



South Coast  
Air Quality Management District

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E-mailed: November 24, 2010  
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Bureau of Land Management  
Palm Springs-South Coast Field Office  
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**Review of the Draft Environmental Impact Report (Draft EIR)**  
**for the Desert Sunlight Solar Farm Project**

The South Coast Air Quality Management District (AQMD) appreciates the opportunity to comment on the above-mentioned document. The following comments are intended to provide guidance to the lead agency and should be incorporated into the Final Environmental Impact Report (EIR) as appropriate.

Based on a review of the Draft EIR the AQMD staff is concerned about the significant regional air quality impacts from the proposed project. Given that the project demonstrates significant air quality impacts the AQMD staff strongly recommends that the lead agency provide additional mitigation measures to further reduce air quality impacts from the construction phase of the proposed project. In addition, the calculation of dust generated by wind erosion during project operations appears to follow non-standard methodology. AQMD staff recommends that this analysis be revisited based on the attached comments prior to releasing the Final EIR. Lastly, additional evaluation of mitigation measures during operation of the project to reduce dust from wind erosion should be presented in the Final EIR.

Pursuant to Public Resources Code Section 21092.5, please provide the AQMD with written responses to all comments contained herein prior to the adoption of the final EIR. Further, staff is available to work with the lead agency to address these issues and any other questions related to air quality that may arise. Please contact Dan Garcia, Air Quality Specialist CEQA Section, at (909) 396-3304, if you have any questions regarding the enclosed comments.

Sincerely,

A handwritten signature in black ink that reads "Ian V. MacMillan". The signature is written in a cursive style with a large initial "I" and "M".

Ian MacMillan  
Program Supervisor, CEQA Inter-Governmental Review  
Planning, Rule Development & Area Sources

Attachment

IM:DG

RVC100831-02  
Control Number

## Effectiveness of Solar Panels to Reduce Wind Erosion

It is unclear from the Draft EIR how effective the solar panels would be in controlling wind blown dust. Solar panels would be expected to increase the surface roughness similar to vegetation; however unlike vegetation the shape of solar panels allows for laminar and turbulent air flow adjacent to the entire bare desert land surface. Although recent studies have begun to evaluate the effectiveness of this measure, field studies may not yet be available to verify how panels affect wind erosion. AQMD staff recommends that the lead agency provide additional information on more recent studies available from the Owen's Valley in the Final EIR. In addition, other alternatives that may reduce saltation and suspension of particulate matter should be considered. This could include permeable drapes or fencing that sit beneath the solar panels to restrict air flow.

## Wind Blown Dust Calculation Methodology

AQMD staff is concerned that the calculation procedure of future wind erosion emissions during operation of the project does not follow standard EPA Guidance for fugitive dust. The wind erosion calculation methodology presented in Appendix D-4 of the Draft EIR is based on assuming that wind erosion rates fit a sigmoidal curve. Geologic and atmospheric processes are input as parameters that modify the shape of the curve. The description of this methodology in the spreadsheets sent to AQMD staff appears to be limited. For example, the rationale for determining how natural phenomenon affect the shape of the curve appears to be ad hoc in places, and generally unreferenced (see comments below). In addition, the methodology appears to rely on converting all control efficiencies into an equivalent vegetative cover control factor. This simplification may not be valid, as many of the conversions appear to be unsubstantiated.

If the lead agency chooses to use this calculation procedure, then additional information should be provided in the Final EIR that justifies its use. This could include field studies that verify the model's accuracy, or other references that may be relevant. If additional justification is not available, the lead agency should use procedures available from EPA or ARB for determining wind erosion rates.<sup>1</sup>

## Wind Blow Dust Calculation Parameters

The choice of several parameters used in the wind blown dust calculation in the Draft EIR appears to yield underestimates of potential wind erosion emissions. The primary factor that should be reconsidered for all parameters is the assumption that the solar fields can be considered homogenous. For example, the underlying geology includes areas of high desert pavement areas in 20-30% of the site (unit Qoa), and low to no pavement areas in the rest of the site (unit Qal and Qoal). As the wind erosion calculation does not yield a linear control efficiency response, an assumption of uniform pavement beneath the entire site may overestimate the control efficiency for this parameter.

