, 2010), Dr. Ed Waage ("Review of SOUTH COUNTY PHASE 2 PARTICULATE STUDY", March 22, 2010), and Friends of Oceano Dunes (letter, March 22, 2010).

Director Achadjian: ***"If there is a concern by our constituency, it doesn't mean we're going to ignore that. We're still going to respond to their concern."*** **(To which APCO Larry R. Allen responded,** ***"Absolutely. We intend to do that."*****)**

Director Achadjian: ***"I want to be sure that that door is still open—to be sure that we respond to all concerns."***

Director Mecham: ***"We haven't adopted anything at this particular point."***

Board Chair Bright: ***"Should something come to light that contradicts and is proof to me--that supersedes what's in this report--then I'm going to want to see that that becomes part of the record. So, I believe that by receiving and filing this report, that's what we are doing: receiving and filing. We're not adopting this report. I believe that if better information comes along, then that's something that we can certainly review and accept or receive and file."***

Director Gibson: ***"To me the process of scientific inquiry is never done. As new information comes, we will enhance our vision of this."***

As of this date, the above promises to consider public questions and concerns regarding the Phase 2 Study have not been fulfilled. The SLOAPCD Board needs to recognize the public and formally respond prior to adopting the proposed rule. Without reply, SLOAPCD has failed to demonstrate "necessity" pursuant to §40727(b)(1).

2. Questions and concerns regarding the Phase 2 Study which have previously been entered into the rulemaking record are hereby incorporated into these comments by reference:

a) California State Parks in conjunction with the California Geological Survey (letters, March 18, 2010 and March 22, 2010).

b) Dr. Ed Waage ("Review of SOUTH COUNTY PHASE 2 PARTICULATE STUDY", March 22, 2010).

c) Friends of Oceano Dunes (letter, March 22, 2010).

d) Other written correspondence made to the SLOAPCD Board.

e) Public comments made at SLOAPCD Board meetings.

The SLOAPCD Board has not yet addressed or responded to these comments as part of the rulemaking record. Without reply, SLOAPCD has failed to demonstrate "necessity" pursuant to §40727(b)(1).

3. Exclusion of public participation in the rulemaking process in regards to the creation of closed committees.

On August 3, 2010, a "MEMORANDUM OF AGREEMENT FOR DEVELOPMENT AND IMPLEMENTATION OF A PARTICULATE MATTER (PM) REDUCTION PLAN FOR THE OCEANO DUNES STATE VEHICULAR RECREATION AREA (ODSVRA)" (hereinafter, "MOA") was entered into by and between SLOAPCD, the County of San Luis Obispo, and the California Department of Parks and Recreation. Under this MOA two subcommittees were formed: (1) A nine member "Management Oversight Committee" (hereinafter, "MOC"); and, (2) A six member "Technical Advisory Committee" (hereinafter, "TAC").

The MOC met publicly on only two occasions: September 8, 2010 and January 19, 2011 (this date). On both occasions, the public had opportunity to directly address the MOC only at the end of the agenda. It is noted in the minutes of the September 8, 2010 meeting "not all MOC meetings will be open to the public as they will be conducted via conference calls, etc." Mention of ongoing and future non-public MOC meetings were made by Chair Larry R. Allen to the APCD Board on December 1, 2010. Agendas and minutes of these MOC meetings were not posted.

The TAC met publicly on only one occasion: September 8, 2010 (*Minutes, Joint Meeting of the Management Oversight and Technical Advisory Committees*, September 8, 2010.) At this meeting, the public had opportunity to directly address the TAC only at the end of the agenda. (*Ibid.*) The meeting minutes reflect, "It was noted that the TAC meetings are not open to the public and not all MOC meetings will be open to the public as they will be conducted via conference calls, etc." (*Ibid.*) Intermittent mention of ongoing and future TAC meetings has occurred at various APCD Board meetings (*Minutes, APCD Board*, December 1, 2010, et al.) and during meetings of the MOC (*Minutes, MOC Meeting*, January 19, 2011, et al.)

On March 9, 2011, I filed suit (Super. Ct. San Luis Obispo County, 2011, No. CV 110156) in response to the illegal MOC/TAC meetings that violated the Ralph M. Brown Act (Gov. Code §54950 et seq.) My suit failed due to a failure to correctly name the proper parties in the suit and because the SLOAPCD Board quickly and conspicuously (not coincidently) dissolved the MOA and the MOC/TAC committees.

The failure of my legal suit, however, only pertains to the existence of the MOC/TAC committees. It does not relieve SLOAPCD or its Board from the closed rulemaking process in forwarding the currently proposed rule.

At those closed committee meetings, I was denied the ability to submit many gigabytes of digital aerial imagery dating back to 1930, vegetation maps from circa 1930, topographic maps from as early as 1879 and other imagery and maps. The imagery I intended to present directly contradicts and challenges the "oldest photos" (according to the correspondence of Joel Craig, SLOAPCD staff) produced by SLOAPCD in support of faulty notions of vegetation and OHV use at ODSVRA. This imagery cost me hundreds of dollars to obtain.

Additionally, I intended to submit many documents from the California State Archive that I personally researched and retrieved at great expense also challenging notions of vegetation and OHV use at ODSVRA.

Moreover, I intended to submit evidence challenging the fallacious notion of "dune crust" purported by SLOAPCD in the Phase 2 Study.

Vegetation and "crust" arguments are pivotal to the Phase 2 Study. Denial of public participation in the MOC/TAC committees significantly disregarded public participation in the rulemaking process and disregarded significant and relevant scientific input. Without full public participation, SLOAPCD has failed to demonstrate "necessity" pursuant to §40727(b)(1).

4. Faulty "peer review" in regards to scientific study integrity in the rulemaking process.

Peer review of the Phase 2 Study included numerous reviewers who were personally and/or professionally conflicted in producing unbiased scientific review and/or were outright unqualified in their own words and opinion:

a) Peer reviewer Michael Taylor wrote:

"I should begin by noting that I am an engineer but my specialty is not air pollution. My participation in previous work by the Davis Delta group (mainly the Owens Lake study) began as a structural consultant on the design and installation of the sand fences. However, as a curious person one could not help but become interested in the activities of such a knowledgeable and enthusiastic group. My comments, therefore, are as an interested but non-expert reader. ..."

b) Peer reviewer Melvin Zeldin was the Executive Director of CAPCOA at the same time that APCO Larry R. Allen was serving on the Board of CAPCOA, which oversees the Executive Director. Mr. Zeldin was not, then, capable of unbiased peer review.
c) Peer reviewer Tom Murphy is simultaneously listed as a Phase 2 Study author.
d) Peer reviewer Meredith Kurpius works for EPA, Region IX in San Francisco, which contributed $25,000 toward the Phase 2 Study.

It is not possible to declare a finding of "necessity" pursuant to §40727(b)(1) when the scientific process that is part of the rulemaking record contains such egregious flaws.

5. Rulemaking record fails to reflect a scientific performance standard supporting the proposed rule.

SLOAPCD has not made available as part of the public rulemaking record and process any scientific performance standard demonstrating "necessity" for the proposed rule (§40727(b)(1)).

6. Proposed rule fails to include a process for new Coastal Dune Vehicle Activity Areas (CDVAA) or CDVAA Operators.

The proposed rule and its compliance schedule only allows for the possibility of current and existing CDVAA Operators. It is a failed rule because any new CDVAA or CDVAA Operator could not possibly comply with the proposed rule.

7. Proposed rule relies on undetermined (future), and unproven science.

The proposed rule relies on non-existent, future science in the form of the "APCO-approved Particulate Matter Reduction Plan (PMRP)". There is no possible way to determine if this unknown PMRP is scientifically sound.

It is impossible to make a finding of "clarity" (§40727(b)(3)) when the method of compliance with the proposed rule is not yet even remotely known or defined!

8. Proposed rule performance requirement is arbitrary, unsupported, and conflicts with Federal Equivalent Method (FEM) equipment tolerance standards.

The proposed rule specifies a fixed 10 $\mu g/m^3$ PM_{10} concentration difference between the "CDVAA Monitor" and the "Control Site Monitor" as the performance requirement for compliance. This arbitrary and fixed concentration directly conflicts with the specifications for monitors that pass FEM testing as defined by 40 CFR Subpart D, which specifies performance in units of percent, not fixed particle concentration:

40 CFR 53.40

Table D-1—Performance Specifications for PM_{10} Samplers

Performance parameter	Units	Specification
1. Sampling effectiveness:		
A. Liquid particles	Percent	Such that the expected mass concentration is within ±10 percent of that predicted for the ideal sampler.
B. Solid particles	Percent	Sampling effectiveness is no more than 5 percent above that obtained for liquid particles of same size.
2. 50 Percent cutpoint	μm	10±μ.5 μm aerodynamic diameter.
3. Precision	$\mu g/m^3$ or percent	5 $\mu g/m^3$ or 7 percent for three collocated samplers.
4. Flow rate stability	Percent	Average flow rate over 24 hours within ±5 percent of initial flow rate; all measured flow rates over 24 hours within ±10 percent of initial flow rate.

The proposed rule also makes no accounting for liquid versus solid particle concentrations, nor does it adequately specify or ensure precision via testing, collocation or other methods.

Nothing in the rulemaking record has shown support for the arbitrary and unsupported performance requirement set forth in the proposed rule. Thus, the demonstrations of "necessity", "authority" and "clarity" pursuant to §40727(b) are lacking.

9. Proposed rule implementation timeline ("compliance schedule") is arbitrary, capricious and almost certainly unachievable.

The proposed rule sets a compliance schedule that is unachievable and is destined for failure. The proposed rule sets out no accommodation for permit processes that are out of control of the CDVAA Operator.

10. Proposed rule arbitrarily identifies "CDVAA Operator" as responsible for compliance while ignoring other sources.

The rulemaking process has blatantly ignored scientific flaws and the existence of natural PM_{10} sources, as well as other anthropogenic emitters. Utter failure to consider these sources in the rulemaking process flaunts any claimed finding of "necessity" pursuant to §40727(b)(1).

11. Proposed rule conflicts with existing state statute.

The proposed rule conflicts with the State of California and its obligations pursuant to California Public Resources Code §5090 et seq. and elsewhere. As such, SLOAPCD has failed to make legitimate findings of "authority", "consistency" and "reference" required by §40727(b).

Respectfully submitted,

Kevin P. Rice

CC: SLOAPCD Board

Response to Kevin P. Rice 11-2-2011 Rule 1001 Comments

1. ***Exclusion of public participation in the rulemaking process in regards to the underlying "Phase 2 Particulate Study".***

   Response: The District has communicated with the public on all aspects of the south county PM evaluation process. Workshops were conducted and comments were received and answered for both the Phase 2 Study and the concepts presented for the draft rule. The Phase 1 and Phase 2 studies conclusively demonstrate the necessity, and the District has clear authority to adopt and implement this rule. The findings required by H&SC section 40727 have been made in Section VII of the staff report accompanying the rule.

2. ***Questions and concerns regarding the Phase 2 Study which have previously been entered into the rulemaking record are hereby incorporated into these comments by reference:***

   Response: Your comment is noted.

3. ***Exclusion of public participation in the rulemaking process in regards to the creation of closed committees.***

   Response: The MOA process and the MOC and TAC committees formed under the MOA were not part of the rulemaking process. That was a collaborative process between State Parks, the County and APCD to evaluate potential solutions to the SVRA dust issue in advance of the rulemaking process. Development of the actual rule occurred completely independently of that process and involved significant public participation through a workshop, two public hearings and responses to numerous comments submitted on the rule.

4. ***Faulty "peer review" in regards to scientific study integrity in the rulemaking process.***

   Response: Peer review in the field of science is typically limited to research articles proposed for publication in scientific or academic journals; how it is performed and by whom has been a topic of ongoing debate in those circles for many years. Peer review is not required and rarely performed in the common process of a regulatory agency conducting studies to determine the source of emissions impacting a specific area. Nonetheless, given the political and public interest in our study, we asked several scientists with expertise in this field to review our analyses prior to publishing the Phase 2 report to verify whether or not our findings were supported by the substantial mass of underlying data collected during the study. All peer reviewers were qualified to review the study and concurred with our findings.

5. ***Rulemaking record fails to reflect a scientific performance standard supporting the proposed rule.***

   Response: The Phase 1 and Phase 2 studies conclusively demonstrate the necessity, and the District has clear authority to adopt and implement this rule. The findings required by H&SC section 40727 have been made in Section VII of the staff report accompanying the rule.

6. ***Proposed rule fails to include a process for new Coastal Dune Vehicle Activity Areas (CDVAA) or CDVAA Operators.***

   Response: As stated in the applicability section of the rule, "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". This includes any existing or new CDVAA.

7. ***Proposed rule relies on undetermined (future), and unproven science.***

   Response: The potential mitigation measures that could be included in the PMRP are the choosing of State Parks. The pilot studies conducted by DRI and their ensuing report listed multiple mitigation measures that could be included in the PMRP and employed to reduce PM emissions.

8. ***Proposed rule performance requirement is arbitrary, unsupported, and conflicts with Federal Equivalent Method (FEM) equipment tolerance standards.***

   Response: The performance standard has been modified by replacing the 10ug/m3 buffer between the CDVAA monitor and control site monitor, with a new metric that would use a 20% difference between the two monitors as the threshold for determining compliance. Staff has incorporated this suggested change into the proposed rule for Board consideration.

9. ***Proposed rule implementation timeline ("compliance schedule") is arbitrary, capricious and almost certainly unachievable.***

   Response: The timeframes were determined by estimating the fastest time to accomplish a particular task, from conception to permitting to execution. In the final proposed Rule 1001, we did add relief for PMRP approvals based on agency delays beyond the operator's control.

10. ***Proposed rule arbitrarily identifies "CDVAA Operator" as responsible for compliance while ignoring other sources.***

    Response: All potential sources of PM10 that could impact the Nipomo Mesa were studied in the comprehensive Phase 1 and Phase 2 South County PM studies conducted by the District between 2004 and 2010; this included paved and unpaved roads, agricultural activities, the Conoco Phillips petroleum coke piles, combustion sources and sea salt. These studies conclusively showed that airborne particulate matter impacting the Mesa on high PM episode days predominantly consists of fine sand particles from the Oceano dunes transported to the Mesa under high northwest wind conditions. The Phase 2 study data also showed a distinct lack of high PM10 concentrations when high wind speeds occurred from directions that do not pass across coastal dunes.

11. ***Proposed rule conflicts with existing state statute.***

    Response: The federal Clean Air Act and the California Health & Safety Code give air districts clear authority to regulate open sources of fugitive dust emissions, including those facilities owned and/or operated by state or federal agencies. State Parks specifically recognizes this in their 2008 Soil Conservation Guidelines. Section 2.2 states, in part:

    2.2. Other Applicable Laws and Regulations
    "However, it is the land managers' responsibility to recognize other local, state and federal laws and regulations that are applicable to the assessment and management of OHV areas, especially where unique environmental conditions exist....Examples include . . . the Federal and State Clean Air Acts.

From the Office of the Mayor
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November 3, 2011

San Luis Obispo County
Air Pollution Control District
3433 Roberto Court
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Dear Chairman Gibson:

The City Council of the City of Pismo Beach requests that the Air Pollution Control District Board of Directors take no action on the fugitive dust rule to regulate fugitive dust emissions at the Oceano Dunes State Vehicular Recreation Area at this time. The City recognizes the importance of addressing public health concerns, however we believe it is important to make decisions based upon consistent and defensible scientific methodology.

There appear to be flaws in the Phase 2 Study that have not been addressed. In addition, we are concerned about the definitions regarding compliance guidelines, timelines for the implementation of mitigation measures and the absence of language which addresses the need for timeline extensions due to delays unrelated to State Parks in the dust rule document.

Some examples of problems with the Phase 2 Study are as follows:

1) Reliance on wind speeds measured at the CDF fire station

The Study assumes that wind speeds measured at the CDF fire station are representative of wind speeds on the dunes and there is substantial evidence that wind speeds are much higher on the dunes. There are several rows of tall trees between the dunes and the CDF location which will reduce wind speeds yet there was no discussion in the Study about this problem.

State Parks has been measuring wind speeds on the dunes for over a year and those speeds are 70% higher than those measured at CDF. The Desert Research Institute (DRI) measured wind speeds at two locations on the dunes, north of Oso Flaco Lake and near the Parks wind tower location, as part of their Pilot Project study. On page 22 of their report found, it states that wind speeds found at those two locations were "similar" to those at the Parks location, which means those wind speeds are also much higher. Thus there are now three locations on the dunes where wind speeds have been measured which are substantially higher than the CDF location.

A comparison of wind speeds measured at CDF with those at the Study's control site, Oso (located on the dunes), shows that Oso speeds are also 70% higher which agrees with wind speeds at the Parks and DRI locations. It is clear that the CDF site is an outlier and does not represent dunes wind speeds. Even the Study's Mesa2 site, located much farther inland, had 40% higher wind speeds than CDF.

Higher wind speeds will have a significant effect on some of the conclusions of the Study so it is imperative that the more recent data on wind speeds be used to reevaluate those conclusions.

2) Effect of more Off Highway Vehicle (OHV) traffic and PM10

The Phase 2 Study used a flawed method to show a correlation between higher levels of PM10 and OHV activity on the dunes. The Study compared three sites, CDF (riding area), Oso (control area, no riding) and Mesa2 (inland site, but downwind of the riding area), to try to determine if more OHV activity results in higher PM10. When comparing the three sites, however, data was used for the CDF and Mesa2 site starting March 2008 yet the Oso control site did not start operating until about April 26, 2008, almost two months later.

In addition, the study period was supposed to be one year (April 1, 2008 to March 31, 2009) yet the Phase 2 Study used data for an additional month for the comparison. March and April are windy months which will results in higher PM10 so the selection of an additional March month will skew the results. Using this flawed approach, the Study found about 25% higher PM10 on the 50 highest use days compared to the lowest 50 days. This 25% value was used extensively in public presentations by APCD staff.

A more appropriate method is to compare all three sites when all three are operating. This method results in 8% ***less*** PM10 rather than 25% more.

Another way to compare vehicle use and PM10 is to examine weekend and weekday PM10 average values. This comparison shows that there is also less PM10 on the weekend when there is substantially more OHV activity.

3) Different Sizes and Shapes of Sand Dunes in the Riding Area and Control Area

The Phase 2 Study found higher levels of PM10 at the riding area upwind of the CDF monitoring location than at the natural dunes control area at the Oso monitoring location. The higher levels were attributed to the effect of vehicles in the riding area causing additional PM10.

The sand sheets at the riding area upwind of CDF are far more extensive than at Oso yet there was no discussion about these substantial differences between the two sites.

To evaluate the effect of differing sand sheets, a grid was overlain both the control area and the riding area and the relative contribution of sizes and shapes of the sand sheets was calculated using the "Gaussian" plume dispersion model. This model is a fairly simple one, but the results show that one

would expect about 60% more PM10 from the vehicle riding area due to differences in size, shape and distance from the monitoring location alone.

It is possible, therefore, that most, if not all, of the additional PM10 in the riding area could be due to different site characteristics rather than vehicle activity. However, the Phase 2 Study did not even consider this possibility.

