



August 21, 2023

Docket ID No. EPA-R09-OAR-EPA-R09-OAR-2022-0889

<https://www.regulations.gov>

Limited Approval, Limited Disapproval of California Air Plan Revisions, Mojave Desert Air Quality Management District (MDAQMD)

Re: Particulate Matter emissions

MDAQMD Rule 401 Visible Emissions, Amended 08/26/19

Dear Reader,

The Applicability of Rule 401 (2) The provisions of this Rule shall apply to **ALL** sources of air pollution emissions in the District.

The Definition of Visible Emissions is: any particulate or gaseous matter which can be detected by the human eye.

These comments refer to Rule 401 as it was amended in 2019 without referring to the dust emitted when desert lands are cleared for utility scale solar projects (USS). The first USS in the Joshua Tree area was the 150-acre Cascade Solar. The project was under construction in 2012 and online by 2013 and required clearing intact desert land. No one was prepared for the dust that rose in the wind when the stabilizing creosote bush and galleta grass were removed. The dust picture below, looking toward Cascade Solar from south to north, was taken in April 2018. A call to a resident living on the same slope confirms that the project continues to blow dust when the wind blows.

Since Cascade Solar raised the dust flag, numerous solar projects have been constructed in the Mojave Desert Air Management District (MDAQMD). Included is the currently under-construction 3500-acre Daggett Solar Project in the Daggett/Newberry Springs area which not only fills the air with dust but also buries nearby homes in sand so that the developer has had to dig residents out. The MDAQMD and San Bernardino County Land Use Services, have received complaints and had the opportunity to address the dust problem in meaningful ways.

A meaningful start would be to install ambient air monitors like those used to monitor equipment emissions in the rural areas. The closest ambient monitors to measure the desert dust are in Barstow and Victorville to the west of the USS desert projects. The wind, however, comes from the west so those readings are useless. The MDAQMD installed Purple Air monitors in the Daggett area but these monitors do not respond when the readings are high and many are not currently functioning.

POST OFFICE BOX 24, JOSHUA TREE, CALIFORNIA 92252 email: [INFO@MBCONSERVATION.ORG](mailto:INFO@MBCONSERVATION.ORG)

[WWW.MBCONSERVATION.ORG](http://WWW.MBCONSERVATION.ORG)

MBCA is a 501(c)3 non-profit, community based, all volunteer organization



Figure 1: Dust rising from Cascade Solar in Joshua Basin April 12, 2014

MDAQMD rule 403, Amended 2019 does apply to (2)(a)(v) Solar Projects capable of generating at least (1) megawatt of electrical energy or covering at least one (1) acre. The Dust Control Plan Requirements for the construction of USS projects mandate the developer cease operation when the wind reaches 15-25 mph and to identify the number of water trucks available on-site, application frequency and rate and for any other suppressants intended to be used.

However, we know from experience that water does not suppress the dust except for a few minutes (this is the dry desert!). When the drivers go home, too bad. And, when the project is complete there is no dust control when the wind blows.

Further, the amount of water that might make a difference is far more than is available. All the desert aquifers have diminished. In Lucerne Valley two side by side projects constructed on 232 acres of coarse alluvium soil (not the usual sand, see below) were allotted 10 acre-feet for construction. So much dust was generated that developers were finally able to acquire 50 acre-feet. The construction foreman had to admit that what they needed was 70 acre-feet. (This from personal communication with Chuck Bell, President Mojave Desert Resource Conservation district)

The reason the desert areas are so dusty is because the low-lying basins are sand transport paths. For an overview please see the attached Zimbleman, SAND TRANSPORT PATHS IN THE MOJAVE DESERT, SOUTHWESTERN UNITED STATES, Figure 1.

In addition to the long-lived native plants, what holds the intact desert's dusty soils in place, are the microscopic organisms living at and near the surface of the arid soils. These microscopic organisms produce glue-like substances that hold undisturbed desert soils together and prevent erosion. These living soils, called biocrusts, create and store valuable fertilizing nutrients for the surrounding

community. Biocrusts, when kept intact, hold otherwise dangerous PM10 and PM2.5 particles and spores, such as Valley Fever, in the soil and out of the air, protecting people from breathing in these health-impacting pollutants. (See the attached “The Importance of Biocrusts” by Robin Kobaly)

In 2012 David Bedford and David Miller (USGS) released a poster Assessing the geology and geography of large footprint energy installations in the Mojave Desert California and Nevada. (See the attached USGS assessment of geography and geology of solar installations)

From the above Abstract:

*“Large-footprint energy installations such as solar and wind farms are proposed for wide areas of drylands that are publicly owned. These installations impact areas of 400 to 2000 hectares each, requiring land-use assessments that are novel compared to past decisions for relatively small installations such as mine sites and roadways. Solar installations require low-gradient smooth topography, areas for which we have several data sets that can help with evaluations...About 48% of the entire area is less than 5% slope, and 8.3% is less than 1% slope, the favored slope category. For this lowest -slope category, deposits underlying about 98% of the area are either mixed eolian-alluvial origin or are fine-grained alluvial deposits, and thus are susceptible to eolian dust and sand transport, especially after disturbance. In addition, in this low-slope category, 89% of the area is susceptible to flooding, based on the age and geomorphology of alluvial deposits. These maps are examples of several we present for decision-making with respect to hazards and ecological attributes in the face of climate change.”*

This information has been consistently presented in our comments for solar projects throughout the Mojave desert. Currently neither the MDAQMD, or the County of San Bernardino Land Use Services require or, act upon knowledge of the soils and the hazard of blowing dust.

Utility Scale Solar constructed in the western deserts is considered by the Federal Government to be an important climate change strategy. However, if carried through without consideration of the role of soils and dust on the health of the environment as well as social and environmental justice, a problem much larger than those of the Owens Lake and Salton Sea will be created.

Thank you for considering this important omission from Rule 401.

Sincerely,

A handwritten signature in black ink that reads "Pat Flanagan". The signature is written in a cursive, flowing style.

Pat Flanagan, Board  
Morongo Basin Conservation Association