12. Comparison of Alternatives

This section provides a comparison of the proposed Project and alternatives based on the analysis presented in Sections 5 through 11. This comparison describes the differences in impacts among the various alternatives, focusing primarily on noteworthy differences between the proposed Project and alternatives. For Geology, Soils, and Paleontology, the differentiators used to compare the alternatives included such considerations as erosion potential (based on soil characteristics and total land disturbance), potential for damage from slope instability or other ground failures both during construction and operation, potential for damage from seismic events (i.e., fault rupture, liquefaction, or seismically induced landslides), and potential to disturb and or destroy unique paleontologic resources.

As described in Table S-3, Alternative 2 (SCE's Proposed Project) would involve the construction of access roads, helicopter and other associated construction staging areas, and a total of 853 new towers. Land disturbance consisting of grading and excavation would be required through approximately 77 miles of hillside and mountain areas with known landslides and unstable slopes, resulting in the potential for impacts from construction triggered slope failures, seismically induced slope failures, and slope failures during Project operation. Slope stability impacts associated with Alternative 3 (West Lancaster), Alternative 5 (Partial Underground), and Alternative 7 (66-kV Subtransmission) would be similar to Alternative 2, as these alternatives would have similar construction through the same hillside and mountain areas for the same distance. Compared to Alternative 2, impacts related to construction triggered landslides under Alternative 6 (Maximum Helicopter Construction in the ANF) are expected to decrease due to the reduction in land disturbance from grading of fewer access and spur roads (approximately 45 acres versus 105 acres) required in the hillside and mountain areas with maximum helicopter construction. Of all the Project alternatives, Alternative 4 (Chino Hills Routes including Route C Modified) would have the greatest increase in the amount of construction-related land disturbance in hillside areas with known landslides and slope stability issues and earthquake induced slope failure hazards.

Compared to Alternative 2, construction-related erosion is expected to increase under Alternative 5 (Partial Underground) and Alternative 7 (66-kV Subtransmission) due to increased ground disturbance from underground construction activities, as well as under Alternative 4 (Chino Hills Routes) due to the increased amount of grading required for access roads and new spur roads. Of all the Project alternatives, erosion related impacts would have the greatest decrease under Alternative 6 (Maximum Helicopter Construction in the ANF) due to the reduction in the number of new and upgraded access and spur roads (approximately 42 miles with a $\pm 15\%$ range of 49 to 36 miles), resulting in less ground disturbance in areas with potential erosion issues.

In comparison with the other Project alternatives, Alternative 4 (Routes B and D) and Alternative 5 would result in slightly increased potential for damage from surface fault rupture. Under Routes 4B and 4D, a switching station would be located adjacent to or on the mapped trace of the Alquist-Priolo zoned Chino Fault, while the underground portion of the Alternative 5 alignment would cross the projected trend of the Chino fault.

Compared to the other Project alternatives, the potential to damage or destroy paleontologic resources during construction is expected to increase for Alternative 4 (Chino Hills Routes) and Alternative 7 (66-kV Subtransmission). Alternative 4 would increase ground disturbance in the paleontologically sensitive

Puente Formation, while Alternative 7 would cause a slight increase in ground disturbance from underground construction and new 66-kV poles in young alluvium with moderate paleontologic sensitivity.

Of all the Project alternatives, only Alternative 5 (Partial Underground) would create a potential impact from ground subsidence/settlement during and after construction of the tunnel that could result in damage to overlying structures.