Recommendation

We must get the science right if we are going to protect public health. Therefore, the flaws in the Phase 2 Study need to be addressed prior to any rulemaking by the APCD Board.

The draft rule itself should emphasize a cooperative effort between State Parks and APCD to reduce PM10. That cooperation is more likely if the draft rule is modified to require a Best Management Practices program instead of the punitive measures as currently written.

Sincerely,

Shelly Higginbotham

Shelly Higginbotham
Mayor

Cc: Board of Directors
Mr. Allen, APCD
State Parks

Attachment: Ed Waage Presentation at Council Meeting

Problems with APCD Phase 2 Study of Oceano Dunes State Vehicle Recreation Area

Ed Waage

Oceano Dunes State Vehicle Recreation Area

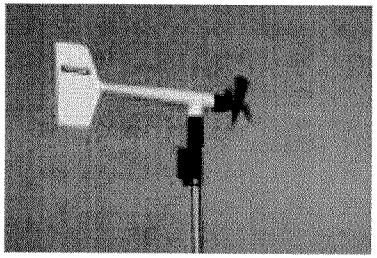
- Run by State Parks
- 1.6 million visitors each year
- Adds $170 million to local economy
- When wind blows, dust generated
- Does vehicle use cause more dust?

Ask Four Questions

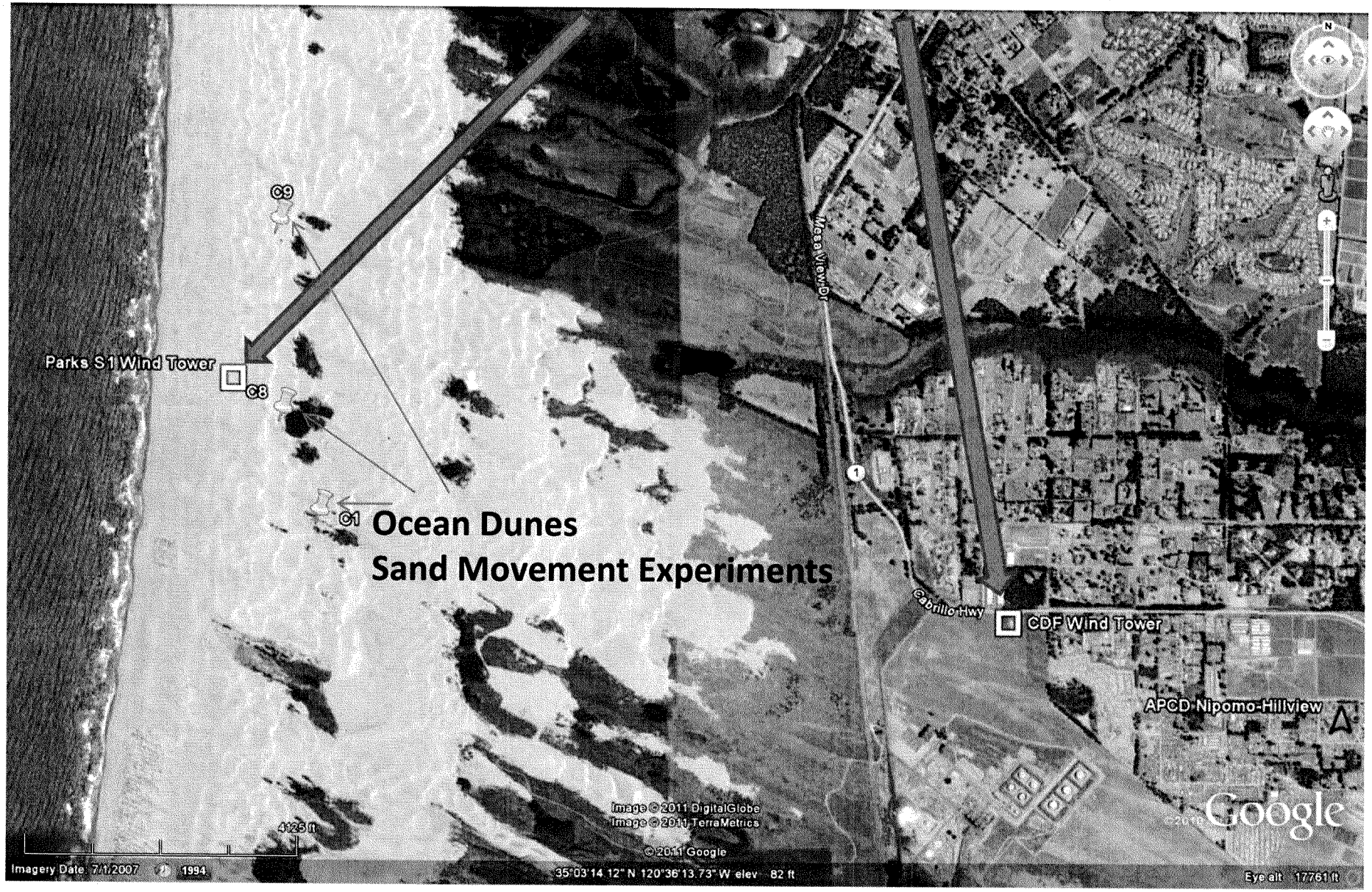
- Were Wind Speeds measured correctly?
- Does more dust, or Particulate Matter, PM10, occur on high vehicle use days?
- Did Study Consider PM10 from vehicle traffic along Highway 1?
- Did Study consider different sizes of sand sheets in the riding area and natural area?

1. Were Wind Speeds measured correctly?

- Wind Speeds are used in two of three parts of the Phase 2 Study
- Wind causes sand to move and helps dust get airborne
- APCD measured wind speeds at CDF Fire Station inland from the dunes behind rows of trees yet it was ***assumed*** those speeds were typical of the dunes
- No discussion of this problem in Study
- Parks installed wind tower on dunes
- Let's compare

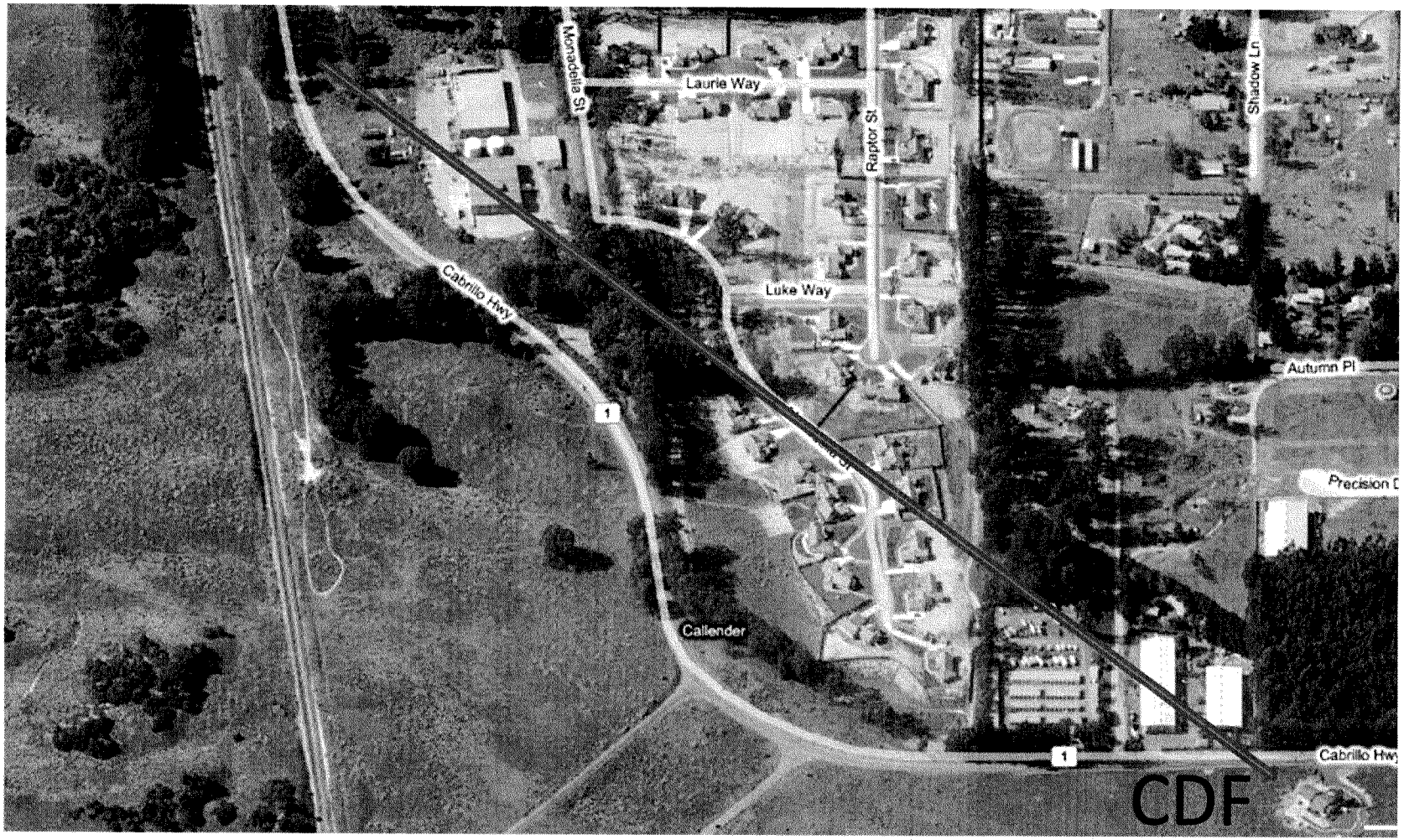


Parks has Wind Tower on Dunes, APCD Tower off dunes at CDF



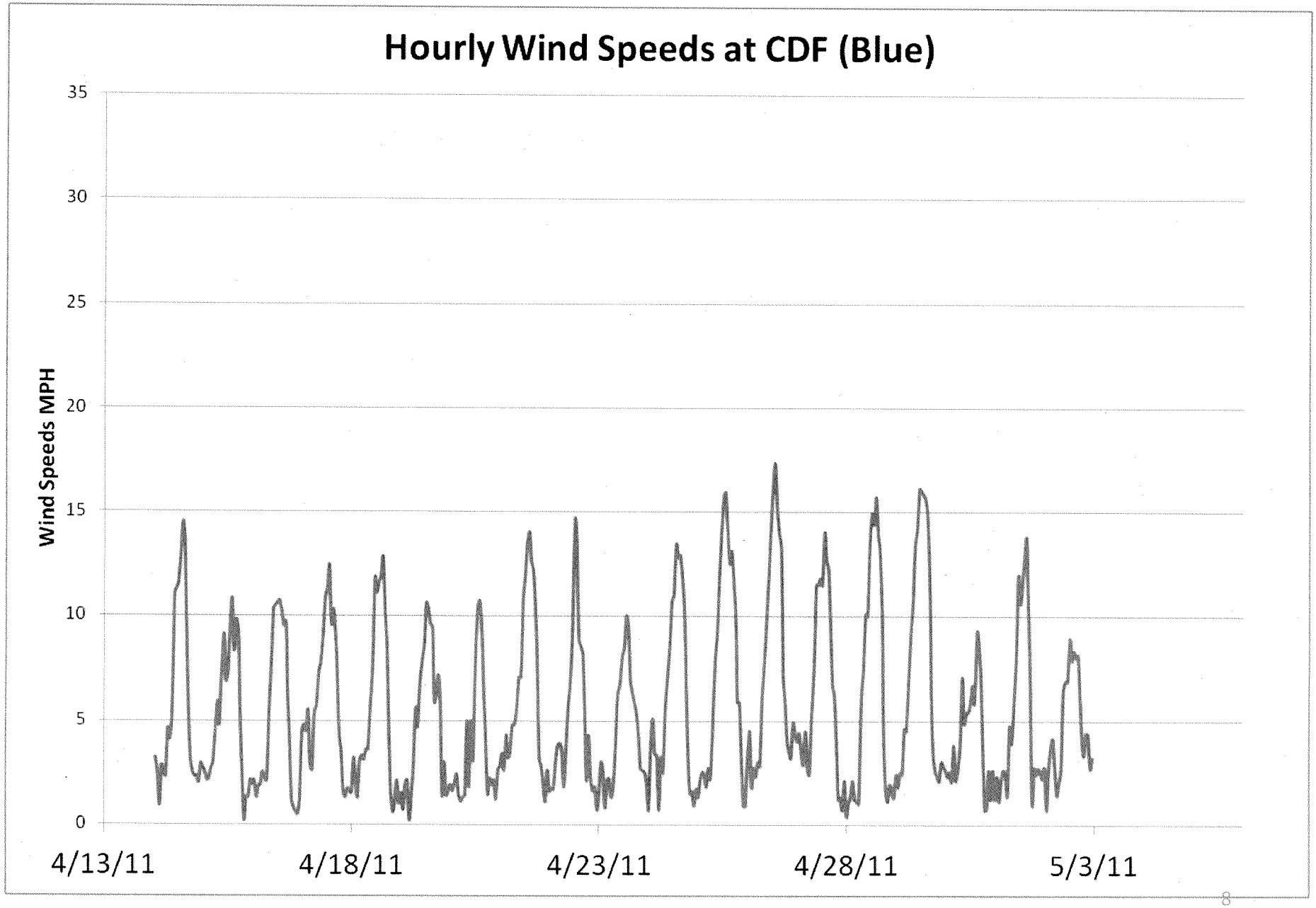
Wind Slowed by Trees Upwind of CDF

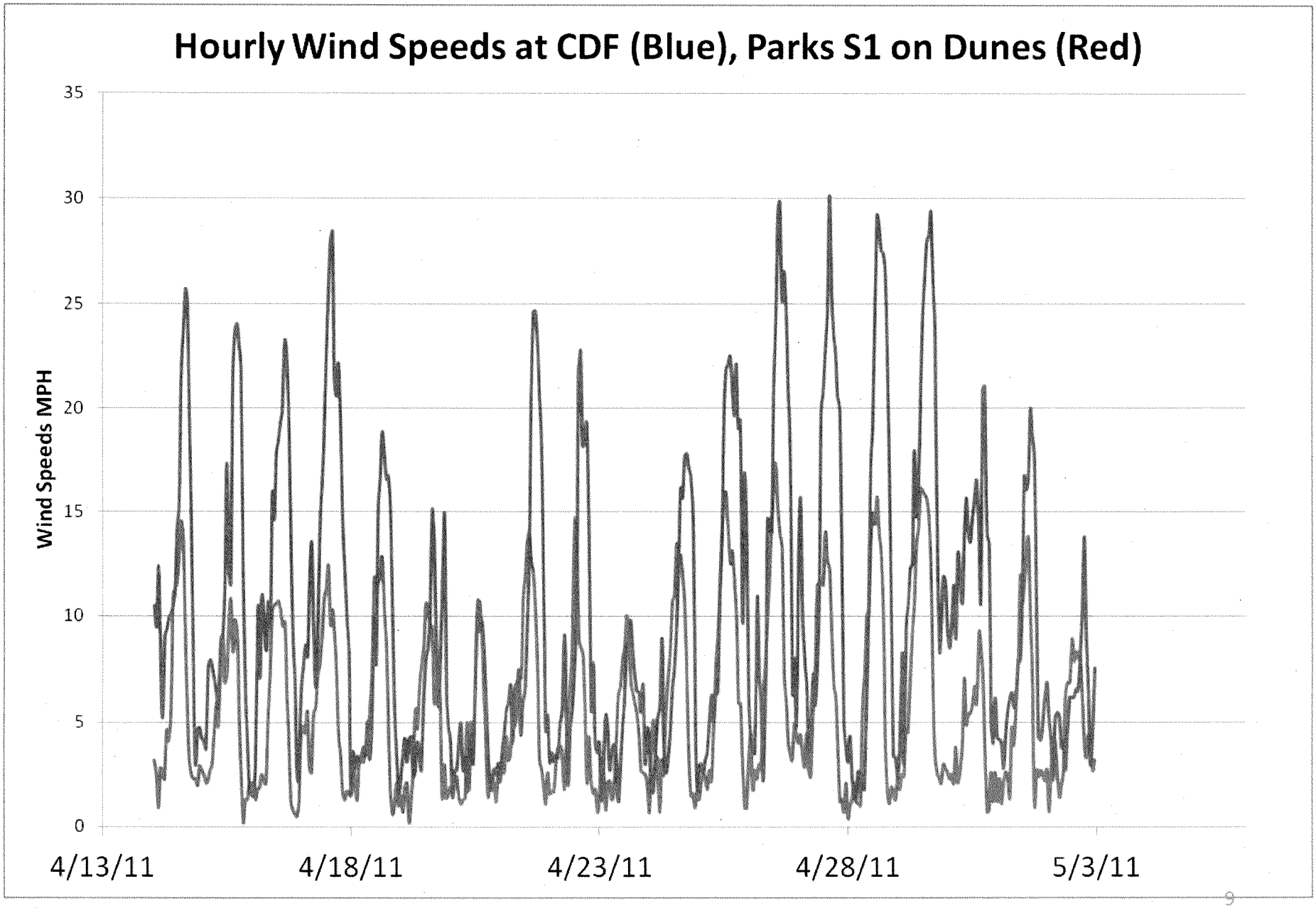
Blue arrow is wind direction



Northwest View from CDF toward Dunes
Note Tall Trees Blocking Wind

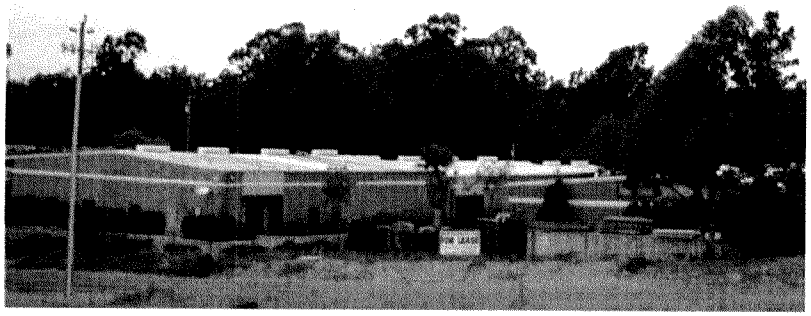
(Photo from State Air Resources Board web page describing CDF site)


Hourly Wind Speeds at CDF (Blue)
Wind Speeds MPH
35
30
25
20
15
10
5
0
4/13/11
4/18/11
4/23/11
4/28/11
5/3/11


Hourly Wind Speeds at CDF (Blue), Parks S1 on Dunes (Red)
Wind Speeds MPH
35
30
25
20
15
10
5
0
4/13/11
4/18/11
4/23/11
4/28/11
5/3/11

Trees effective at reducing wind

- It is clear that wind speeds are much higher on the dunes near ocean
- Phase 2 Study did ***not*** examine this possibility
- Wind speeds are 1.73 times higher at dunes on average than CDF

