

## 5.4 GEOLOGICAL AND PALEONTOLOGICAL RESOURCES

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As described in detail below, impacts of the Modified Project to geological resources will be less than those of the Approved Project and will remain less than significant. Similarly impacts of the Modified Project to paleontological resources will be less than the Approved Project.

### 5.4.1 Summary of Project Changes

Changes to the Approved Project that require consideration with respect to geologic resources and hazards and paleontological resources, as well as impacts to the Modified Project from geological hazards, are described below.

- The main services complex and on-site substation would be relocated south of the railroad.
- Both the PV Tracking System and the Fixed Tilt System will have smaller more numerous posts compared to 24-inch-diameter SunCatcher pedestals. The diameters of the posts would be between 4.5 inches and 6 inches. Both the 4.5-inch and the 6-inch steel posts generally project 5 to 6 feet above the ground and are vibrated to an equivalent depth into the ground.
- Locations and sizes of certain roads would be altered due to changes in the Modified Project layout.

### 5.4.2 Changes in Environmental Impacts

The Commission Decision concluded that most potential geologic hazards would pose a low or negligible risk to the Approved Project, and that significant geologic and mineral resources are not likely to be present at the Approved Project site. Given that the most likely geologic hazards are ground shaking, flash flooding and volcanic activity; the Commission concluded that these would be effectively mitigated by the standard engineering design measures required as part of Conditions GEN-1, GEN-5 and CIVIL-1, or could be managed within the Approved Project operations.

A potential for surface fault rupture along the Lavic Lake and Pisgah faults is present on the Project site. However, the new location of the main services complex within the Modified Project is not expected to increase or decrease risk from fault rupture. The main services complex would be moved from the east to the west side of the main Lavic Lake fault trace, and the on-site substation would be moved further to the east side of the site. Available geologic information suggests that the new locations of the primary facilities would not be in proximity to the known active fault traces. Condition of Certification **GEO-1** was implemented for the Approved Project to demonstrate that the

facilities are in acceptable locations and not located within 50 feet of an established fault trace or any identified splays. During the compliance proceedings associated with the Approved Project, Condition of Certification **GEO-1** was determined to be satisfied because no occupied buildings were to be constructed within 50 feet of the fault lines, as mapped by the State of California Department of Mines and Geology. As with the Approved Project, occupied facilities associated with the Modified Project would not be situated within 50 feet of the fault lines.

The Commission Decision concluded that with implementation of Conditions, the Approved Project would cause no significant impact to paleontological resources. Because the geologic setting, Project boundaries, depth of excavation, extent of construction, and levels of disturbance have either not changed or been reduced under the Modified Project, the Modified Project would result in no additional impacts to paleontological resources in the Project area.

#### **5.4.3 Changes in Cumulative Environmental Impacts**

The Commission Decision concluded that no geological hazards would be associated with cumulative impacts. The Modified Project would not result in additional cumulative environmental impacts because the proposed rate and amount of groundwater withdrawal would remain unchanged and incremental impacts on geologic and mineral resources would be the same. As described in Section 1.4.1, Cumulative Scenario, no new reasonably foreseeable future actions beyond those assumed in the Commission Decision have been identified. Therefore, the Modified Project's cumulative impacts to geological hazards and paleontological resources are expected to be less than those disclosed in the Final Commission Decision.

#### **5.4.4 Changes in LORS Conformance and Other Permits**

In the Commission Decision, the Commission concluded that, with the implementation of the Conditions, the Approved Project would comply with all applicable LORS. The Commission identified the LORS listed below associated with geologic hazards.

- 2007 California Building Code (CBC) – Identifies standards used in project investigation, design and construction.
- Alquist-Priolo Earthquake Fault Zoning Act – Requires a geologic investigation signed by a licensed engineering geologist to demonstrate that proposed buildings will not be constructed across active faults.
- The Seismic Hazards Mapping Act – Identifies areas subject to the effects of strong ground shaking.
- San Bernardino 2007 Development Code – Includes requirements for geologic/geotechnical studies.

Since the time of the Commission Decision, the 2010 CBC has superseded the 2007 CBC. As with the Approved Project, the Modified Project would comply with all these LORS, including the 2010 CBC, and no additional LORS related to geological hazards have been identified.

A grading permit from the County of San Bernardino Land Use Services Department, Building & Safety Division would be required for both the Approved Project and the Modified Project. This grading permit would be obtained prior to construction of the Modified Project. The Modified Project would not require any additional permits beyond those identified for the Approved Project.

Neither state nor county agencies require a paleontological collecting permit to allow for the salvage of fossil remains discovered as a result of construction-related earth moving on state or private land at a Project site. However, much of the proposed Project site is located on land managed by the BLM, and that agency requires any entity salvaging significant fossil resources on those lands to have a Scientific Paleontological Collecting Permit from the California State BLM office and a Fieldwork Authorization from the Barstow BLM Field Office. While the discovery of paleontological resources is not anticipated, any required permit for the Modified Project would be identical to that of the Approved Project, thus, no changes in permitting of the Project would be required.

#### **5.4.5 Changes in Proposed Mitigation**

No new or more severe impacts requiring additional mitigation would result from the Modified Project. The mitigation measures proposed in the Commission Decision would mitigate impacts associated with the Modified Project to levels that would be less than significant.

#### **5.4.6 Changes in Conditions of Certification**

No changes to Conditions of Certification in the areas of Geological or Paleontological Resources are necessary for the Modified Project.