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<sup>1</sup> General information on wind erosion is available on ARB's website here:  
<http://www.arb.ca.gov/ei/areasrc/arbmiscprocflugwbdst.htm>

Further guidance from EPA is available in EPA 450/3-74-037 Development of Emission Factors for Fugitive Dust Sources beginning on page 144. The reference may be obtained online from EPA's library here: <http://www.epa.gov/natlibra/ols.htm>

Another parameter that may contribute to an underestimation of emissions is the assumption of 7% silt + clay. Based on the data presented in the Draft EIR, the silt + clay content may reach 13% for the younger alluvium. AQMD staff recommends that a worst case analysis include an assumption of 13% silt in the Final EIR.

Lastly, the ability of vegetation to control dust is largely based on studies of playa salt grass in the Owen's Valley. It is unclear if this type of vegetation will be available for use at this site. In addition, the ability of this vegetation to reduce wind erosion is likely dramatically enhanced by the irrigation and subsequent high soil moisture required for these plants to grow. The WNDEROSN spreadsheet presents control efficiencies for non-irrigated vegetative cover, however no reference is provided. References should be provided in the Final EIR that justifies the use of these values.

#### Proposed Use of Palliatives to Control Dust

In the Draft EIR, the lead agency states that dust palliatives would be applied to the surface of the solar field annually. However, in a subsequent phone call the project proponent indicated to AQMD staff that this mitigation measure may not be feasible as the ground will be tilled up immediately after construction of the array to enhance the vegetative potential of the site. The furrowed ground would both remove the previously lain palliatives, and preclude the ability of trucks to traverse the disturbed soils. AQMD staff therefore recommends that the lead agency provide further description and analysis of this mitigation measure in the Final EIR. Credit should not be taken for this measure if it is found to be infeasible.

#### Wind Data

The lead agency uses wind data from the Barstow Daggett airport in this analysis; however that station is approximately 120 miles away from the site. AQMD staff recommends that the lead agency either use data from the Indio monitoring station located approximately 50 miles away, or explain in the Final EIR why the Barstow dataset is more appropriate to use.

#### Mitigation for Construction Activities

In Section 4.2 (Air Resources) of the draft EIR the lead agency summarizes the project's air quality impacts. The lead agency's evaluation of the project's regional air quality impacts during project construction demonstrate significant air quality impacts from VOC, NO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> emissions. Therefore, AQMD staff recommends that the lead agency add the following mitigation measures to further reduce air quality impacts from the construction phase of the project, if feasible:

- Provide temporary traffic controls such as a flag person, during all phases of construction to maintain smooth traffic flow,
- Provide dedicated turn lanes for movement of construction trucks and equipment on- and off-site,
- Reroute construction trucks away from congested streets or sensitive receptor areas,

- Appoint a construction relations officer to act as a community liaison concerning on-site construction activity including resolution of issues related to PM10 generation,
- Replace ground cover in disturbed areas as quickly as possible,
- Require the use of electricity from power poles rather than temporary diesel or gasoline power generators, and
- Restrict construction delivery trucks to “clean” trucks, such as 2010 or newer model years or 2010 compliant vehicles.

Further, to reduce the project’s significant air quality impacts from NOx and PM2.5 emissions from off-road equipment, AQMD staff recommends that the lead agency revise mitigation measure MM-AIR-1 as follows:

- Sunlight and SCE shall ~~give preference to construction contractors who have newer equipment with lower emission rates or who have retrofitted their equipment with supplemental emission control devices (diesel particulate filters and catalytic controls for nitrogen oxide emissions). This measure might have economic consequences in terms of construction costs.~~ require all on-site construction equipment to meet EPA Tier 2 or higher emissions standards according to the following:
  - ✓ *April 1, 2010, to December 31, 2011:* All offroad diesel-powered construction equipment greater than 50 hp shall meet Tier 2 offroad emissions standards. In addition, all construction equipment shall be outfitted with the BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 2 or Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.
  - ✓ *January 1, 2012, to December 31, 2014:* All offroad diesel-powered construction equipment greater than 50 hp shall meet Tier 3 offroad emissions standards. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.
  - ✓ *Post-January 1, 2015:* All offroad diesel-powered construction equipment greater than 50 hp shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.

A copy of each unit's certified tier specification, BACT documentation, and CARB or SCAQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment.

Also, the lead agency should consider encouraging construction contractors to apply for SCAQMD "SOON" funds. Incentives could be provided for those construction contractors who apply for SCAQMD "SOON" funds. The "SOON" program accelerates clean up of off-road diesel vehicles, such as heavy duty construction equipment. More information on this program can be found at the following website:

<http://www.aqmd.gov/tao/Implementation/SOONProgram.htm>