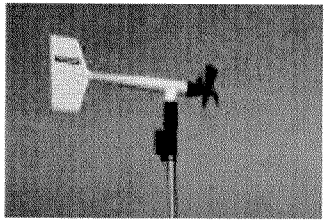


Desert Research Institute Wind Speeds

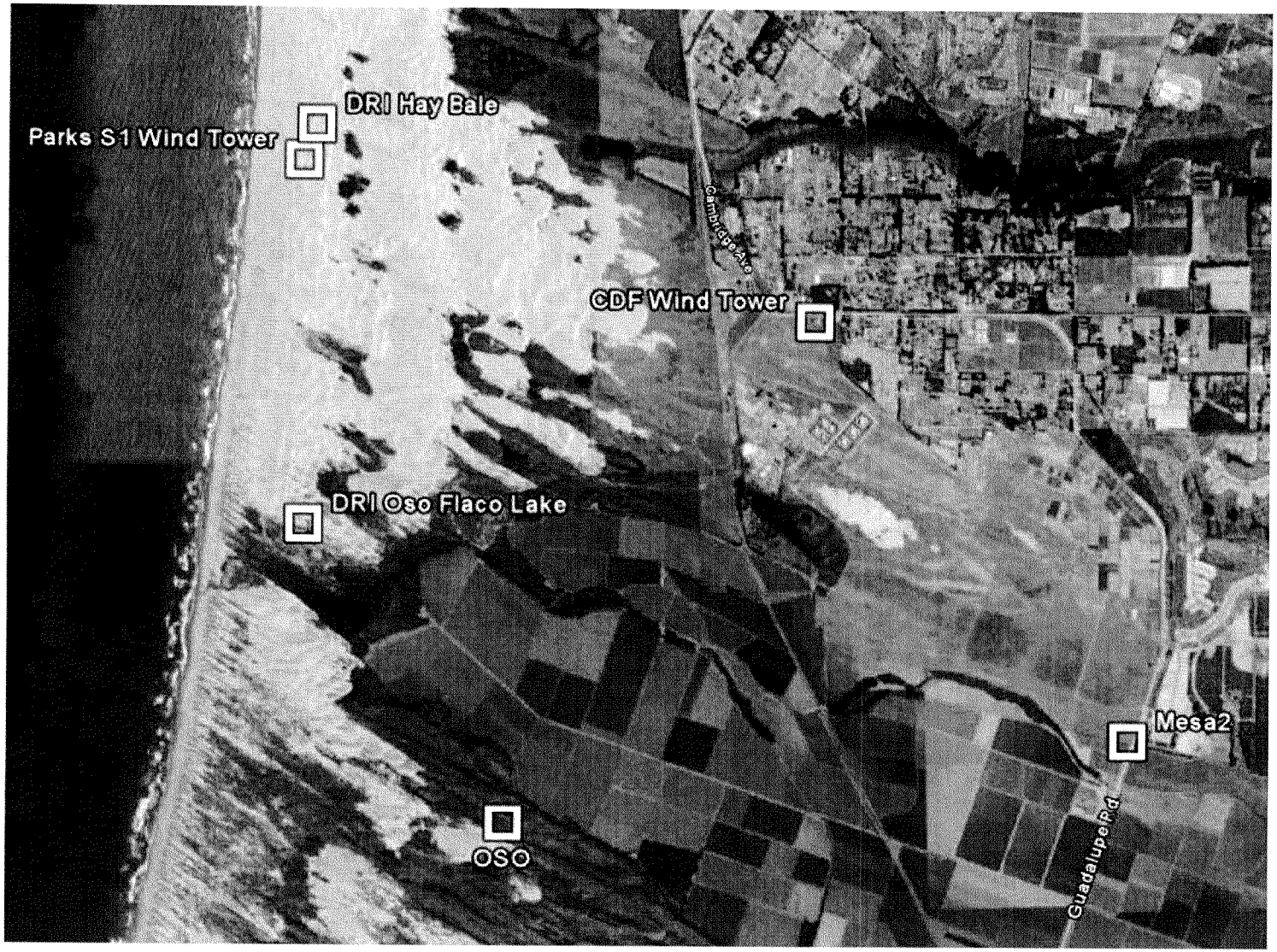
- DRI measured wind speeds at two locations on the dunes in their pilot project
  - Near Parks Wind Tower, ST1, at "hay bale" site
  - North of Oso Flaco Lake at "vegetation" site
- Both sites had similar wind speeds and were "very similar to that measured at the ST1 tower" (p. 22 DRI report: *Oceano Dunes Pilot Project*)
- Thus DRI agrees with Parks ST1 wind speeds

All dunes sites have higher speeds than CDF

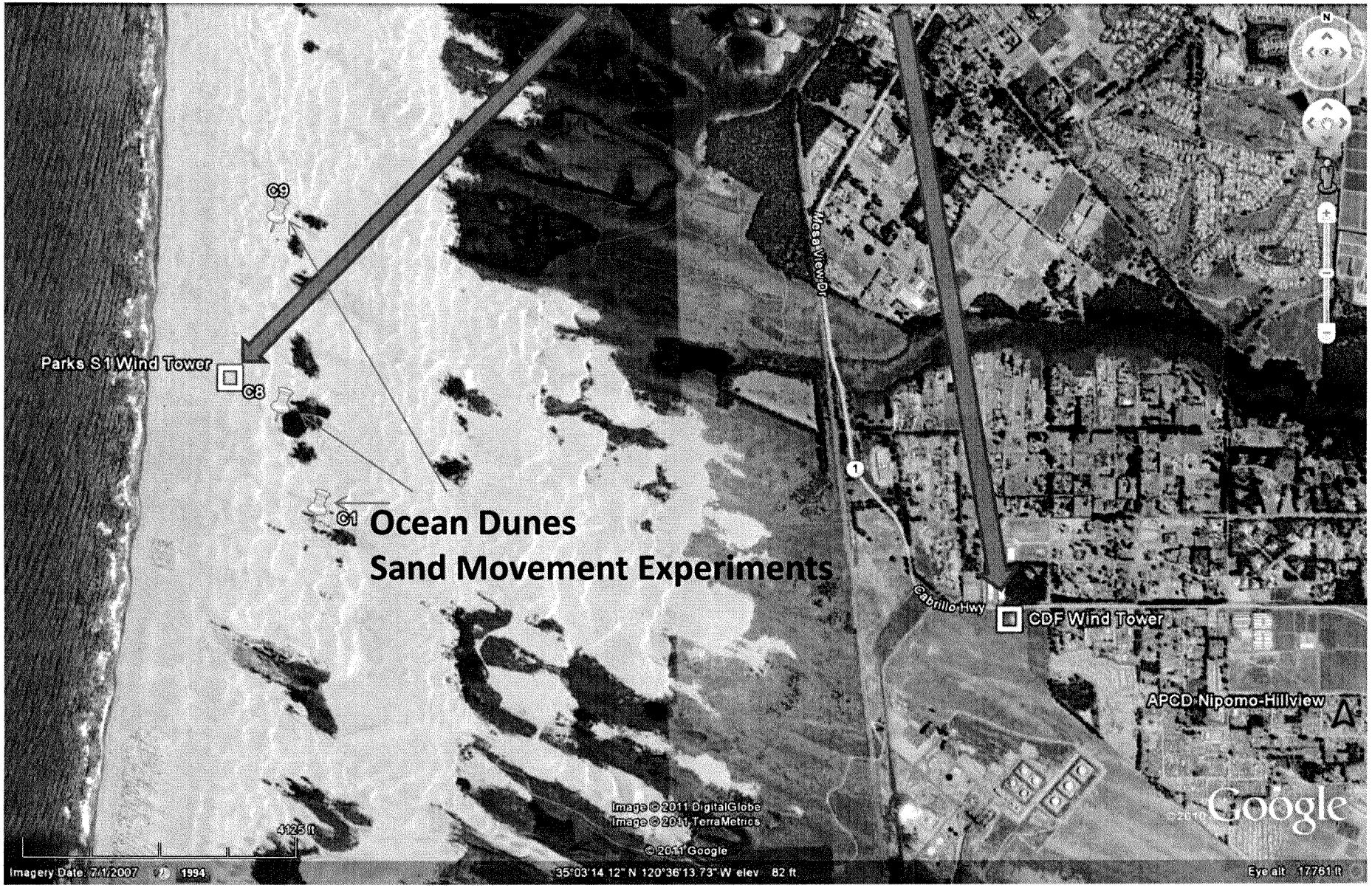
- Wind Speeds are 1.7 times higher at Parks ST1 tower on Dunes than at CDF
  - Oso wind speeds were also 1.7 times higher than CDF (p. 24 App B, Phase 2 Study, Oso is control site SE of Oso Flaco Lake)
- Thus four locations on dunes: Oso, DRI hay bale site, DRI vegetation site, and Parks ST1 tower all in agreement
- CDF is outlier with lower wind speeds
  - Even inland site, Mesa2, had higher speeds
- Affects several conclusions in the study



All Sites Agree Except CDF



Sand Movement Study Conducted near Parks Wind Tower



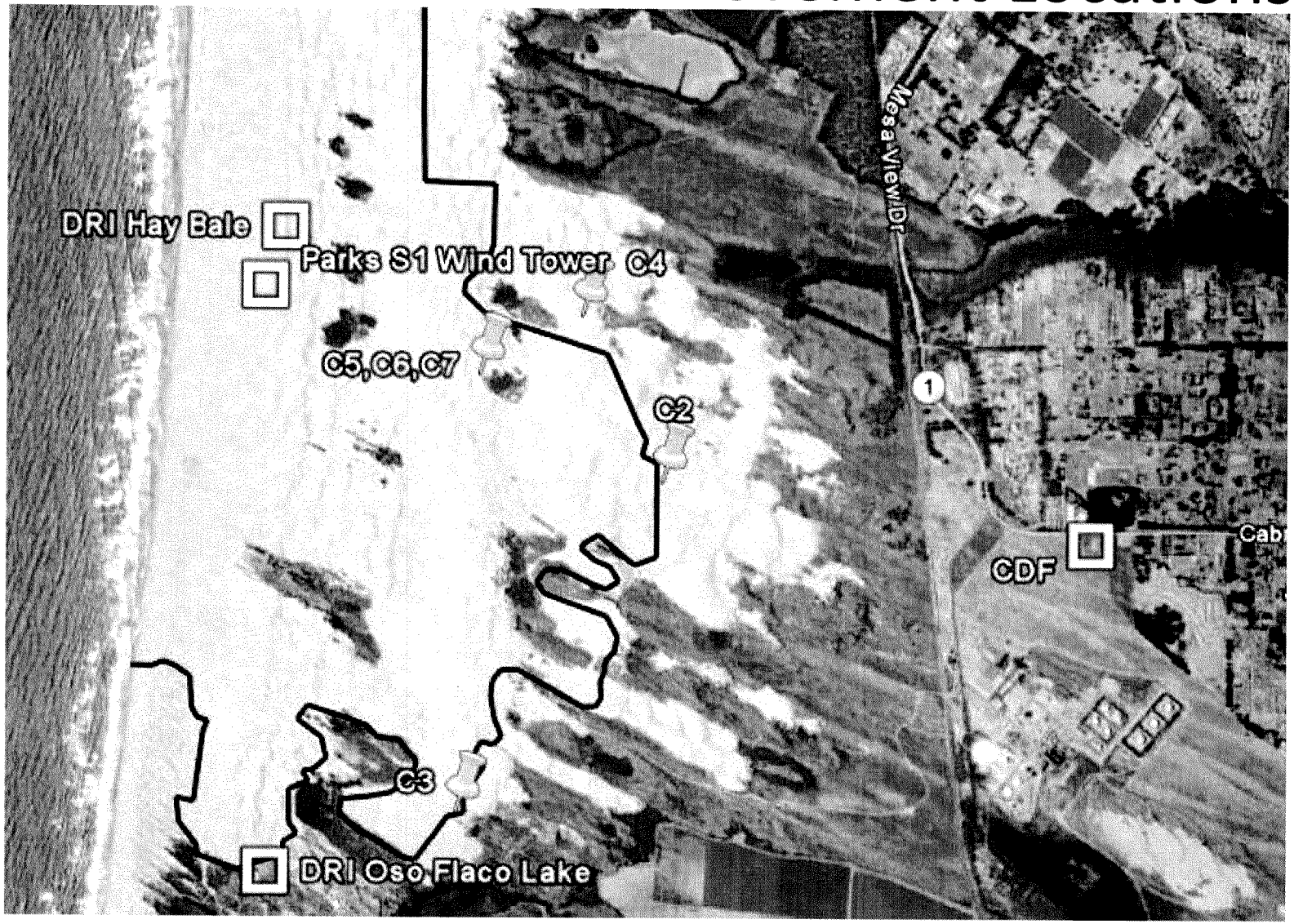
Sand Movement and Wind Speed

- Phase 2 Study measured threshold wind speed to move sand
  - 7.7 mph (CDF wind speeds) Ocean Dunes in riding area
  - 13.3 mph at natural area at Oso
- The Conclusion was that sand moves much easier in the riding area due to disturbance of the sand
- Study also found that more sand moved at Oso which was attributed to higher wind speeds at Oso natural area

Use Dunes Wind Speed

- Dunes wind speeds are about 1.73 times higher than CDF
- 1.73 x 7.7 mph = 13.3 mph threshold wind speed
- Identical to Oso natural area of 13.3 mph
- One of the conclusions of the study no longer valid
- Remember, more sand moved in the non riding area

Interior Dunes Sand Movement Locations



Interior Dunes Sites

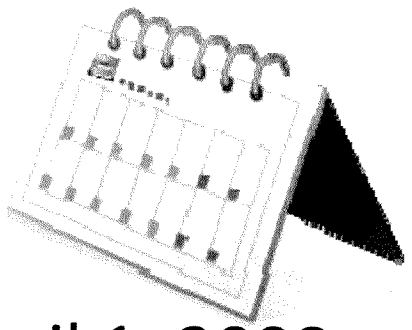
- Interior Dunes Threshold wind speeds were 10.6 mph
- If take average of two sites: CDF and Parks S1, wind speeds would be 35% higher than CDF
- 1.35 x 10.6mph = 14.3mph, higher than Oso, the control site
- Parks tried to locate another wind tower in the interior, but appealed to Coastal Commission

2. Does Riding Cause more PM10? (Slide from APCD Presentation)

Higher PM from dunes with OHV activity

- Higher average PM_{10} readings were measured on the 50 highest use days as compared to the 50 lowest use days in the SVRA
  - 25% increase in average PM10 comparing highest to lowest vehicle activity days
  - No difference between high and low vehicle activity days seen at Oso control site

Flawed Approach



- Relied upon 1 year = 13 months
- Study was supposedly one year long April 1, 2008 to March 31, 2009
- Compared three sites: Mesa2 and CDF (riding) vs Oso (natural, no riding)
- Data from Oso was not available until April 26, 2008
- However, March 2008 Data was used for Mesa2 and CDF – riding areas, before study year started

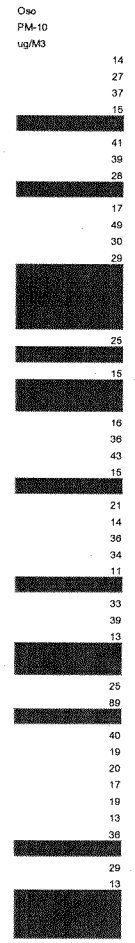
Study Found More PM10 More Vehicles

	Highest 50 days for vehicles	Lowest 50 days for vehicles	Highest days - Lowest days	Statistical Confidence of Data (1-P)
Average SVRA Vehicles	3738	380	3357	
Average Mesa2 PM10	32.1	24.2	7.9	96.4%
Average CDF PM10	37.1	31.7	5.4	87.8%
Average Oso PM10	27.7	28.8	-1.1	69.4%

Note average 25% ***higher*** PM10 in first column, Highest Use Days when 1 year = 13 months and Oso not available until late April (Peer reviewers of study did not know this was done)

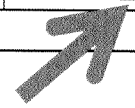
Oso Not Operating 13 of High 50 Days (from APCD Spreadsheet)

Date	MESA2 TEOM ug/M3	MESA2 TEOM # of valid hrs.	CDF TEOM ug/M3	CDF TEOM # of valid hrs.	Oso PM-10 ug/M3	Oso PM-10 # of valid hrs.	vehicles in SVRA
8/16/2008	9.9	24	16	24	14	24	5130
7/5/2008	18.5	24	20	24	27	24	5002
8/31/2008	28.5	24	36	24	37	24	4904
8/30/2008	12	24	19	24	15	24	4895
11/28/2008	12	24	12	24	[redacted]	0	4842
6/21/2008	45.1	24		0	41	24	4817
7/26/2008	44.3	24	58	24	39	24	4768
5/25/2008	11.4	24	23	24	28	24	4752
8/2/2008	20.5	24	26	24	[redacted]	0	4715
8/9/2008	15.8	24	21	24	17	24	4710
5/24/2008	19.4	24	29	24	49	24	4686
7/4/2008	75.2	24	83	24	30	24	4648
7/19/2008	23.5	24	26	24	29	24	4530
3/22/2008	64.9	24	92	24	[redacted]	0	4509



Errors in Formulas (APCD Spreadsheet)

	Highest 50 days for vehciles	Lowest 50 days for vehicles	Highest days - Lowest days	Statistical Confidence of Data (1-P)
Average SVRA Vehicles	3738	380	3357	
Average Mesa2 PM10	32.1	24.2	7.9	96.4%
Average CDF PM10	37.1	31.7	5.4	87.8%
Average Oso PM10	27.7	28.8	-1.1	69.4%



=AVERAGE(F$249:F$394)

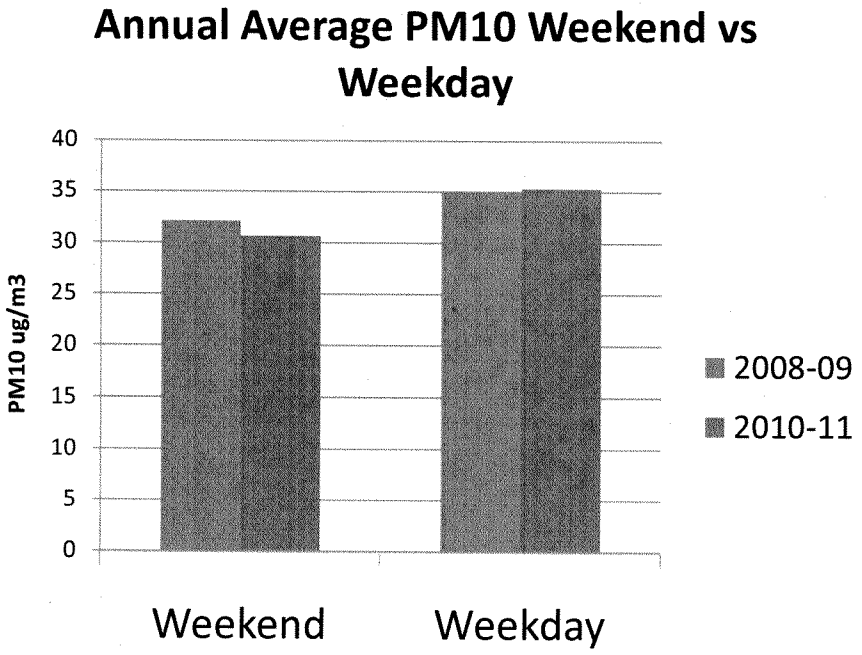
(Gives 146 days of data, not 50)

