

## Response to CEC Staff Data Adequacy Comments

### Technical Area: Soils

Following are additional information and/or clarifications in response to the specific issues raised in the CEC staff Data Adequacy review. For each specific area where the questions were raised by CEC staff, the applicable section of the CEC Siting Regulations is identified, followed by the "Information Required to Make AFC Conform with Regulations," followed by the supplemental/clarifying information.

### SOILS-1. Appendix B (g)(15)(B)(i).

#### Information Required:

The volume of soil loss due to accelerated wind and water erosion must be numerically quantified using the *Revised Universal Soil Loss Equation (RUSLE2 model)* and the *Wind Erosion Prediction System (WEPS model)* or similarly accepted methods. The soil loss should be estimated, in tons, when using Best Management Practices (BMPs) and without BMPs. Each project feature, such as the power block, solar field, and linear facilities, should be evaluated separately.

#### Response:

#### Soil loss due to accelerated wind and water erosion without BMPs (Pre-Development Condition, Source: USDA Natural Resources Conservation Services):

<u>Solar Field Site</u>		Sheet & Rill Erosion by Water		Erosion by Wind	
Soil Name	Approx. percent of project area	Erosion Factor, K	Erosion Factor, T (tons per acre per year)	Wind Erodibility Group	Wind Erodibility Rating (tons per acre per year)
Adelanto coarse sandy loam, 2 to 5 percent slopes (AcA)	1.6	0.37	5	3	86
Cajon loamy sand, 0 to 2 percent slopes (CaA)	85.7	0.28	5	2	134
Cajon loamy sand, 2 to 9 percent slopes, (CaC)	12.7	0.28	5	2	134

Power Block Site		Sheet & Rill Erosion by Water		Erosion by Wind	
Soil Name	Approx. percent of PB area	Erosion Factor, K	Erosion Factor, T (tons per acre per year)	Wind Erodibility Group	Wind Erodibility Rating (tons per acre per year)
Cajon loamy sand, 0 to 2 percent slopes (CaA)	66.2%	0.28	5	2	134
Cajon loamy sand, 2 to 9 percent slopes, (CaC)	33.8%	0.28	5	2	134

Offsite Linear Facility Route		Sheet & Rill Erosion by Water		Erosion by Wind	
Soil Name	Approx. percent of area	Erosion Factor, K	Erosion Factor, T (tons per acre per year)	Wind Erodibility Group	Wind Erodibility Rating (tons per acre per year)
Adelanto coarse sandy loam, 2 to 5 percent slopes (AcA)	17.0%	.28	5	3	86
Cajon loamy sand, 0 to 2 percent slopes (CaA)	25.9%	.24	5	2	134
Cajon loamy sand, 2 to 9 percent slopes (CaC)	0.6%	.24	5	2	134
Cajon loamy sand, loamy substratum, 0 to 2 percent slopes (CbA)	3.9%	.24	5	2	134

Cajon loamy fine sand, 0 to 2 percent slopes, hummocky (CcA2)	5.3%	.24	5	2	134
Gaviota rocky sandy loam, 15 to 30 percent slopes, eroded (GaE2)	0.5%	.24	1	3	86
Hanford coarse sandy loam, 0 to 2 percent slopes (HbA)	0.1%	.28	5	3	86
Hesperia fine sandy loam, 0 to 2 percent slopes (HkA)	12.6%	.32	5	3	86
Ramona coarse sandy loam, 2 to 5 percent slopes (RcB)	14.8%	.28	5	3	86
Rosamond loam (Rp)	4.0%	.37	5	5	56
Sorrento loam, 2 to 5 percent slopes (SsB)	0.4%	.55	5	5	56

**Soil loss due to accelerated wind and water erosion with BMPs (Post-Development Condition):**

Solar Field Site

Based on concept plan, 84% of existing ground (257 acre of 307 acre, approx.) for Solar Field and adjacent area, including roadway, slopes, infiltration ponds, will be covered (by Soil-Sement or equivalent product) and will not be exposed to erosion by wind and water. So, it can be predicted that the soil loss due to accelerated wind and water will be reduced by at least 84% after BMPs are installed (i.e. post development condition). Application of Soil-Sement or equivalent product has been included in proposed BMP in DESCP. Proposed plan also utilizes infiltration basins, which will act as sedimentation basins, thus reducing/eliminating soil loss by storm water from proposed site.

Power Block Site

Based on concept plan, approximately 75% of existing ground for Power Block and adjacent area, including roadway, slopes, infiltration ponds, will be covered (by building foot prints, equipment foundation slab, roadway pavements, gravel and Soil-Sement or equivalent product) and will not be exposed to erosion by wind and water. So, it can be predicted that the soil loss due to accelerated wind and water will be reduced by at least 75% after BMPs are installed (i.e. post development condition). Application of rock/gravel cover and Soil-Sement or equivalent product has been included in proposed BMP in DESC. Proposed plan also utilizes infiltration basins, which will act as sedimentation basins, thus reducing/eliminating soil loss by storm water from proposed site.

Offsite Linear Facility Route

Offsite linear facilities shall be installed underground and the existing surface cover shall be restored. Therefore, the soil loss due to accelerated wind and water erosion will not be increased during post development condition.