

BLM Solar Energy Program Design Features

Programmatic Design Features for Air Quality and Climate

The following design features have been identified to avoid, minimize, and/or mitigate potential impacts on ambient air quality and climate from solar energy development that were identified and discussed in Sections 5.11.1 and 5.11.2 of the Draft and Final Solar PEIS.

General

- AQC1-1** Project developers shall consult with the BLM in the early phases of project planning to help determine the potential conformance to air quality and other potential constraints.
- (a) Assessing conformance to air quality and other related constraints shall include, but is not limited to, the following:
- Identifying air quality and other related constraints associated with the proposed project site. In coordination with BLM, the appropriate state and local air regulatory authorities shall be consulted to identify air quality and related constraints and requirements.
 - Determining any applicable Federal, state, and local laws and regulations related to air quality.
 - Considering effects on particulate matter PM₁₀ and PM_{2.5} from the solar energy project and its facilities.
 - Evaluating the cumulative impacts to air quality and air quality related values in Class I areas. Such an analysis should include the Reasonably Foreseeable Development Scenario from the Solar PEIS for all SEZs within the region of a proposed project.
 - Evaluating potential contributions to air quality impacts as part of the environmental impact analysis for the project and considering options to avoid, minimize and/or mitigate adverse impacts in coordination with the BLM.

Site Characterization, Siting and Design, Construction

- AQC2-1** Solar facilities shall be sited and designed, and constructed to minimize impacts on air quality.
- (a) Methods to minimize air quality impacts shall include, but are not limited to, the following:

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- Using equipment that meets emission standards specified in the state code of regulations and meets the applicable EPA Tier 3 and Tier 4 emissions requirements.
 - Preparing a Dust Abatement Plan for the solar facilities that considers multiple methods for dust suppressant (i.e., water, paving, gravel, and/or regulation-compliant palliatives).
- (b) Other methods to minimize air quality impacts and related constraints may include, but are not limited to, the following:
- Considering surfacing access roads with aggregate that is hard enough that vehicles cannot crush it.
 - Managing unpaved roads, disturbed areas (e.g., areas of scraping, excavation, backfilling, grading, and compacting), and loose materials generated during project activities as frequently as necessary to effectively minimize fugitive dust generation.
 - Using machinery that has air-emission-control devices as required by Federal, state, and local regulations or ordinances.
 - Limiting travel to stabilized roads.
 - Considering paving the main access road to the main power block and the main maintenance building.
 - Enforcing posted speed limits (e.g., 10 mph [16 km/hour]) within the construction site to minimize airborne fugitive dust.
 - Covering vehicles that transport loose materials as they travel on public roads, using dust suppressants on truck loads, and keeping loads below the freeboard of the truck bed.
 - Installing wind fences around disturbed areas that could affect the area beyond the site boundaries (e.g., nearby residences).
 - Suspending soil disturbance activities and travel on unpaved roads during periods of high winds. Site-specific wind speed thresholds shall be determined on the basis of soil properties determined during site characterization.
 - Utilizing compatible native vegetative plantings to limit dust generation from stockpiles that will be inactive for a relatively long period.

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- To the extent practicable, avoiding chemical dust suppressants that emit volatile organic compounds within or near ozone nonattainment areas.
- Considering use of ultra-low sulfur diesel with a sulfur content of 15 parts per million (ppm) or less for project vehicles.
- Limiting the idling time of equipment to no more than 5 minutes, unless idling must be maintained for proper operation (e.g., drilling, hoisting, and trenching).
- Minimizing use of dust palliatives in areas of close proximity to sensitive soil and streams.
- Accessing transmission lines from public roads and designated routes to minimize fugitive dust emissions.
- Minimizing on-site vehicle use and requiring routine preventive maintenance, including tune-ups to meet the manufacturer's specifications, to ensure efficient combustion and minimal emissions.
- Encouraging use of newer and cleaner equipment that meets more stringent emission controls.
- Limiting access to the construction site and staging areas to authorized vehicles only through the designated treated roads.
- Staging construction to limit the areas exposed at any time.
- Considering inspection and cleaning of tires of all construction-related vehicles to ensure they are free of dirt before they enter paved public roadways.
- Cleaning up visible trackout or runoff dirt on public roadways resulting from the construction site (e.g., street vacuum/sweeping).
- Salvaging topsoil from all excavations and construction activities during reclamation or interim reclamation and reapplying to construction areas not needed for facility operation as soon as activities in that area have ceased.
- Considering atmospheric conditions when planning construction activities to minimize dust.

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- To the extent practicable, avoiding ground disturbance from construction-related activities in areas with intact biological soil crusts and desert pavement. Developers should salvage soil crusts for restoration, on the basis of recommendations by the BLM once construction has been completed.
- Incorporating environmental inspection and monitoring measures into the POD and other relevant plans to monitor and respond to air quality during construction, operations, and decommissioning of a solar energy development, including adaptive management protocols.

Operations and Maintenance

AQC3-1 Compliance with the terms and conditions for air quality shall be monitored by the project developer. Consultation with BLM shall be maintained through operations and maintenance of the project, employing an adaptive management strategy and modifications, as necessary and approved by the BLM.

- (a) Methods for maintaining compliance with the terms and conditions for air quality during operations and maintenance shall include, but are not limited to, the following:
 - Monitoring and treating areas that have been graded, scraped, bladed, compacted, or denuded of vegetation ahead of actual construction/assembly.
- (b) Other methods to maintain compliance with the terms and conditions for air quality during operations and maintenance may include, but are not limited to, the following:
 - Reapplying palliatives or water as necessary for effective fugitive dust management.
 - Considering use of design features for portions of facilities maintained to be free of vegetation during operations, and use of the dust control design features that were listed above under AQC2-1 to limit fugitive dust emissions during the construction phase to minimize fugitive dust emissions from bare surfaces and unpaved access roads.
 - Ensuring compliance of all combustion sources with state emission standards (e.g., best available control technology requirements).

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Reclamation and Decommissioning

AQC4-1 Reclamation of the site shall incorporate the design features listed above for construction under AQC2-1 to reduce the likelihood of air quality impacts associated decommissioning.