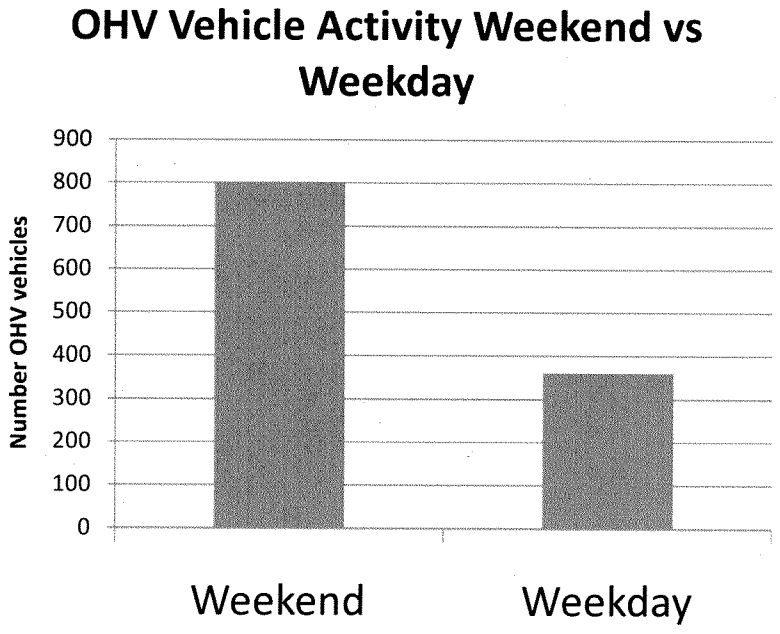
Best to use Data when all 3 Sites Available

	Highest 50 days for vehicles	Lowest 50 days for vehicles	Highest days - Lowest days	Statistical Confidence of Data (1-P)
Average SVRA Vehicles	3391	408	2983	
Average Mesa2 PM10	23.5	25.8	-2.3	71.7%
Average CDF PM10	28.6	31.1	-2.5	70.4%
Average Oso PM10	24.0	27.6	-3.6	84.3%

Now have 8% ***less*** PM10 on higher use days than low use days which is opposite Conclusion

Another Approach
Compare Weekend vs Weekday PM10 with Off Highway Vehicle Use



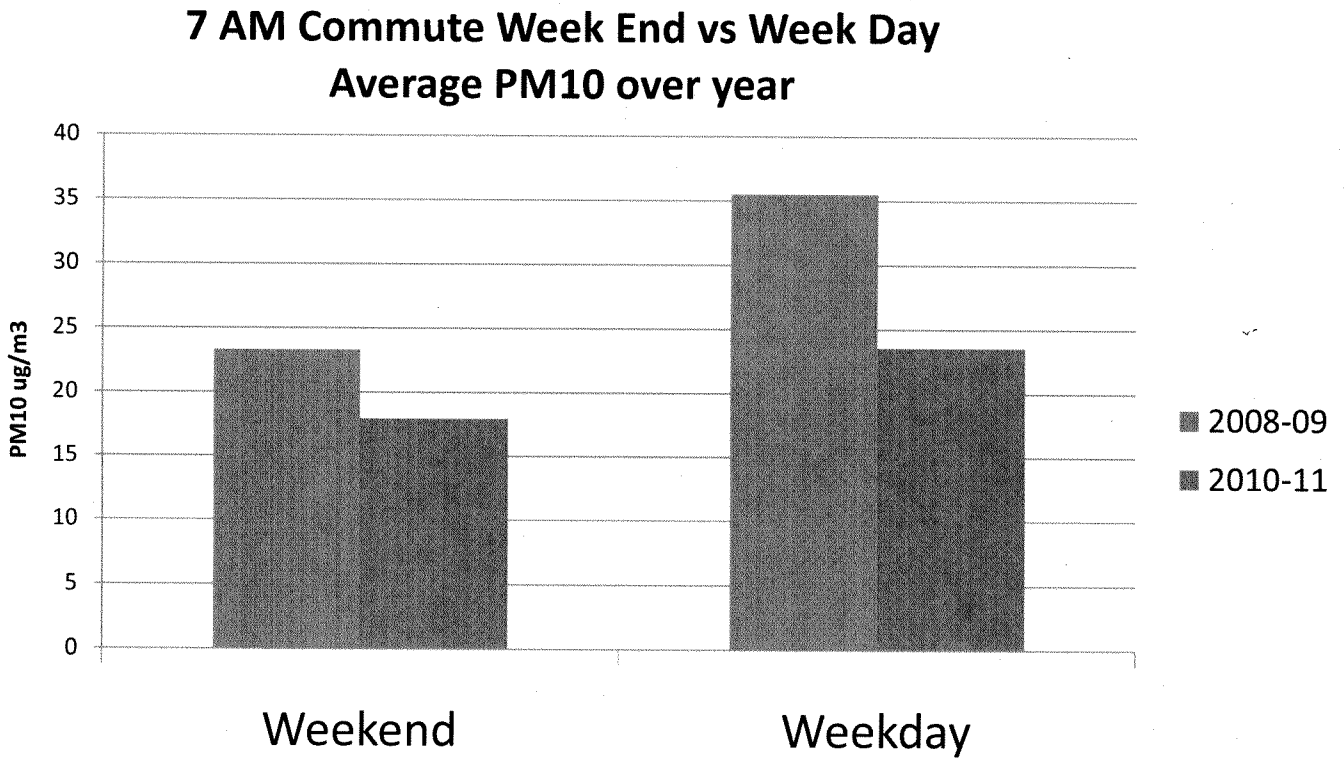


Less PM10 on weekend when have more OHV's

3. Does vehicle traffic cause PM10?

- The CDF (riding area) PM10 monitor is adjacent to Highway 1
- It is known that traffic contributes to PM10
- Study ignored traffic impact

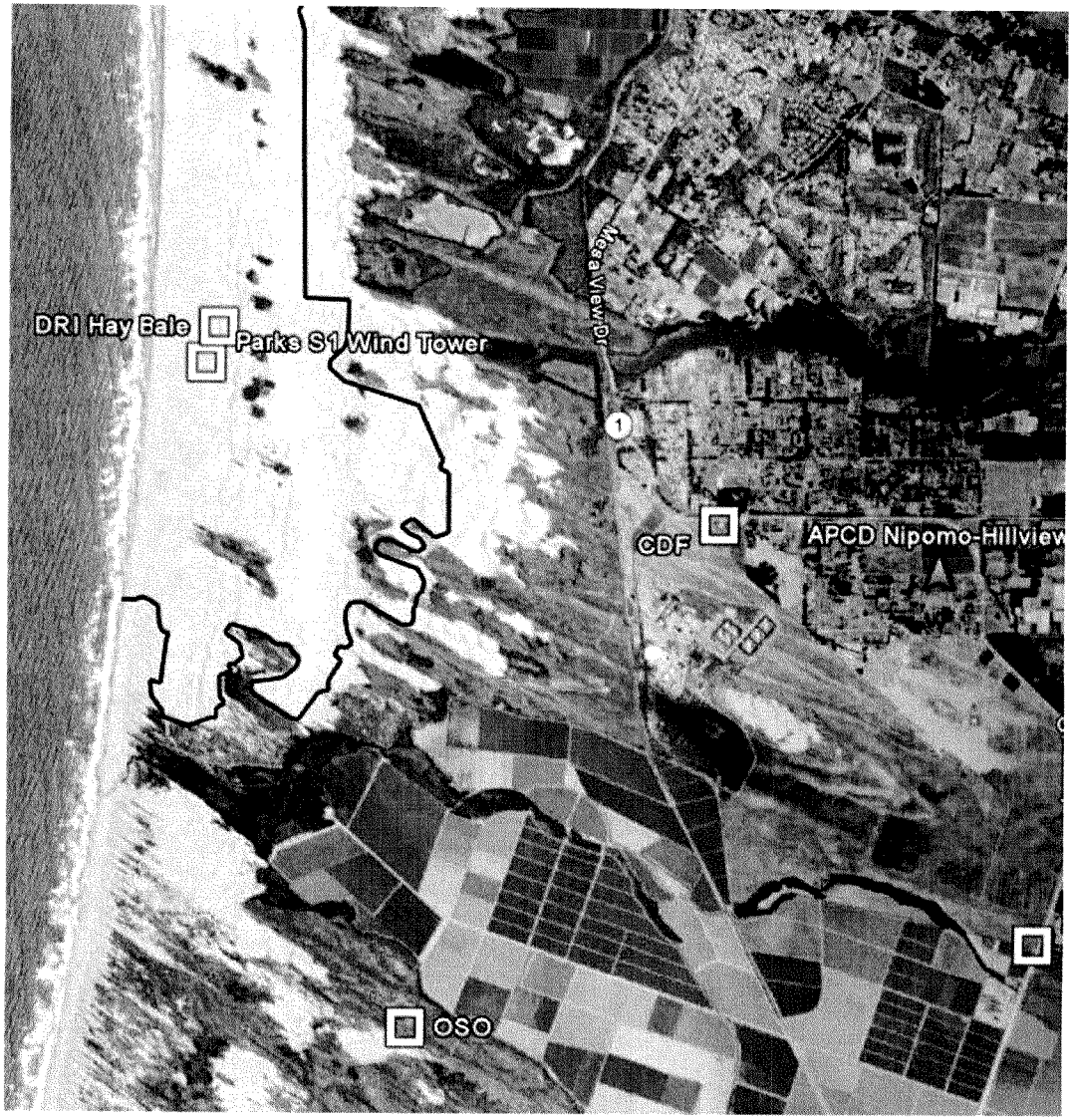
More PM10 on Weekdays may due to Highway 1 Commute Traffic



Probably Not Significant

- Probably small effect of vehicle traffic on Highway 1 on high PM10 episode days
- Shows why less PM10 on Weekends probably not related to dunes vehicle use

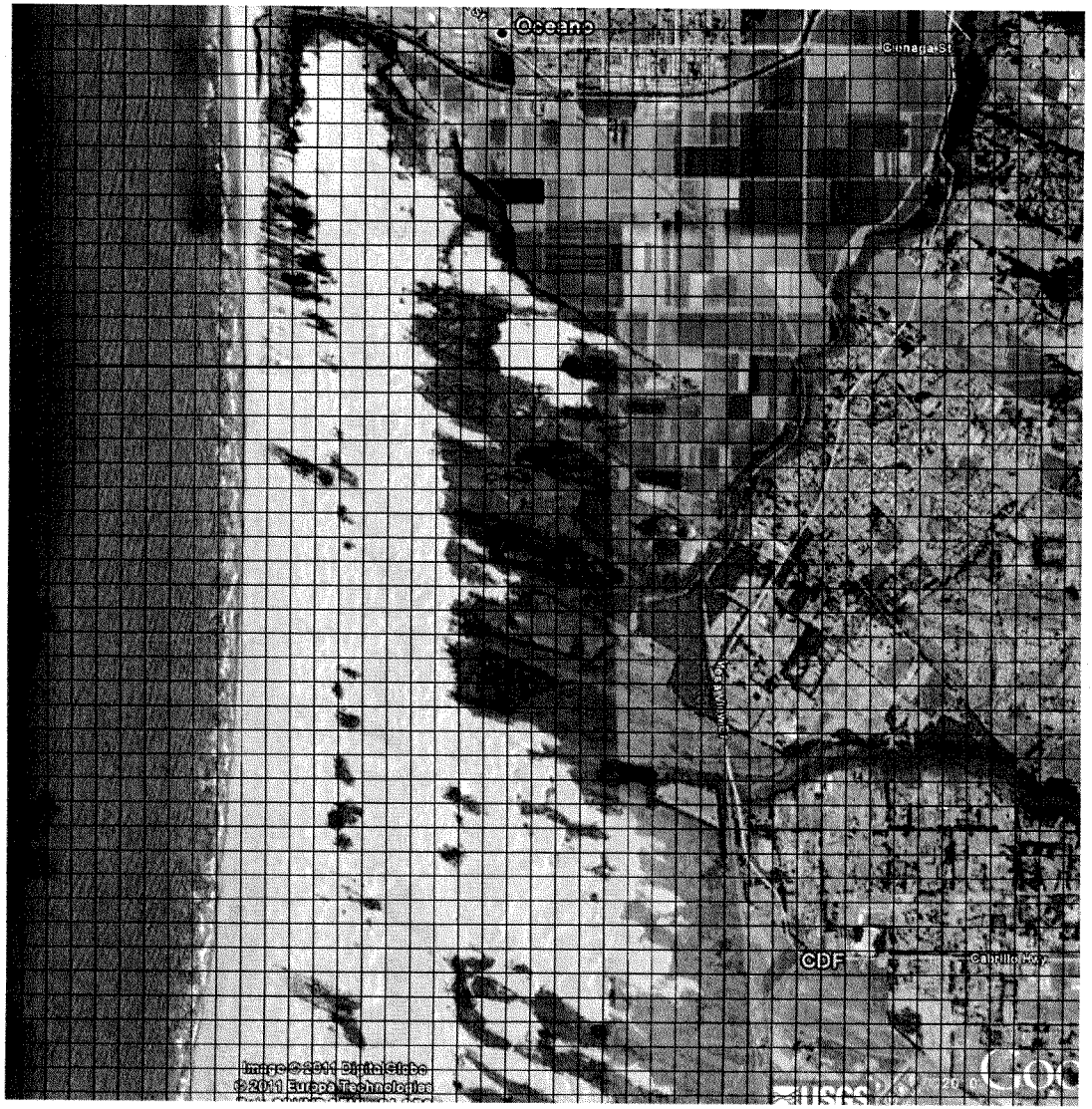
4. Size and Shapes of Sand Sheets



Different Sizes of Sand Sheets

- Study did not discuss the substantial differences in the shapes and sizes of sand sheets
- These differences would affect the amount of PM10 measured
- Much more PM10 found at CDF
- Tried a simple model to see effect of size/shape
- "Gaussian" Plume Dispersion Model

Divide area into Grid



Calculation Showed Higher PM10 at CDF

- About 60% higher PM10 at CDF vs Oso from this simple model (do not quote this value, it only shows that size and shape are important)
- The study should have considered the substantial differences between CDF (riding) and Oso (natural)
- Instead, used higher PM10 at CDF to show that vehicles cause more PM10

There are significant Problems with Phase 2 Study

- We must get the science right if we are going to protect public health and safety
- Rule should not be passed until these and other issues are addressed
- Parks is likely to challenge rule in court due to problems with Study
- Better Choice is to work with Parks to proceed on Best Management Practices to Reduce PM10

RESPONSE TO PISMO BEACH COMMENT LETTER

The following responses to the three points raised in the Pismo Beach comment letter also address the attached power point presentation prepared by Councilmember Waage.

1) ***Reliance on Wind Speeds Measured at the CDF Station***

Response: The wind analysis presented in the attachment to the letter uses data from two locations on the dunes to conclude that, because they show similar winds and are higher than those measured at our CDF site, they are more representative of winds across the dunes and would be more appropriate to use in the sand flux analysis. This assumption ignores other data that shows wind speeds similar to CDF on the coast to the north at Grover Beach. More importantly, the S1 meteorological site (and DRI sensor at hay bale site) is located in a flat beach area ¼ mile from the shoreline and is measuring winds directly off the ocean before encountering any significant terrain.

Wind speeds decrease with distance from the ocean due to increased friction over the land surface. They are also significantly altered as they encounter terrain features, such as sand dunes. All sand flux sensors used in the Phase 2 Study were located further from shore than S1, and in complex terrain with significant terrain features upwind. The 3 "beach" threshold sand flux sensors were about ½ mile from shore, while the inland sensor locations ranged from 1 to 1.5 miles from shore.

Mr. Waage's analysis also compares the S1 and DRI vegetation site winds to those measured at Oso during the Phase 2 study and concludes that the winds at all 3 sites are similar and there is no difference in sand flux between the riding area and the Oso control site. This analysis ignores several important facts. The Oso wind measurement site was located in complex terrain nearly a mile from the ocean and about ½ mile inland from where the Oso sand flux measurements were taken. In addition, the Oso sand flux sensor was located at a significantly higher elevation than the Oso wind sensor on a wide open sand sheet with no obstructions in the vicinity. All these factors combined definitively assure that the winds measured at the Oso site were lower than the actual winds occurring at the Oso sand flux sensor site where the threshold measurements were made.

In hindsight, we now know the only way to accurately measure sand flux is to measure winds at the exact location that sand flux is being measured due to the ability of complex terrain and distance from shore to create micro scale winds that influence sand movement in a specific location. There is no way to apply such measurements after the fact. Mr. Waage contends this acknowledgement affects many conclusions of the study. That is incorrect; it affects only the conclusions in the sand flux in the Phase 2 study.

It is not necessary to rely on our sand flux study to demonstrate that disturbed soil is more easily moved by wind and creates greater emissions than undisturbed soil. The literature is replete with this same finding from many different researchers. A review of applicable literature clearly shows that disturbed sand/soil has a significantly greater potential for windblown dust emissions than undisturbed sand/soil. Many algorithms used to estimate PM emissions from open areas include a factor that increases the emissions estimate if the soil is disturbed due to the commonly understood fact that disturbed sand/soil causes greater windblown dust emissions than undisturbed sand/soil.

2) ***Effect of More Off Highway Vehicle (OHV) Traffic and PM10***

Response: This comment gives the misleading impression that what we are calculating is the total PM10 caused by OHV activity, which is incorrect. The comparison of high vehicle activity days to low vehicle activity days analyzes only the direct PM emissions from by dust created by each OHV as they drive across the dunes on a given day; it does not address the far greater indirect impact from the cumulative soil disturbance caused by OHV activity on the dunes making the sand particles more susceptible to wind entrainment than they would be without that activity. The District has always maintained, as stated in the Phase 2 executive summary, that these secondary emissions caused by OHV activity are the major factor responsible for the high PM levels measured downwind from the SVRA.

The comment is correct that the data presented in the Phase 2 report contained a minor error: staff miscounted the rows of data in the spreadsheet and used a 50 row count in the calculation rather the 51 rows actually present. Correcting this error does not significantly change the overall results, as shown below:

Table Presented in Phase 2 Report with Minor Error

	Highest 50 days for vehicles	Lowest 50 days for vehicles	Highest days - Lowest days	Statistical Confidence of Data (1-P)
Average SVRA Vehicles	3738	380	3357	
Average Mesa2 PM_{10}	32.1	24.2	7.9	96.4%
Average CDF PM_{10}	37.1	31.7	5.4	87.8%
Average Oso PM_{10}	27.7	28.8	-1.1	69.4%

Corrected Table

	Highest 50 days for vehicles	Lowest 50 days for vehicles	Highest days - Lowest days	Statistical Confidence of Data (1-P)
Average SVRA Vehicles	3756	379	3377	
Average Mesa2 PM10	32.2	24.0	8.2	96.7%
Average CDF PM10	37.3	31.3	6.0	87.1%
Average Oso PM10	27.7	30.2	-2.5	69.6%

Thirteen rather than twelve months of data were used simply to increase the sample size for the calculation. The extra month of data was gathered by the same instruments using the same quality control/quality assurance procedures as the other 12 months and is just as valid in every way. Unfortunately, that analysis was performed some time before the publication of the final report, and staff inadvertently forgot to identify the extra month in the write-up.

Mr. Waage's analysis also makes an issue of the missing data from the Oso site. This is insignificant for two reasons: 1) each site's calculation is made using only data from that site, so the missing Oso data in no way influences the calculations made for the other sites; and 2) the Oso data should not have been included in the original analysis because there is no vehicle activity upwind of the Oso site, so the result does not provide any meaningful information. The re-analysis performed by Mr. Waage substantially reduced the sample size by using only days when all three sites had data, resulting in a conclusion with no statistical significance.

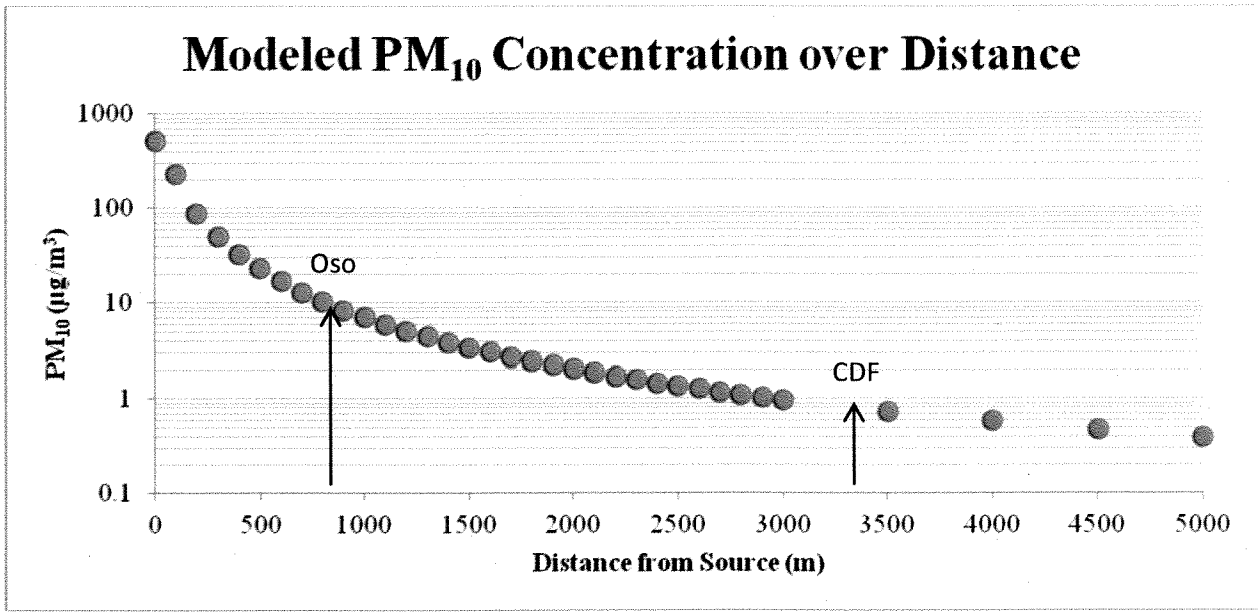
The District stands by its corrected analysis, which shows a statistically significant average increase of about 34% in PM10 levels at Mesa 2 on the 50 highest visitation days compared to the 50 lowest visitation days. Nonetheless, as mentioned above, the District believes the direct emissions from OHV activity are likely small compared to the secondary emissions caused by the OHV activity disturbing the soil and making it more susceptible to wind entrainment.

3) Different Sizes and Shapes of Sand Dunes in the Riding Area and Control Area

Response: Mr. Waage presents the results of what appears to be a simplistic Guassian modeling calculation to suggest that the difference in size of the sand sheet upwind of CDF compared to the sand sheet upwind could be solely responsible for the difference in PM10 concentrations measured at CDF compared to Oso. The District has always agreed that the greater sand sheet size upwind of Oso/Mesa2 would result in higher concentrations if all

other factors are equal. Unfortunately, Mr. Waage's analysis focuses on this one difference between the sites but ignores other significant differences.

Chief among the other differences is that the Oso monitoring site was located much closer to the open sand emission source it was measuring than CDF. The Oso site was about 725 meters from the edge of the upwind sandsheet it was measuring, while CDF is about 3300 meters from the edge of the SVRA riding area . In the comments submitted by Bluescape for Friends of the Dunes, they performed a screening model run to demonstrate the decrease in PM10 concentrations that occur with distance from the source; a copy of the Bluescape model results with the Oso and CDF distances added is shown below. Note that the resulting graph has a logarithmic scale.



Although Mr. Waage provides no details on assumptions he used in performing his Guassian model analysis, he asserts that a 60% increase in PM10 concentration would occur at CDF compared to Oso just due to the difference in size of the upwind sand sheets, if all other factors were equal. As shown in the model above, however, the distance from the source to the monitor would cause the PM10 concentrations at Oso to be 10 times higher than the PM10 concentrations at CDF, if all other factors were equal.

The District has acknowledged all along that there are clear differences between Oso and the other monitoring sites, but we believe we have been very conservative in saying that those differences likely cancel each other out. The graph above strongly supports the conservative nature of that belief.

Suzanne Rynders M.D., M.P.H.
1298, Black Sage Circle.
NIPOMO CA 93444

11. 1. 11

Role 1001 Comments
Air Pollution Control District
3433 Roberto Court
San Luis Obispo CA 93401

Re: Coastal Dunes Dust Control Draft Rule 1001
Meeting Date: 11. 16. 2011

I am a resident of the Nipomo Mesa, and strongly support this dust control rule.

I also would like to second the informative letter written by Pamela Dunlop (see enclosed), as I could not have put it better myself.

We both feel very strongly that NOW IS THE TIME.

PLEASE PAY ATTENTION TO THE RESIDENTS OF THE MESA AND HELP PROTECT THE ENVIRONMENT IN WHICH WE LIVE.

Sincerely,

Suzanne Rynders

Suzanne Rynders.

Bill Denneen
1040 Cielo Lane,
Nipomo, CA 93444 805-929-5647
<BDenneen@KCBX.net>

Bill, Steve, Ethan and Devon Denneen,
May 2007 on Guadalupe Beach and
Triathalon in Santa Maria.

SANTA CLARITA CA 9

RECEIVED

OCT 31 2011

AIR POLLUTION CONTROL DIST
SAN LUIS OBISPO COUNTY

RULE 1001

I live on Nipomo Mesa (downwind to the ODSVRA). I have terrible lung congestion. The air coming from the ODSVRA has 10 micro particles — clean the air ASAP, Bill

RULE 1001
APCD
3433 ROBERTO COURT
SLO
CA
93401

From: "Jan Owens-Martinez" <owens-martinez@att.net>
To: <info@slocleanair.org>
Date: 10/28/2011 11:21 PM
Subject: Rule 1001

We are in favor of the adoption of Rule 1001.

Jan & Steve Martinez
Arroyo Grande, CA 93420

owens-martinez@att.net

From: Ahmad Nafisi <anafisi@gmail.com>
To: info@slocleanair.org
Date: 10/28/2011 11:22 PM
Subject: We support the adoption of the Fugitive Dust Rule Measure.

Dear Air Pollution Control District Board,

We are writing this letter to support the adoption of the Fugitive Dust Rule Measure. We are very worried about the health effects of the fine dust particle in the Mesa regions where we live. The Fugitive Dust Rule measure is a safeguard to protect the public health against PM10 pollution.

We hope that you do the right thing and vote to approve this measure.

Best Regards,

Ahmad and Mitra Nafisi

Cypress Ridge Residents.

From: nerval27@verizon.net
To: info@slocleanair.org
Date: 10/29/2011 09:43 AM
Subject: clean air

My ame is Peter Lewis. I am a resident of Nipomo in support of the claen air act. Pleaseee adopt it . I have been suffering from a serious sinus infection that both I and my doctor believe is the result of the rampant minus10 micron dust that is rampant over our area.

Peter Lewis
610 Masters Circle
Nipomo Cal 93444

From: Karen Daniel <karendan99@yahoo.com>
To: "info@slocleanair.org" <info@slocleanair.org>
Date: 10/29/2011 10:48 AM
Subject: clean air

Please adopt the clean air measure regarding the dunes.

Karen and Bob Daniel
Nipomo

From: Arlene Versaw <arleneversaw@gmail.com>
To: info@slocleanair.org
Date: 10/29/2011 11:57 AM
Subject: Comment on Dust Rule

Gentlemen and Gentlewomen:

The pathway to adoption of the APCD's Coastal Dunes Dust Control Draft Rule 1001 is clear.

- The fact that we are the only place on the California coast, much of which is dunes, with exceedences of state PM10 standards (source: California Air Resource Board maps), proves the PM10 dust that threatens our health is not a "natural phenomenon."

- The questions about the "science" should hold no sway since the APCD study and its conclusions were already validated by six peer reviews, by a diverse and respected group of scientists with expertise in the field, including the U.S. EPA. The California Air Resources Board, Santa Barbara County APCD and California State Parks, among others, were involved in designing the study in question. Such challenges therefore can be construed as no more than empty attacks based on self-interest.

- The science about the dangers of PM10 are also clear. The EPA and American Lung Association deem it a health risk with potential effects as dire as premature death from short-term exposure.

- Fears about economic impact, which should always be a secondary concern AFTER public health, are overblown. Pismo Beach screamed it would become a desert when it was decided to ban vehicles from its beach. It clearly didn't. Other uses would replace the current EVEN IF the park were impacted, which it need not be.

- The APCD Board can do its job of protecting public health and welfare without closing the off-road park, according to Desert Research Intitute's proposed solutions, and the comment of the chief officer of the State Parks Off-Road Division: Tribune article on the OHM Vehicle Commission meeting - Phil Jenkins "You could do that (plant more vegetation and install hay bales to buffer the impact) without impacting the OHV riding area."

In the face of these arguments, a vote against the Rule's adoption would be misguided at best. Please do the right thing. As the Tribune editorial said: "Nipomo Mesa residences have waited long enough". We cannot continue to violate state air quality standards to the detriment of public health.

Arlene Versaw

From: "hdoutla@aol.com" <hdoutla@aol.com>
To: <info@slocleanair.org>
Date: 10/29/2011 11:58 AM
Subject: Coastal Dunes Dust Control Draft Rule

Dear APCD,

I am writing to express my support for the Coastal Dunes Dust Control Draft Rule, especially since local city councils have adopted measures against it. The rule is the only proposal on the horizon that is likely to cause the OHV Division of State Parks to do anything about the plume of unhealthful PM10 launched from the riding areas toward the Nipomo Mesa on windy days. In fact, it is sad that the Board of Supervisors has taken no responsibility for public safety on this issue and that enforcement will take so long even with adoption of this rule. They are turning a blind eye to your studies and to the county's Health Commission.

In public forums, the OHV Division of State Parks always states that they will cooperate to mitigate the air pollution problem while also stating they do not feel they are the cause, dismissing the peer-reviewed Phase II study. It is the latter view that has prevailed in their past actions and is likely to prevail indefinitely without enforcement. In fact, monitoring equipment is unnecessary, as it is easy to see where the plume originates, where its margins are, and where there is no "tan cloud" with just the naked eye, as it is that thick. Unlike other non-OHV state parks, they reject any reasonable limits on the density of vehicles or visitors, much less the volume of off-roading.

There are many ways people can enjoy the Dunes, even with vehicles and RV's, without the creation of this dust plume. The economic impact of change is unlikely to be as high as the predictions by forecasters chosen by State Parks. In fact, if vehicles were banned on the beach, new tourist opportunities would eventually bring families to the Dunes, a National Natural Landmark, without the threat of being overrun by vehicles. State Parks OHV figures never include the negative financial impacts to local hospitals, county roads, law enforcement, etc. I am told by those who were here twenty years ago that the plume did not exist then. With the advent of quads and a raft of new off-road vehicles, the volume of riding activity has increased exponentially since then, adding credence to the view that riding, and not just "naturally blowing sand," is the cause of the PM10 exceeding unhealthful limits now. Please take this action so that if I am at home during the ninety or more afternoons annually of unhealthful PM levels, I do not have to seal myself indoors with the windows closed to avoid breathing the unhealthful dust the settles all over the interior of my home.

Respectfully submitted,

Howard Dolinsky, MD
Nipomo Mesa resident

From: Terry Sweetland <winetime@att.net>
To: info@slocleanair.org
Cc: Nell Langford <drnell@thegrid.net>
Date: 10/29/2011 12:52 PM
Subject: Rule 1001

I am writing to advise and inform your office of the constant problem of dust from Pier Ave.

I live at 362 McCarthy Ave, which is south of Pier Ave. The wind blows across at an angle from the West North West to the East South East almost every day. The tracked sand from the beach which is dragged onto Pier Ave. is picked up by the cars and trucks pulling trailers and swirled into vortexes which are blown over to McCarthy Ave. Our house and cars as well as plants are covered with dust. It is an impossible task to keep washing the windows and my car. My wife and I have developed a dry cough and just last Saturday my neighbor at 357 McCarthy has complained to me about a new cough that she has developed since she moved in to that house.

I suggested speed bumps to slow the traffic down by Andy Zilke would have nothing of it. He gave the impression that the comfort of his OHV customers we paramount to everything else.

My only other suggestion would be to allow the only exit to be at Grand. Keep Pier open for entrance to the OHV. This would stop the sand and decrease the dust to the residents of Oceano.

Terry Sweetland

362 McCarthy Ave.

Oceano, CA 93445

805 473 4913

From: "Mike Eisenhard" <meisenhard@sbcglobal.net>
To: <info@slocleanair.org>
Date: 10/29/2011 03:33 PM
Subject: Fugitive Dust Rule - Must be passed and implemented!

We are residents on the Mesa, and have been anxiously waiting for our elected representatives to take action to reduce the PM10 carcinogenic pollution in this area, which has been proven by an independent expert in this field to be coming from the Oceania dunes recreational area, specifically by the sand particles being kicked up by the off road vehicles riding on the dunes.

We were glad to see at least some action being taken with the proposed Fugitive Dust Rule. However, there still seems to be a vocal minority who refuse to accept the conclusions of the independent, scientific experts that conducted the extensive studies that proved the pollution was caused by the vehicles riding on the dunes. It is blatantly obvious that these folks are willing to put their monetary interests ahead of the health, safety and lives of the people living in this area, including children, pregnant women, elderly and infirm.

They are raising false alarms of fear by saying that implementation of the Fugitive Dust Rule will have a negative impact on the economy. That is pure rubbish. The Fugitive Dust Rule is not preventing the vehicles from riding on the dunes. It is requiring only that the State Parks department implement measures to reduce the PM10 pollution on those days that it exceeds safe levels. This can be done with vegetation and hay bales, and on those few really severe days may require reducing (not eliminating) the amount of vehicles on the dunes.

The organizations trying to kill the Fugitive Dust Rule are using fear tactics and intimidation to squash this rule. I guess that they are fearful that implementation of the Fugitive Dust Rule will completely validate that the sole cause of the deadly PM10 pollution is from the vehicle activity on the dunes, which could conceivably lead to further dune riding limitations. While this may in fact come to be, it would only happen after many years of study, discussions and compromises, and it so, it would clearly be the correct and humane thing to do.

Additionally, their claim that a reduction/elimination of the dune riding would have a negative impact on the local economy is not supported. Simply look at any other coastal community, like Santa Barbara, Santa Cruz, Carmel/Monterey, Half Moon Bay, etc. and you will see even more vibrant economic activity, yet NO vehicles on the beaches or dunes. Those locations are even greater tourist destinations than Pismo/Oceano - because while there are certainly many people who would like to ride their off road vehicles on the dunes, there are many, many more who would rather come to a nice, clean beach town to walk and play on the beach without fear of getting run over, or stepping in the waste dumped by some camper, or breathing the carcinogenic pollutants emitted by the off road vehicles.

The bottom line today is: (1) we have verifiable proof and documented, independent expert analysis that the PM10 pollution on the Dunes is caused by the vehicles riding on the dunes. (2) The State Parks department has, grudgingly, agreed to implement measures to reduce this pollution; (3) the State Parks department has a history of saying one thing, and doing another, especially when it comes to the Oceana/Pismo area - their history shows they will stall and ignore any rules or requirements that might reduce their revenue, even if it means the destruction of local residents property, their health, and in this case, the possibility of causing cancer/death to residents; (4) the Fugitive Dust Rule has been worked out and was supposedly agreed to by the Parks department, and doesn't require them to cease any of the dunes operations - just to implement measures to reduce the pollution; (5) if there are no enforcement and penalty measures included in such a rule, the State Parks department will simply ignore it.

As your constituents, we are asking you to do the right thing for the citizens of this county and pass the Fugitive Dust Rule at the November 16 meeting. Do not allow economic interests to overrule the health, safety and lives of the people living in harms way of Oceano Dunes.

Thanks you!

Mike Eisenhard
meisenhard@sbcglobal.net

From: "Suzanne Jobling" <skj@peacebythesea.com>
To: <info@slocleanair.org>
Date: 10/29/2011 03:49 PM
Subject: Coastal Dunes Dust Control Draft Rule 1001

ATTENTION: Air Pollution Control District

As a resident of the Cypress Ridge Community I find it imperative that the board vote yes for the adoption of the Coastal Dunes Dust Control Draft Rule 1001. The adoption of this rule is critical to the health and welfare of the residents of the Nipomo Mesa. In particular, the health of our children will be adversely affected if this rule is not adopted.

Suzanne Jobling
Cypress Ridge

From: "Philip M. Klasky" <pklasky@igc.org>
To: info@slocleanair.org
Date: 10/29/2011 06:15 PM
Subject: Comments on Rule 1001

Dear Sir/Madam:

I am writing in support of the adoption of Coastal Dunes Draft Rule 1001 to address the growing problem of air polluiton and its adverse impacts of residents of the area caused by off-road vehicle (ORV) activity.

It is irresponsible for the Air Pollution Control Board to continue to ignore a situation where the dust caused by ORVs is allowed to further increase air pollution. Studies have shown that PM10, 5 and 2.5 and smaller particles generated through ORV activity lacerate the cells in our lungs and lead to a raft of respiratory diseases including lung cancer, emphaysema, asthma and heart disease.

There has been a great deal of opposition to the rule by ORV business interests and organized ORV recreational associations who have political influence due to their deep pockets. I urge the Board to rely on science rather than special interests to make the determination about this rule.

Protect the public's health, the health of our children and the quality of our air and adopt the draft rule.

Sincerely,

Philip M. Klasky
Community ORV Watch
www.orvwatch.com

From: elquadrillo@charter.net
To: info@slocleanair.org
Date: 10/30/2011 07:11 AM
Subject: San Luis Obispo County Fugitive Dust Rule--for action November 16th

Hello!

I am supportive of the general contours of the Rule so far as it goes, however I am wondering why it is restricted to one area of the County and one issue. I remember that the discussion leading up to the creation of this Rule implied that the Rule would be applicable in, and protective of, the entire County. The North County interior, for example, is affected by considerable amounts of quarrying and the transportation of quarried materials, with a large number of future quarries proposed. We are as much in need of this Rule as anyone else.

In bringing this up, I am not in any way urging a slowdown in the protection of breathers in the South County from the source that is currently plaguing them, but at the very least, the APCD meeting of November 16th needs to include ACTION on a TIMELINE for the creation and adoption of a Fugitive Dust Rule that will protect ALL of the County.

Relative to the Oceano Dunes, I wonder why hay is even being considered as a remedy. Not only it is substantially less effective at reducing the pollutants than revegetation, but it risks introduction of incompatible non-native seeds into unique habitats.

Thank you for your attention, Eric

From: Bill Denneen <bdenneen@kcbx.net>
To: "Concerned Citizens for Clean Air" <ccca10@charter.net>
Cc: <info@slocleanair.org>
Date: 10/30/2011 07:47 AM
Subject: Re: Coastal Dunes Dust Control Draft Rule 1001

My letter which might get published:

Editor,
The Oceano Community Service District voted against cleaning the air going from their area to Nipomo because vehicle driving on the beach makes money. Your desire for money gives
us living on the mesa polluted air. We must kick our addiction to vehicles and the place to start is to stop driving for so called "recreation". We need to walk and listen to waves---for our own health and sanity.

Bill Denneen, 1040 Cielo Lane, Nipomo, 93444 929-3647
.....
Coastal Dunes Dust Control Draft Rule 1001:
Air Pollution Control District is taking public comment on the rule until November 2. Comments received by that date will be included in the packet that goes to the Air Pollution Control District Board, which will vote on adopting the rule on November 16. Comments may influence how Board
members vote. It will take seven of 12 Board members for adoption and the vote is not assured, particularly with heavy lobbying (e.g. Kevin P. Rice) by the off-road enthusiasts and local city councils.

Rule 1001
> Air Pollution Control District, 3433 Roberto Court, San Luis Obispo, CA 93401.
http://archive.constantcomment.com/fs016/1103716057203/archive/1107294041559/html.

From: Virginia Kenny <ginnykenny@gmail.com>
To: info@slocleanair.org
Date: 10/30/2011 01:03 PM
Subject: Rule 1011

Dear Air Pollution Control Board,

As a resident of the Nipoma Mesa, I encourage you to pass Costal Dunes Dust Control Draft Rule 1001. People on the Mesa are entitled to have clean air to breathe and as of now that is not the case. For the health of the community please take positive steps to correct this problem.

Virginia Kenny
740 Avocet Way
Arroyo Grande, Ca. 93420
ginnykenny@gmail.com

----- Forwarded by Robert Heitzman/APCD/COSLO on 11/08/2011 08:25 AM -----

From: Darlene <reddar59@sbcglobal.net>
To: info@slocleanair.org
Date: 10/30/2011 01:19 PM
Subject: Dune Dust/Silica Montering and control (Rule 1001)

Dear APCD Staff:

I am a 12 year resident of the Nipomo Mesa. When we purchased land to build our home, the Real Estate Agent was obliged to inform us of rare possible drift of smoke and smell from the Conoco Refinery (we have rarely had any problem) but unfortunately had no such obligation to advise of the dangerous air conditions due to off-roading at the Dunes that we experience during our windy late winter, spring and early summer days. Of course the numbers of dune visitors were smaller then and the vehicles used smaller and less powerful. But in the last six or so years we have become much more aware of adverse conditions that are increasing in the form of noise and particulate matter air pollution. Now aware that breathing in the minute particles that can become permanently imbedded in our lungs which lead to or worsen respiratory health problems, I feel obliged to try to stay indoors on windy days and to support Rule 1001. My health is very important to me but my husband and I also have 2 1/2 acres of land to maintain which requires significant outdoor labor. We also value our quality of life here on the Central Coast.

We support Rule 1001 and the efforts of the APCD and our county to try to get control of this problem. We support continued monitorial action of the air quality to identify areas most affected. But concurrently we urge and support mitigations of the problem of air born dust/silica as recommended in the APCD Action Plan.

It is likely that the dunes will continue to utilized by off roaders many of whom do not reside here and do not have to experience the problems that they cause for the local citizenry who are paying the majority of taxes. These recreational visitors may add to the bottom profit line of venders and businesses who provide for their wants while visiting, (I question the objectivity of the study/questionnaire conducted from April 2010 to April 2011 which was taken only after there were questions raised about the air quality problems). However those that directly profit are a small fraction of the total population of the folks that live on the Mesa, & in Oceano, Grover Beach, and Nipomo whose health is at risk. It is a real concern for numerous schools on the Mesa downwind of the dune off-road area.

Thank you for your work on our behalf.

Darlene and Lowell Davis

1775 Calle Laguna, Arroyo Grande, CA 93420
481-9602

From: Cow Kern County <cowkerncounty@yahoo.com>
To: info@slocleanair.org
Date: 10/30/2011 06:49 PM
Subject: Letter in support of Coastal Dunes Dust Control Draft Rule 1001

October 29, 2011

Dear Folks;

We write these comments to support approval to the proposed Coastal Dunes Dust Control Draft Rule 1001.

Enactment of this rule, and its many procedures for monitoring air quality and reducing fugitive dust in the Nipomo Mesa/State Park area, targets exactly what should be the public policy emphasis: the health and safety of California citizens, especially area residents. The Air Pollution Control District is obligated to aggressively and comprehensively addressing the fact-based complaints of those whose health is at risk.

Our volunteer organization, ORV Watch Kern County, has two points of contact with this issue, one related to public policy, the other more personal. As to the policy issue, our stated goal is to eliminate off-road vehicle *abuse (not* legal recreation) in our county. In the course of our efforts, we have faced opposition from almost everyone in the off-road community, including corporate sponsors, well-paid lobbyists, professional organizations, and the politicians who boogie to their drum beat. We have also developed mounting evidence of what should be the fruit of common sense: Off-road vehicles are not in any way compatible with sensitive environments, whether in the mountains, deserts, or coastlands. Nor is "shared use" a real world option.

The personal reason has simply to do with the fact that many of our members love and enjoy visiting and recreating throughout the Central Coast.

We find it astonishing that, especially in light of the SLO air quality studies released, the off-road community mounts any opposition at all. What other recreational activity, once proven to be injurious to human beings who do not pursue it and suffer by virtue of simply residing nearby, has advocates that choose their own fun over human safety? More distressing, why is it that some city and county officials think only of the revenue they will lose? Could there be a more blatant example of choosing dollars over humans?

No one, as far as we know, wants to challenge the rights of citizens to pursue, lawfully, off-road recreation in California. We support the construction of off-road parks in permitted areas, and riding on trails already authorized of motorized vehicles. In the case of the coastal dunes, fugitive particulate matter and its negative health effects constitute the unintended consequences of citing an off-road riding area near residences and sensitive habitats. The APCD needs to right that wrong.

Again, we applaud that effort and support the proposed Rule.

Sincerely,

Mesonika Piecuch

ORV WATCH KERN COUNTY

http://www.orvwatchkerncounty.com

Tehachapi, California

661-878-7838

From: Jill Buckley <jillbuckley45@gmail.com>
To: info@slocleanair.org
Date: 10/31/2011 07:01 AM
Subject: Support for adoption of Coastal Dunes Dust Control Draft Rule 1001

To whom it may concern:

We are residents of the Nipomo Mesa and want to voice our support for adoption of the Coastal Dunes Dust Control Draft Rule. It is very important for the health and well-being of those who live on the Nipomo Mesa.

Thank you for taking note of our position.

Sincerely,

Jill and Paul Buckley
2408 Brant Street
Arroyo Grande, CA 93420
805-4899425

From: Richard Wishner <rwishner@rwishner.com>
To: "info@slocleanair.org" <info@slocleanair.org>
Date: 10/31/2011 09:24 AM
Subject: Support for the Coastal Dunes Dust Control Draft Rule

Sir/Madam;

I am writing to express my support for the Coastal Dunes Dust Control Draft Rule. This is a wimpy rule but it seems to be the best option to help protect the health of women, men and especially the children of our community. Why the fines are so small and why the implementation is so slow escapes my logic.

I am a resident of Nipomo. I have a PhD in engineering and am still active in the research and development community. I have reviewed some of the scientific and empirical evidence and to me it is obvious what the cause of our PM10 problem is. However, I believe that citizens should not have to prove that there health is in danger. Potential abusers should have to prove that they are not endangering others.

At my advanced age lung cancer will only shorten my life by a small amount. But the impact of PM10 on the children in our community should be of great concern to everyone on your board. Are the revenues from the ATV community really more important than the health of our children? I believe it would be unconscionable for anyone to vote against this rule.

Dick

From: Craig Armstrong <craig91355@gmail.com>
To: info@slocleanair.org
Date: 10/31/2011 09:25 AM
Subject: Proposed Dust Control Rule

As a resident of Nipomo, I support the adoption of the proposed rule to limit increases in PM levels due to vehicular activity on coastal dune areas. The APCD's number one priority should be protecting the health of area residents. Opposition to the proposed rules appears to be driven by individuals who place protecting their economic self-interests ahead of minimizing the unhealthful impacts of dune activity on their neighbors.

Craig Armstrong
890 Via Seco
Nipomo, CA 93444

From: "John Jobling" <john@peacebythesea.com>
To: <info@slocleanair.org>
Date: 10/31/2011 10:03 AM
Subject: Coastal Dunes Dust Control Draft Rule 1001 - a "Yes" vote. please

ATTENTION: Air Pollution Control District –

As a resident of the Cypress Ridge Community I need to request that that the board vote "yes" for the adoption of the Coastal Dunes Dust Control Draft Rule 1001. The adoption of this rule is critical to the health and welfare of the residents of the Nipomo Mesa. In particular, the health of our children will be adversely affected if this rule is not adopted. I understand there may be some hardship for a few local businesses, but I ask that you not let those concerns outweigh our concerns for our health.

John Jobling
Cypress Ridge

From: Karyn Carnes <karyn137@hotmail.com>
To: <info@slocleanair.org>
Date: 10/31/2011 10:36 AM
Subject: PM10 Pollution & The Fugitive Dust Rule

Hello,

I can't believe we are still discussing this issue! As residents on the Mesa we have been waiting for our elected representatives to take action to reduce the PM10 carcinogenic pollution in this area for a ridiculously long period of time! It's very difficult to understand why it has taken so long for the powers that be to protect it's citizens.

There is NO reason for the Fugitive Dust Rule not to pass. It is long over due and the very least that should be done to protect our HEALTH.

As your constituents, we are asking you to do the right thing for the citizens of this county and pass the Fugitive Dust Rule. Do not allow economic interests to overrule the health, safety and lives of the people living in harms way of Oceano Dunes.

Thank you,
Karyn Carnes

From: Nell Quijano <ngquijano@gmail.com>
To: info@slocleanair.org
Date: 10/31/2011 07:21 PM
Subject: Coastal Dunes Dust Control Draft Rule 1001

We are all concerned about any decision that will impact the financial health of the local economy. However, that concern should not result in a failure to act on the existing health risk to all in the area affected by wind-blown dust onto the mesa and surrounding area. It is urgent that the rules be adopted and preventative measures be undertaken immediately to implement preventative measures to immediately address the problem. When the health of individuals is at risk, no postponement of action should be permitted or accepted.

Sincerely,
Nell G. Quijano

From: Sheila Phipps <sheila.phipps@verizon.net>
To: info@slocleanair.org
Date: 11/01/2011 11:05 AM
Subject: Coastal Dunes Dust Control Rule

To Air Pollution Control District members,

I'm asking you to please support the adoption of the Coastal Dunes Dust Control Draft Rule 1001.
The health of the public should be more important than the financial gain made by a few people who support the off-road enthusiasts.

I work as a geriatric pharmacist and every day I see the deleterious effects of environmental pollution on people's ability to breathe.
This decrease in quality of life is not something we should perpetuate by allowing this air pollution to continue.
The frail in our community (children and the elderly) are the most vulnerable.
I would expect that promoting the health and safety of their constituents would be at the top of priorities for our officials.

Please support this rule.
If you choose to oppose it, please notify me as to your reasons why.
Any potential financial interest of officials or their families should not outweigh the health of the public!

Thank you.

Sheila Phipps
Certified Geriatric Pharmacist

From: dennis graue <dgraue@yahoo.com>
To: "info@slocleanair.org" <info@slocleanair.org>
Date: 11/01/2011 11:09 AM
Subject: Coastal Dunes Dust Control

Sir/Madam;

I am writing to express my support for the Coastal Dunes Dust Control Draft Rule. This rule apparently is not perfect, but it seems to be the best we can muster at this time. Action is urgently needed.

My wife and I moved to Nipomo a year and a half ago expecting to have clean air and a low stress environment. I have asthma and emphysema and my wife has severe emphysema. Instead of finding clean air, we both are now experiencing worse symptoms than we had in urban Long Beach, from which we moved.

I have a Ph.D. degree in chemical engineering from the California Institute of Technology and, though recently retired, I actively consult and participate in research and development. I have reviewed some of the published scientific evidence of coastal dust and its causes and find it to be compelling regarding the need for action to protect the health of our citizens. The extensive investigative work that has been done should not be ignored, especially when the health of our citizens is at stake and when the solution involves common sense regulation of a recreational activity.

Voting for the draft rule should be a first step.

Dr. Dennis J. Graue, Ph.D.
1161 Saltillo Way
Nipomo, CA 93444

From: Dave Stevenson <asupermojo@yahoo.com>
To: "info@slocleanair.org" <info@slocleanair.org>
Cc: "bgibson@co.slo.ca.us" <bgibson@co.slo.ca.us>, "ahill@co.slo.ca.us" <ahill@co.slo.ca.us>, "jpatterson@co.slo.ca.us" <jpatterson@co.slo.ca.us>, "pteixeira@co.slo.ca.us" <pteixeira@co.slo.ca.us>, "fmecham@co.slo.ca.us" <fmecham@co.slo.ca.us>, "costello@arroyogrande.org" <costello@arroyogrande.org>, "jmarx@slocity.org" <jmarx@slocity.org>, "jhamon@prcity.com" <jhamon@prcity.com>, "rfonzi@atascadero.org" <rfonzi@atascadero.org>, "gbadmin@grover.org" <gbadmin@grover.org>, "nsmukler@yahoo.com" <nsmukler@yahoo.com>, "ewaage@pismobeach.org" <ewaage@pismobeach.org>
Date: 11/01/2011 11:34 AM
Subject: Coastal Dunes Dust Control Draft Rule 1001

We Support Coastal Dunes Dust Control Draft Rule 1001

I have lived on the Nipomo Mesa for 6 years and in July of 2011 I was diagnosed with COPD. I am a Non Smoker and while I cannot be sure the PM10 on the Mesa caused all my problems I am sure it is not healthy for anyone, especially someone in my condition. I know I was fine before I moved here from Northern California. This condition really has effected my Quality of Life and probably has shorten my life expectancy. Also I have spent over $5000.00, in the last 3 months, for Medical Bills, Physical Rehabilitation, Air Purifiers, Hepa Filters, Hepa Vacuum, Duct Cleaning and Deep Cleaning of the house.

Considering that the California Air Resources Board has studies show a range of 5,600 to 32,000 deaths a year from Particle Pollution in California alone. How can your organization even consider not improving the Air Quality from the Dunes which is causing poor health for all people living on the Mesa and areas nearby.

I am not asking that the Dunes be shut down but requesting that you vote to approve all the recommendations to improve our Air Quailty.

Dave & Madeline Stevenson
Avocet Way
Arroyo Grande, Ca. 93420

From: Pamela Dunlap <pamdunlap@charter.net>
To: info@slocleanair.org
Date: 11/01/2011 11:50 AM
Subject: Written Comment re: Rule 1001

Role 1001 Comments

Air Pollution Control District
3433 Roberto Court
San Luis Obispo, CA 93401

Re: Coastal Dunes Dust Control Draft Rule 1001

Public Comment for Air Pollution Control District Board Meeting
November 16,2011

I am writing in support of the Coastal Dunes Control Draft Rule 1001.
The Executive Summary of the Nipomo Mesa Particulate Study of 2007 done by the San Luis Obispo County Air Pollution Control District states that "Air quality monitoring on the Nipomo Mesa over the past 20 years has shown that the particulate concentrations on the Mesa are significantly higher than other areas of San Luis Obispo County." (1)

This study, done from April 2004 through March 2005, "documents a serious particulate problem on the Nipomo Mesa, with exceedances of five of the six state and federal health standards for fine and course particles recorded over the study period." (1)
The APCD Board s response was to order another study to determine "if OHV activity on the SVRA played a role in the high particulate levels measured on the Nipomo Mesa." (2) The resulting South County Phase 2 Particulate Matter Study led "to a definitive conclusion: OHV activity on the SVRA is a major contributing factor to the high PM concentrations observed on the Nipomo Mesa." (2)

The SLO APCD Board s response was to do further studies. An MOA with State Park and San Luis Obispo County to develop plans to reduce pollution on the Nipomo Mesa was undertaken. This was later disbanded. The APCD decided to pursue a Fugitive Dust Rule, which is now in draft form and is being submitted on November 16, 2011, as the Coastal Dunes Dust Control Draft Rule 1001. That rule requires residents to wait another 42 months to accommodate State Parks.

The APCD has known about the serious particulate problem on the Mesa since 1987. (1) Study after study has confirmed that there is indeed a problem and the primary source of the problem has been identified.

The public was not notified of this problem until late 2009/early 2010. Those of us living downwind of the ODSVRA regularly breathed carcinogenic particulates during outdoor activities for years, not knowing that "All fine airborne particulate matter, regardless of composition, can cause respiratory distress when inhaled, especially to the young, the elderly, and those with compromised respiratory systems. In addition, sand particles are high in crystalline silica, a known carcinogen with a high risk factor." (1)

Amazingly, several government agencies are sending the APCD Board letters asking that the decision to protect public health be put off or worse because of concerns that their economies would be impacted. Nowhere in any document does it state that the ODSVRA is going to be closed down and I can say for myself and others I have been associated with on this matter that this is not and never has been our intent. Thus the economic considerations are moot, not to mention self-serving in light of the known significant health risks to county residents.

It is the responsibility of the Air Pollution Control District staff and Board of Directors to protect public health. There is nowhere else in this county where public health is impacted to the extent it is on the Nipomo Mesa.

We want to be able to breathe clean air; to be able to golf, walk, play, garden and do whatever recreational activities we want whenever we want; and to protect our children and seniors without the threat of this incidious health risk.

The APCD Board can take the necessary step to start us on the path to relief from high

concentrations of airborne particulates by voting today to support the Coastal Dunes Dust Control Rule 1001.

The time for action is now. This issue has been studied to death. Please vote to adopt the CDDCR 1001 so that we can be protected from particulates emanating from the ODSVRA the way we are now protected for particulates emanating from dirt roads and construction sites.

Sincerely,
Pamela S. Dunlap

(1) Nipomo Mesa Particulate Study 2007 Air Pollution Control District Report
(2) South County Phase 2 Particulate Study, Air pollution Control District Report

From: Tom Mitchell <mitchell.tom13@gmail.com>
To: info@slocleanair.org
Date: 11/01/2011 03:10 PM
Subject: Nipomo Mesa Air Quality and the Dunes Off-Road Use.

Dear Members of the Air Pollution Control Board,

My wife and I live on the Nipomo Mesa. From our home we can see the the dunes. On days when the off-roaders are active to any extent, we can see a noticeable decrease in the air quality and visibility, along with a notable dust build up in and around our home. My wife suffers from lung problems that get noticeably worse on those days when the off-roaders are active and the normal wind patterns are present. With the prevailing winds blowing towards the Mesa from the Dunes it is very logical that the dust raised by the off-roaders is landing on the Mesa.

We formerly lived in Shell Beach and noted the same increase in the dust production on busy weekends and holiday periods as opposed to days of light activity. We had no idea that the dust we were seeing in the air over the dunes would travel as far as does, until living on the Mesa for that past 4 years. Had we known the impact of the dust generated by the off-road use of the dunes we would not have moved to the Mesa. Moving again, at this point in this market is not a possibility.

We believe that the State has shown it's reluctance to do anything to curtail the generation of the dust created by activities it is allowing to occur in the Oceano Dunes State Vehicular Recreation Area. Without the APCD taking charge and forcing the State to take immediate effective corrective actions, the health of those of us living on the Nipomo Mesa will continue to suffer.

Thanks for your efforts.

Tom and Teri Mitchell
300 La Joya Dr
Nipomo, CA

From: Dennis L Farrell <dlf49er@yahoo.com>
To: info@slocleanair.org
Date: 11/01/2011 04:07 PM
Subject: Support Adoption of Rule 1001

Dear Sir,

We support the adoption of the above rule for clean air on the Nipomo Mesa and along the south county coast. My wife & I have children and grandchildren also living at this address who require clean air to breathe.

Your adoption of this rule to require elimination &/or mitigation of the fine particulate matter (silica dust) is imperative so that we and our children can breathe easier.

Thank you for the opportunity to comment on this most important matter of public safety and health.

Dennis and Marty Farrell
765 Mesa View Drive, # 28
Arroyo Grande, CA. 93420

From: Paul Van Alstyne <pvanalstyne30@gmail.com>
To: info@slocleanair.org
Date: 11/01/2011 04:47 PM
Subject:

Please adopt the rule 1001. My health is deteriorating due to the dust from the Oceano Dunes. Thank you.

Paul Van Alstyne

From: jverwest@verizon.net
To: info@slocleanair.org
Date: 11/01/2011 04:52 PM
Subject: Particulate levels on the Nipomo Mesa

I am extremely concerned about the particulate levels on the Nipomo Mesa. I believe the health concerns for the children and adults trump any financial set backs that may result from stopping the off-road use of dune buggies, etc. on the Oceano Dunes. I am a semi-retired physician and moved here from Fresno to escape pollution. We thought we found the perfect spot.
Please protect the health of the citizenry and don't let the moneyed interests prevail.

The first priority of elected officials is to protect the health and welfare of the people in the community.

Sincerely,

James L. Ver West, M.D.
Emergency Physician
Marian Medical Center

From: Dave Stevenson <asupermojo@yahoo.com>
To: "info@slocleanair.org" <info@slocleanair.org>
Cc: "bgibson@co.slo.ca.us" <bgibson@co.slo.ca.us>, "ahill@co.slo.ca.us" <ahill@co.slo.ca.us>, "jpatterson@co.slo.ca.us" <jpatterson@co.slo.ca.us>, "pteixeira@co.slo.ca.us" <pteixeira@co.slo.ca.us>, "fmecham@co.slo.ca.us" <fmecham@co.slo.ca.us>, "costello@arroyogrande.org" <costello@arroyogrande.org>, "jmarx@slocity.org" <jmarx@slocity.org>, "jhamon@prcity.com" <jhamon@prcity.com>, "rfonzi@atascadero.org" <rfonzi@atascadero.org>, "nsmukler@yahoo.com" <nsmukler@yahoo.com>, "ewaage@pismobeach.org" <ewaage@pismobeach.org>
Date: 11/01/2011 05:15 PM
Subject: Approve the Dunes Dust Control Draft Rule 1001

Hello,
My husband and I have lived on the Nipomo Mesa for 6 years and in July of 2011 my husband was diagnosed with COPD. He is a Non Smoker and while we cannot be sure the PM10 on the Mesa caused all his problems I am sure it is not healthy for anyone, especially someone in his condition. I know he was fine before I moved here from Northern California. This condition really has effected his Quality of Life and probably has shorten his life expectancy. Also we have spent over $5000.00, in the last 3 months, for Medical Bills, Physical Pulmonary Rehabilitation, Air Purifiers, Hepa Filters, Hepa Vacuum, Duct Cleaning and Deep Cleaning of the house.
Recently I have been experiencing shortness of breath and possible heart problems and my doctor has ordered some test for me. I am now concerned that I may be experiencing resportory problems also, since we have moved here I have had many more problems which I thought were allergies, but now I am wondering if the Mesa Air Quality is the problem? Considering that the California Air Resources Board has studies show a range of 5,600 to 32,000 deaths a year from Particle Pollution in California alone. How can your organization even consider not improving the Air Quality from the Dunes which is causing poor health for all people living on the Mesa and areas nearby.
I am not asking that the Dunes be shut down but requesting that you vote to approve all the recommendations to improve our Air Quality.
Madeline Stevenson
Avocet Way
Arroyo Grande, Ca. 93420

From: Stephen Wells <vb21wells@att.net>
To: info@slocleanair.org
Date: 11/01/2011 08:59 PM
Subject: Coastal Dunes Dust Control Draft Rule 1001

We strongly urge the Board of Directors of the San Luis Obispo Air Pollution Control District to adopt Coastal Dunes Dust Control Rule 1001 as
a step toward controlling fugitive dust from the Oceano Dunes.

Respectfully submitted by

Stephen and Bridget Wells
846 Via Seco
Nipomo, CA 93444

From: "escultura2@aol.com" <escultura2@aol.com>
To: <info@slocleanair.org>
Date: 11/02/2011 01:30 AM
Subject: Letter of Support for the Coastal Dust Control Draft Rule 1001

Dear APCD Board,

As a resident of our Knollwood community, these air quality concerns must be heard by the APCD Board now. Our community lies just I/4 mile northwest of the Arroyo Grande-2391 Willow Rd Site, (CDF) on Highway 1. This monitoring site has the highest recorded PM10 for the county. We have endured at least 64 days this year so far when PM10 levels have not only exceeded State Standards for PM10 (50mu/m3), but for several daytime hours, the PM10 levels have peaked well above the Federal Standards (150mu/m3) and at times, into a "Hazardous" level, and a visible "tan-colored plume" envelopes our neighborhood. This plume is real. Several verifiable photos have been taken of this plume over time from different locations. It has also become a disturbing reality to our more recent homeowners learning about breathing such almost invisible particulate matter, 1/7th the diameter of a human hair and even far smaller in size. During such wind events, we are advised to stay indoors, and if necessary, temporarily leave the area when this plume is visible.

The lack of political will continues to be well noted so far in numerous delays in protecting our right to breathe. Over a year ago, the SLO CO Health Commission requested to the BOS to do everything in its power, and as soon as possible, to protect us from this health threat. Yet, OHV related enterprises and upwind community councils don't believe that anything should be done due to a "Chicken Little" perspective that promotes fear of economic loss because the PM10 is now known as originating from the ODSVRA. The APCD's Phase 2 Study has already determined that the OHV activity breaks the dune crust releasing such increasingly superfine particulate matter to become entrained in the wind. It only takes approximately a 12 mph prevailing NW wind to carry this over onto our community. Once there, it is easily suspended and re-suspended with daily afternoon breeze, bringing it into our windows, open doorways, and ultimately, into our lungs. A known carcinogen, this superfine crystalline silica damages our lungs over time, and exacerbates respiratory problems such as asthma, and bronchitis. Our young children are especially at risk, as well as the elderly, and those with compromised health. Several of our neighbors have also complained of developing coughs during these wind events.

If this was Conoco Phillips Refinery creating this problem, it would be stopped immediately, and with mounting financial sanctions imposed. This issue is no different. I view this rule as a weakened response to our downwind air quality, and unfortunately, a maneuver handing more control to the OHV Division of the SPR over its design and implementation. This draft already permits extra leeway of 60mu/m3 versus 50mu/m3 (State Standard), as well as an additional 3 1/2 years more before any possible financial sanctions could be even considered. All this when SPR has known this problem for at least four years, yet willfully continues to deny any culpability while it promotes more OHV use on the ODSVRA and on our county-owned La Grande Tract. SPR reports OHV visitation is 1.6 million (2010), up from 1.2 million (2009). The OHV already skims an increasing annual state gas tax amount ($65 million for 2010; 72% of OHV operating budget for the eight recreational vehicle areas in our state); originally funded "to contain the nuisance" of OHV use on private and designated public lands. However, OHV Division of SPR is not containing this nuisance here in our county, but exacerbating it, and causing many downwind to suffer while it takes state money to continue polluting our air.

Health should always trump recreational pursuits, especially when it is the responsibility of any government agency to protect the health and safety of its residents. This board needs to know that our residents' health in our community is becoming increasingly affected and immediate action is critical. This board must do more to strengthen this rule to protect communities downwind.

Katrina Dolinsky
680 Monadella Street

From: Paul Stolpman <stolpman@hotmail.com>
To: <info@slocleanair.org>
Date: 11/02/2011 09:39 AM
Subject: Coastal Dunes Dust Rule comments

I am a resident of the Nipomo Mesa. I live in Trilogy at Monarch Dunes, a new development of roughly 1200 homes. We are located very near to the air quality monitoring site titled Mesa 2.

I am writing to encourage the board to adopt the Dust control rule because the dust from the dunes is clearly threatening my health. The air quality levels where I live are very often well in excess of the California Health Standard for Particulate Matter. These standards were set to protect the health of those of us who are potentially sensitive to the effects of fine particles, effects that are well established in the health literature.

Please do what is necessary to give the residents of the Mesa the kind of air quality we need to live healthy lives. As residents of San Luis Obispo county we deserve as much and believe it is your duty to protect our health. Clearly this should be your primary responsibity.

Regarding any consideration of economic impacts, I hope that when looking at the economic impacts of your actions you will consider the dollar value your actions will have on the following areas: 1.premature deaths from air pollution avoided 2. reduction in lost work days from reduction in illness 3. increased property values 4. improvements in visibility 5. reductions in the cost of doctor and hosital visits to deal with the lung and heart conditions fine particle air pollution causes.

Please ask State Parks to expand their policy of "Leave it as you found it" to the Dunes. Clearly ATV riders cannot do that.

Paul Stolpman
stolpman@hotmail.com

From: Charles Kleemann <kleemann@slonet.org>
To: "info@slocleanair.org" <info@slocleanair.org>
Cc: "bgibson@co.slo.ca.us ; ahill@co.slo.ca.us ; jpatterson@co.slo.ca.us ; pteixeira@co.slo.ca.us ; fmecham@co.slo.ca.us ; costello@arroyogrande.org ; jmarx@slocity.org ; jhamon@prcity.com ; rfonzi@atascadero.org ; nsmukler@yahoo.com ; ewaage@pismobeach.org"
Date: 11/02/2011 10:54 AM
Subject: Public Comment re: Coastal Dunes Dust Control Draft Rule 1001

My comments are in the attached pdf. document.
Thank you,
Charles Kleemann

To: Air Pollution Control District Board
Date: November 2, 2011

Re: 11/16/2011 hearing for Coastal Dunes Dust Control Draft Rule 1001

Thank you for taking action to address fugitive dust issues (Coastal Dunes Dust Control Draft Rule 1001). As stated in the SLO County Particulate Matter Report, exposure to particulate pollution is linked to increased frequency and severity of asthma attacks, pneumonia, bronchitis, and even pre-mature death in people with pre-existing cardiac or respiratory disease. Children are especially sensitive to fine particle pollution because their respiratory systems are still developing and they inhale 50% more air per pound of body weight than adults.

Although the Dunes may currently be the focus of attention, the importance of developing rules for the remainder of SLO county residents is equally important and should not be overlooked. It is my understanding that rules for fugitive dust control were to be developed countywide. Santa Margarita area residents are currently faced with a large scale (500,000 annual tons) industrial aggregate quarry proposal. Fugitive dust impacts would cumulatively add to several other existing large scale aggregate quarries located nearby. Interestingly, project information for the proposed Oster/Las Pilitas Quarry indicates that no aggregate will be washed. This is not common practice and raises serious concerns regarding fugitive dust implications that processing upwind from residences and transporting unwashed product would create.

Although I understand the desire for recreational opportunities and as a building contractor, I am not naïve to the need for quarry related products, public health and safety should be priority for decision makers at all levels. I encourage and commend your ongoing efforts to maintain that priority by setting a timeline at the Nov. 16, 2011 hearing to develop rules for fugitive dust control for the remainder of San Luis Obispo County.

Thank you for thoughtfully considering my comments,
Charles Kleemann
Santa Margarita, Ca.

From: Gene Fambrini <genefambrini@gmail.com>
To: info@slocleanair.org
Date: 11/02/2011 11:28 AM
Subject: clean air for the Nipomo mesa

I urge you to support clean air rule for the Nipomo mesa. People's health has got to be a higher priority.
Norma Fambrini
Nipomo resident

From: Marsha Lilly <marshalilly35@yahoo.com>
To: info@slocleanair.org
Date: 11/02/2011 03:29 PM
Subject: 2011 Rule 101

Safe Beach Now
PO Box 27
Pismo Beach, CA 93448
805-773-4771

Director Larry Allen
Air Pollution Control District
San Luis Obisbo County

Re: Rule 1001

Dear Director Allen:

Safe Beach Now supports 2011 Rule 1001 Coastal Dune Dust Control Requirements as proposed by the SLO Air Pollution Control District.for the following reasons:

1. It does something, rather than nothing
2. It acknowledges that there is a significant health issue
3. It has a chance to garner political will
4. It gives more power to the APCD District

We object to Rule 1001 for the following reasons:

1. It takes too long
2. It is too watered down
3. It is unnecessary
4. It circumvents application of existing rules.

For example,in other counties creating fugitive dust is considered a nuisance. See below for Calivaras county's rule:

"A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause to have a natural tendency to cause injury or damage to business or property."

You have confirmed that the very same nuisance provision as Calaveras exists in other air districts and currently exists in our county's rules. You have further indicated that enforcement of the existing nuisance rule is typically based on a significant number of complaints from different residents in the same area

Has there been a significant number of complaints from Mesa and Oceano residents? If so, it would appear that what is lacking is not your strong commitment to protect public health, but rather the absence of political will by your board to enforce existing rules.

All the best,
Marsha Lilly
President

> From: "Tina Doherty" <tldoherty@charter.net>
> To: <info@slocleanair.org>
> Date: 10/30/2011 11:33 AM
> Subject: YOU MUST PASS Coastal Dunes Dust Control Draft Rule 1001
>

> An acquaintance living in the Cypress Ridge area off Cypress Ridge
> Parkway & Widgeon had to move out of the area in order to heal her
> lungs in the last few months. She was suffering from pneumonia
> worsened by convalescing in her home.
>
> If the particulate matter was blowing towards yours or your ageing
> parents home & the level was dangerously higher than the minimum
> state acceptable levels what would you do?
>
> Thank you in advance for taking the time to read this letter, please
> vote with your conscience in support of the Coastal Dunes Dust
> Control Draft Rule 1001. Please do not delay- you will be saving lives.
>
>
> Christina Doherty
> Arroyo Grande, CA.
>

Oct. 31, 2001

San Luis Obispo County
Air Pollution Control District
Board of Directors

Re: Comments on Rule 1001

Dear Board Members,

Attached please find some additional data for your consideration. Of course the Coastal Dunes Dust Rule should be implemented with shortened time frames based solely on the public health impact. I have sent you numerous articles on the health impact including the American Lung Association, CDC and EPA. On the attached charts, you can see the highest hourly levels of PM10 for the single highest days in 2010 and 2011 for Los Angeles County and San Luis Obispo County. These are official readings reported to the State of California, by both counties. They are not subject to fudging or bias or influence as has been alleged in the two APCD studies. They can be viewed by going to the AQMIS website at the top of the page.

2011	Los Angeles Co.	SLO County
Highest 24 hr average day	86.3mg on 7/5/11	140.5mg on 4/26/11
Highest hourly reading that day	170 mg/ltr	604 mg/ltr
2010		
Highest 24 hr average day	76.8 on 1/7/10	144.3 on 5/5/10
Highest hourly reading that day	330mg/ltr	456 mg/ltr

Number of days in the year with 24-hour readings exceeding 100 mg per cubic ltr. Remember the California standard is 50 mg/cubic liter.

2010	Los Angeles Co = 0	SLO Co. = 6
2011	Los Angeles Co. = 0	SLO Co. = 12

Residents on the Nipomo Mesa are breathing very dirty air, as previous experts Dr. Melanie Marty and Dr. Cahill have stated. That is undeniable. The question is what is the APCD Board going to do about it? At the very least, approving the Dust Rule and giving State Parks 42 months to solve the problem is some progress. Failure to approve this rule would be unconscionable.

Some members are easily led by figures (guestimates) of the dollars spent by OHV visitors to the Park. In that regard, I have also attached a comment posted on the Tribune website responding to the Oct. 27th article. It was enlightening to me, as I have never camped in the OHV Park or gone traveling in an RV. I was surprised to learn that a shareholder at Pismo Coast Village would actually go elsewhere due to the poor environment created by the ODSVRA Park. I wonder how many people have already moved on to better RV sites on the coast.

In conclusion, for the past two years I have asked for a reasonable solution to the air pollution problem. I support the DRI proposals that would have the least impact on the park operations, as most of you do. I feel, ignoring the problem and the health of my family and neighbors is not an option. I urge you to follow the path taken at the last Board meeting and approve the Dunes Dust Rule on November 16th.

Sincerely,

Rachelle Toti

Rachelle Toti

Data on this page extracted on October 31, 2011 at 13:36:52

AQMIS web pages were recently revised. Please report any problems to aqmis@arb.ca.gov

SLO
2010
Highest
Day

AQMIS 24 Hour Summary for Hourly PM10 (BAM)
for Nipomo-Guadalupe Road
05/05/2010
Micrograms/Cubic Meter (ug/m^3)

Hour	Value	Hour	Value
00-01	34.0	12-13	456.0
01-02	35.0	13-14	340.0
02-03	31.0	14-15	342.0
03-04	45.0	15-16	308.0
04-05	43.0	16-17	285.0
05-06	51.0	17-18	237.0
06-07	44.0	18-19	147.0
07-08	47.0	19-20	66.0
08-09	75.0	20-21	30.0
09-10	188.0	21-22	36.0
10-11	232.0	22-23	38.0
11-12	310.0	23-00	44.0

Graphic

Download Data: Quick or Select Format

Hours listed are in Pacific Standard Time. Add one hour to convert to Daylight Time.
Blank values indicate data not available.
Click on name of monitoring site to see additional information on the site.

Change Selection
2010 | May | 5
UPDATE DISPLAY

Air Quality and Meteorological Information (AQMIS2) Home Page
Latest Ozone Air Quality | Latest Week's Ozone | Recent Years' Ozone Air Quality
Air Quality Data | Meteorological Data | Google Map Pages | AQ Map

Back to Top | All ARB Contacts | A-Z Index

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AQMIS web pages were recently revised. Please report any problems to aqmis@arb.ca.gov

SLO
2011
Highest
Day

AQMIS

AQMIS 24 Hour Summary for Hourly PM10 (BAM)
for Arroyo Grande-2391 Willow Road
04/26/2011
Micrograms/Cubic Meter (ug/m^3)

Hour	Value	Hour	Value
00-01	20.0	12-13	541.0
01-02	19.0	13-14	604.0
02-03	10.0	14-15	417.0
03-04	10.0	15-16	421.0
04-05	11.0	16-17	359.0
05-06	10.0	17-18	165.0
06-07	16.0	18-19	75.0
07-08	15.0	19-20	28.0
08-09	14.0	20-21	35.0
09-10	24.0	21-22	35.0
10-11	84.0	22-23	86.0
11-12	342.0	23-00	50.0

Graphic

Download Data: Quick or Select Format

Hours listed are in Pacific Standard Time. Add one hour to convert to Daylight Time.
Blank values indicate data not available.
Click on name of monitoring site to see additional information on the site.

Change Selection
2011 | April | 26
UPDATE DISPLAY

Air Quality and Meteorological Information (AQMIS2) Home Page
Latest Ozone Air Quality | Latest Week's Ozone | Recent Years' Ozone Air Quality
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AQMIS web pages were recently revised. Please report any problems to aqmis@arb.ca.gov

L.A.
2011
Highest Day

AQMIS 24 Hour Summary for Hourly PM10 (BAM)
for Glendora-Laurel
07/05/2011

Micrograms/Cubic Meter (ug/m^3)

Hour	Value	Hour	Value
00-01	76.0	12-13	71.0
01-02	79.0	13-14	
02-03	96.0	14-15	
03-04	114.0	15-16	
04-05	146.0	16-17	48.0
05-06	148.0	17-18	42.0
06-07	129.0	18-19	31.0
07-08	170.0	19-20	34.0
08-09	169.0	20-21	30.0
09-10	127.0	21-22	37.0
10-11	104.0	22-23	32.0
11-12	97.0	23-00	33.0

Graph It!

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Hours listed are in Pacific Standard Time. Add one hour to convert to Daylight Time.

Change Selection

California Environmental Protection Agency
Air Resources Board

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AQMIS web pages were recently revised. Please report any problems to aqmis@arb.ca.gov

L.A.
2010
Highest Day

AQMIS

AQMIS 24 Hour Summary for Hourly PM10 (BAM)
for Los Angeles-North Main Street
01/07/2010

Micrograms/Cubic Meter (ug/m^3)

Hour	Value	Hour	Value
00-01	35.0	12-13	102.0
01-02	65.0	13-14	330.0
02-03	57.0	14-15	216.0
03-04	35.0	15-16	69.0
04-05	39.0	16-17	22.0
05-06	44.0	17-18	4.0
06-07	42.0	18-19	4.0
07-08	43.0	19-20	28.0
08-09	113.0	20-21	48.0
09-10	97.0	21-22	68.0
10-11	136.0	22-23	
11-12	100.0	23-00	69.0

Graphit

Download Data: Quick or Select Format

Hours listed are in Pacific Standard Time. Add one hour to convert to Daylight Time.

Change Selection

Comment on the Tribune Article from Oct. 27th

OceanofStars

Have you seen the alleged "study" by the "Strategic Marketing Group for State Parks"? It was designed for one thing, and one thing only, to promote the ODSVRA and to allege the biggest economic impact possible. This was a "marketing" group for crying out loud. Their job is, and was, to promote the park.

The "survey" was presented only to dunes users most of whom knew, through various OHV networking sites and groups, as well as word of mouth, that they would be given a survey when they visited the park. Most knew that it would be beneficial to their "cause" to make inflated claims about how much money they spent on the Central Coast and within the park.

The figures are totally invalid and anyone able to think objectively knows it. I'm an RV'er, and spend a reasonable amount of time at the Central Coast. Like most RV'ers, and like most of the dunes users, I bring most of what I use with me from home. My motor home is provisioned for my stay before I leave home and the ODSVRA users know that their RVs are too. That means they expect us to believe that they are spending over $500 a day on what, fuel? (Most, especially toy hauler users, haul that with them as well.) If they are spending $500 a day on fuel, image the emissions that is spewing into the air.

Though I am a shareholder at Pismo Coast Village, we rarely go there anymore and are seriously considering selling our share. We can't stand to see the zoo like atmosphere created by overabundance of OHV users and it pains us to walk anywhere along Pismo beach, see the perpetual brown plume rising above the ODSVRA and drifting inland, and hear the din of their engines. Even though we are basically part owners of PCV, we instead stay in the north county, or to the south in the El Capitan-Goleta area.

To be objective, maybe the marketing company should have asked how many RV'ers and other tourists avoid the area because of the overabundance of OHVs and how many would return if their numbers were reduced or activities curtailed. They want to call the air board study "junk science" when theirs is totally biased marketing designed only to bolster their forgone conclusions.

Read more: http://www.sanluisobispo.com/2011/10/27/1813389/dunes-air-quality-rules-run-aground.html#storylink=misearch#ixzz1cODf6W9g

Oceano Community Services District

1655 Front Street, P. O. Box 599, Oceano, CA 93445 (805) 481-6730 FAX (805) 481-6836

Mr. Bruce Gibson
Chairman of the Board
Air Pollution Control District
2nd District County Supervisor
San Luis Obispo, CA

October 31, 2011

Dear Mr. Gibson,

The Oceano Community Service District is opposed to any implementation of the APCD Coastal Dune Dust Control titled Rule 1001. At present, there are too many unanswered questions regarding the methodologies used and conclusions expressed in the "phased" reports relied on in support of Proposed Rule 1001. There is, therefore, insufficient objectively verified scientific data to support the implementation of restrictions that will have such a sweeping negative economic impact on, not only the local Dunes communities, but on the entire San Luis Obispo County.

The additional reasons for the opposition are as follows:

1. If the PM10 concerns were valid, there would be concerns for all of South San Luis Obispo County not just Nipomo.

2. There is no credible evidence that supports that the PM10 readings on the Nipomo Mesa are caused by the emissions from the Oceano Dunes State Vehicle Recreation Area (ODSVRA).

3. The Rule, if put into effect will penalize the State of California, which is the equivalent of penalizing the taxpayers of California. In this already fragile economy the State of California, is as of this date, $301,600,000 behind in actual revenue received. Why would anyone allow another unwarranted expense to occur on the taxpayers of California?

4. The Rule, if put into effect will damage the local economies of Oceano, Grover Beach, Halcyon, Nipomo, Pismo Beach and Arroyo Grande. The preliminary reports of lost per day visitor revenue to the South San Luis Obispo County will be in excess of $10,000,000.

In short, it appears that Proposed Rule 1001 is founded on the limited and narrowly focused concerns of a few, without study or consideration of the broader impacts upon our communities.

Please listen to your community and take positive action on this request.

Respectfully submitted,

Matthew Guerrero	Felma L. Hurdle	Mary K. Lucey	Rick Searcy
Director OCSD	Director OCSD	Director OCSD	Director OCSD

Cc: A. Ramirez Secretary of the Board, Supervisor Paul Teixeira, Supervisor Adam Hill, Supervisor Frank Mecham Supervisor Jim Patterson

From: Elijah Coleman <elicoleman416@yahoo.com>
To: "info@slocleanair.org" <info@slocleanair.org>
Date: 10/28/2011 07:34 PM
Subject: Dust control rule

I am a resident of the Nipomo Mesa and I am writing this letter in **opposition** to the dust control rule being proposed. I believe this is **only** a attempt to eliminate off road activity on the Pismo dunes. Our economy has suffered enough through government regulation. Passing this rule will may lead to closing the dunes to off road activity will have a catastrophic effect on the local tourist economy. Please vote no on this rule.

Thank you!

Elijah Coleman
939 Calle Roble
Nipomo, Ca 93444

----- Forwarded by Robert Heitzman/APCD/COSLO on 11/08/2011 08:49 AM -----

From: Phillip Files <pjfilessr1@att.net>
To: info@slocleanair.org
Date: 10/30/2011 02:50 AM
Subject: Coastal Dunes Dust Control Draft Rule 1001

I am a resident of the Nipomo Mesa. I also enjoy riding my ATV on the Oceano dunes as well as the beach area on occasion. I am opposed to the restrictions being considered as this will leave me and other dunes enthusists without a place to ride. Additionally the loss of this area will impact local businesses who exist because of the many people who visit and camp at the dunes. In today's already poor economic environment in our state another loss of business only contributes to the problems we face. I urge this rule be voted down to allow local business to thrive and continued use of a great recreational location.

ATTACHMENT 3

MONITORING COST ESTIMATE

ENCLOSURE (Structure) Option for Operating a PM 10 Monitor

	Other	Labor	Maint & Op	Calibration	Materials	Cost
Concrete Pad, four inch thick 6' x 6' (or according to code to support 500 lbs.)						$2,300.00
		$1,800.00				
Engineering Cost: 10 hours @ $100/hr		$500.00				
Pre-constructed Enclosure, double wide w/heater and A/C, Rust Free (fiber glass and stainless steel exterior).						$13,300.00
60 Amp, A/C,BAM Enclosure from ETKO					$13,300.00	
Meteorological Tower, crank-up style, 75 MPH Wind Load Resistance, free stand (without guide wires).						$8,300.00
10-meter telescoping and tilt down tower					$5,000.00	
Tower Electrical Ground Wiring		$300.00			$500.00	
Earth work, concrete pouring, Labor.		$500.00			$1,000.00	
Engineering Cost: 10 hours @ $100/hr		$1,000.00				

Monitor Selected: Federal Equivalency Method (FEM) Beta Attenuation Monitor (BAM) 1020

	10% Parts	Other	Maint & Op	Calibration	Equipment	Cost
Meteorological Sensors						$7,415.55
Met Operation & Maintenance, 26 hrs per year @ $50.00	$743.65		$1,300.00			
Met Calibrations, 10 hrs per year @ $50.00				$500.00		
Wind Direction and Speed Sonic Sensor	$280.00				$2,800.00	
Crossarm Assembly	$15.00				$150.00	
Temperature Sensor	$15.00				$150.00	
Fan Aspirated Radiation Shield	$76.00				$760.00	
Aspirator DC power Assembly	$6.00				$60.00	
Inside Temperature Sensor	$15.00				$150.00	
Cables	$35.90				$359.00	
PM 10 Monitor, FEM BAM 1020						$38,400.00
Near Real-time BAM 1020 and consumables	$2,900.00				$29,000.00	
One-time Manufacturer Full Training			$3,000.00			
Maintenance, and service 52 hrs @ $50.00			$2,600.00			
Calibration, 18 hrs per year @ $50.00				$900.00		
Data Acquisition System						$11,600.00
Automet Data Logger (Water-Proof), PC. Display, Modem	$400.00				$4,000.00	
Data review, system maint. 144 hrs per year @ 50.00			$7,200.00			
Calibration Transfer Standards, for BAM flow, temp, pressure, and for Meteorological WD,WS, ambient temp.						$3,130.00
Delta-Cal for BAM Flow, Temp and Press.				$280.00	$2,300.00	
WD/WS Sonic Wind Tunnel Certification				$200.00		
Ambient Temp Calibration Standard				$100.00	$250.00	

	Parts & Other	Labor	Operation & Maintenance	Calibrations	Materials Without Tax	Total Cost
New Station Annual Cost Plus Op. and Maint.	**$4,486.55**	**$4,100.00**	**$14,100.00**	**$1,400.00**	**$57,229.00**	**$84,445.55**

BOARD OF DIRECTORS
AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN LUIS OBISPO, STATE OF CALIFORNIA

_____ day _____, 2011

RESOLUTION NO._____

RESOLUTION OF THE AIR POLLUTION CONTROL BOARD AMENDING THE RULES AND REGULATIONS OF THE SAN LUIS OBISPO COUNTY AIR POLLUTION CONTROL DISTRICT TO ADOPT RULE 1001, COASTAL DUNES DUST CONTROL REQUIREMENTS

The following resolution is hereby offered and read:

WHEREAS, adoption of the Air Pollution Control District's Rule 1001, which establishes requirements for coastal dunes vehicle activity areas, is necessary to achieve the State PM10 air quality standard; and

WHEREAS, a public workshop has been noticed, conducted, and comments incorporated, as appropriate; and

WHEREAS, this Board finds that the Rule has been composed to the extent reasonably practicable and written in plain English wherever feasible in order to assure the Rule can be easily understood by the persons directly affected by said Rule; and

WHEREAS, Section 40001 of the California Health and Safety Code establishes authority for the District to adopt the Rule; and

WHEREAS, the Rule, as written, is consistent with existing statutes, court decisions, and State and Federal Regulations; and

WHEREAS, the Rule, as written and amended, is not a "project" under the California Environmental Quality Act (CEQA). The proposed rule simply requires a CDVAA operator to develop and implement a Temporary Baseline Monitoring Program and Particulate Matter Reduction Plan (PMRP), subject to review and approval by the APCD and further subject to all required land-use and other environmental approvals for the proposed PMRP, including review as required under CEQA and NEPA, to provide for particulate matter control measures to reduce PM emissions to comply with the rule; and

WHEREAS, after significant staff analysis, there is no substantial evidence that implementation of the proposed rule will itself have a significant adverse effect on the environment, including indirect effects on the environment. Any potential environmental effects, whether direct or indirect, will depend entirely on the air monitoring locations and particular control measures the CDVAA operator chooses to propose as part of the PMRP; and

WHEREAS, the Rule, as written and amended, even assuming it were somehow a "project" under CEQA, is categorically exempt under Public Resource Code sections 21083 and 21084, and CEQA Guidelines Sections 15307 and 15308 (California Code of Regulations, Title 14, Division 6, Chapter 3), as actions by regulatory agencies for the protection of natural resources and the Environment; and

WHEREAS, the requirements of Public Resource Code Section 21159 have been analyzed and addressed; and

WHEREAS, the requirements of Health and Safety Code sections 40703 and 40922 regarding cost effectiveness of control measures have been analyzed and addressed; and

WHEREAS, the Rule, as written, does not result in duplication of existing State or Federal statutes or regulations in that the Rule does not impose the same requirements as an existing State or Federal Regulation, except to the extent the Rule is necessary or proper to execute the powers and duties granted to and imposed upon the District; and

WHEREAS, the Board has on this date held and conducted a duly noticed Public Hearing on said amendments to the Rules and Regulations of the San Luis Obispo County Air Pollution Control District and has determined the necessity for said amendments; and

WHEREAS, the District has complied with H&SC Sections 40725 through 40728 in adopting these regulatory changes.

NOW, THEREFORE, BE IT RESOLVED AND ORDERED by the Air Pollution Control Board of the San Luis Obispo County Air Pollution Control District that amendments to the District Rules and Regulations, specifically Rule 1001 attached hereto, and incorporated by reference herein as Exhibit A, are hereby adopted.

On motion of Director _____, seconded by Director _____, and passed and adopted on the following roll call vote:

Ayes:

Noes:

Absent:

Abstaining:

_____
Chair, Air Pollution Control District Board
San Luis Obispo County

Attest:

_____
Clerk, Air Pollution Control District Board

By: _____
Deputy Clerk

Approved as to Form and Legal Effect:

By: _____
District Counsel

Date: 11/9/11

I, _____, County Clerk and ex-officio Clerk of the Board of the Air Pollution Control District, in and for the County of San Luis Obispo, State of California, do hereby certify the foregoing to be a full, true and correct copy of an order made by the Board of the Air Pollution Control District, as the same appears spread upon their minute book:

WITNESS my hand and seal of said Board, affixed this ____ day of _____, 2011.

JULIE RODEWALD
County Clerk and Ex-Officio Clerk of the Board of the Air Pollution Control District

By: _____
Deputy Clerk

Exhibit A

RULE 1001 Coastal Dunes Dust Control Requirements *(adopted (date of Adoption)*

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 or sites 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 the daily management of 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. "Monitoring Site Selection Plan": A document providing a detailed description of the scientific approach, technical methods, criteria and timeline proposed to identify, evaluate and select appropriate locations for siting the temporary and long-term CDVAA and control site monitors.

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

11. "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.

12. "PMRP": Particulate Matter Reduction Plan.

13. "PMRP Monitoring Program": The APCO approved monitoring program contained in the PMRP that includes a detailed description of the monitoring locations; sampling methods and equipment; operational and maintenance policies and procedures; data handling, storage and retrieval methods; quality control and quality assurance procedures; and related information needed to define how the CDVAA and Control Site Monitors will be sited, operated and maintained to determine compliance with section C.3.

14. "Temporary Baseline Monitoring Program": A temporary monitoring program designed to determine baseline PM10 concentrations at the APCO-approved CDVAA and Control Site Monitor locations prior to implementation of the PMRP emission reduction strategies and monitoring program. The program shall include a detailed description of the monitoring locations; sampling methods and equipment; operational and maintenance policies and procedures; data handling, storage and retrieval methods; quality control and quality assurance procedures; and related information needed to define how the temporary monitors will be sited, operated and maintained to provide the required baseline data. The temporary monitors shall meet the specifications of the CDVAA and Control Site Monitors unless otherwise specified by the APCO.

15. "Track-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.

16. "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.

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

18. "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 CDVAA operator shall develop and implement an APCO-approved Temporary Baseline Monitoring Program to determine existing PM10 concentrations at the APCO-approved CDVAA and Control Site Monitor locations prior to implementation of the PMRP emission reduction strategies and monitoring program.

2. 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 C.3 and include:

   a. An APCO-approved PM_{10} monitoring network containing at least one CDVAA Monitor and at least one 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.

3. The CDVAA operator shall ensure that if the 24-hr average PM_{10} concentration at the CDVAA Monitor is more than 20% 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.

4. 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 or Temporary Baseline Monitoring Program require environmental review.

5. All facilities subject to this rule shall obtain a Permit to Operate from the Air Pollution Control District by the time specified in the Compliance Schedule.

D. Exemptions

1. Section C.3 shall not apply during days that have been declared an exceptional event by the APCO and where the United States Environmental Protection Agency has not denied the exceptional event.

E. 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.

F. COMPLIANCE SCHEDULE:

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

   a. By February 28, 2012, submit a draft Monitoring Site Selection Plan for APCO approval.
   b. By May 31, 2012, submit a draft PMRP for APCO review.
   c. By November 30, 2012, submit complete applications to the appropriate agencies for all PMRP projects that require regulatory approval.
   d. By February 28, 2013, obtain APCO approval for a Temporary CDVAA and Control Site Baseline Monitoring Program and begin baseline monitoring.
   e. By May 31, 2013, complete all environmental review requirements and obtain land use agency approval of all proposed PMRP projects.
   f. By July 31, 2013, obtain APCO approval of the PMRP, begin implementation of the PMRP Monitoring Program, and apply for a Permit to Operate.
   g. By May 31, 2015, the requirements of Section C.3 shall apply.

2. With the exception of section F.1.g, the CDVAA operator will not be subject to civil penalties for failure to meet any timeframe set forth in section F.1 caused solely by delays from regulatory or other oversight agencies required to consider and approve the operator's PMRP or any part thereof.