CHAPTER 6.0 – SIGNIFICANT ENVIRONMENTAL IMPACTS AND COMPARISON OF ALTERNATIVES

6.1 Significant or Potentially Significant Environmental Impacts

As discussed in Chapter 5 of this document, there are significant or potentially significant impacts associated with construction or operation of the proposed project. However, with the implementation of mitigation outlined in this document, these impacts can be mitigated to less than significant levels. Temporary impacts to traffic circulation, recreation and vegetation would also occur. Impacts to public safety associated with construction would be avoided by implementing standard traffic control and work area safety procedures.

6.2 Comparison of Alternatives

The Viejo System Project, Alternative 1A (Alternative 1A) is SCE's preferred alternative.

Alternative 1A satisfies the project objectives of providing (i) superior electric reliability, and (ii) greater operational flexibility at a lower cost than the other alternatives considered with no environmental impacts that could not be mitigated to below significant levels.

Alternatives 1A, 1B and 1C have similar impacts for the following environmental factors: Agriculture, Geological Resources, Hazards, Hydrology, Land Use and Planning, Mineral Resources, Noise, Population and Housing, and Recreation. Alternative 1C is slightly superior to Alternatives 1A and 1B for the Biology factor as more vegetation would be impacted by construction of Alternatives 1A and 1B. Alternative 1C could require several additional mitigation measures, when compared with Alternatives 1A or 1B, to reduce impacts to Cultural Resources. However, implementation of these measures would not mitigate Alternative 1C impacts to less than significant levels. The aesthetic impacts associated with Alternatives 1B and 1C are less than the Alternative 1A impacts. However, Alternative 1A minimizes aesthetic impacts by placing H-frame structures adjacent to existing LSTs. The aesthetic impacts of Alternative 1A are not significant when compared to existing conditions. Alternatives 1B and 1C have slightly higher Air Quality impacts than Alternative 1A due to longer construction periods. However, air Quality impacts remain below significant levels for all alternatives considered. Alternatives 1B and 1C do not provide the same level of electric reliability and circuit expansion capability as Alternative 1A. More traffic impacts would be expected for Alternatives 1B and 1C compared to Alternative 1A due to street and lane closures associated with underground construction. Additionally, the costs to maintain and repair Alternative 1A would be less than the maintenance and repair costs associated with Alternatives 1B and 1C. Alternatives 1B and 1C are more susceptible to fault surface ruptures caused by earthquakes than Alternative 1A.

All significant impacts associated with Alternatives 1A and 1B can be mitigated to less than significant levels. Cultural resource impacts associated with Alternative 1C would remain significant even with the implementation of mitigation. The increased level of reliability, operational flexibility, maintainability, and lower cost associated with Alternative 1A, outweigh the environmental differences between Alternatives 1A and 1B, and the more significant impacts of Alternative 1C. Consequently SCE has chosen Alternative 1A as the preferred alternative. A comparison of alternatives is shown in Table 6-1.

Table 6-1 Alternative Comparison

Environmental Factor	Viejo Substation Site Facilities	Subtransmission Line Alternative 1A	Subtransmission Line Alternative 1B	Subtransmission Line Alternative 1C
Aesthetics	No significant impact. Project design would ensure consistency with CEQA thresholds.	Project has been designed to minimize aesthetic impacts. Incremental changes would occur; however, impact thresholds would not be exceeded. No significant impact.	Project has been designed to minimize aesthetic impacts. Incremental changes would occur along overhead portion; however, impact thresholds would not be exceeded. No significant impact. No impacts would occur in the underground portion.	No impact. Project would be constructed in existing road corridors.
Agriculture Resources	No impact. No agriculture resources.	No impact. No agriculture resources.	No impact. No agriculture resources.	No impact. No agriculture resources.
Air Quality	No impact. Control measures would be implemented to minimize fugitive dust.	No impact. Control measures would be implemented to minimize fugitive dust.	As noted in Section 4.4, emissions would be higher under this alternative as the construction duration would be longer. However, impact thresholds would not be exceeded.	This alternative would result in the highest emission levels during construction as the duration would be longest of the alternatives evaluated. However, impact thresholds would not be exceeded.
Biology	Coastal sage scrub would be impacted with construction of the proposed Viejo Substation. Any impacts to covered species/habitats would be mitigated pursuant to the NCCP to less than significant levels.	Coastal sage scrub would be impacted with construction of Alternative 1A. Any impacts to covered species/habitats would be mitigated pursuant to the NCCP to less than significant levels.	Impacts to coastal sage scrub would be the same as under Alternative 1A for the overhead segment of this alternative in the Central and Coastal NCCP . Any impacts to covered species/habitats would be mitigated pursuant to the NCCP to less than significant levels.	No native vegetation would be impacted, and therefore no impacts to sensitive species are anticipated. No mitigation is required.

Environmental Factor	Viejo Substation Site Facilities	Subtransmission Line Alternative 1A	Subtransmission Line Alternative 1B	Subtransmission Line Alternative 1C
Cultural Resources	Potential impacts to known archaeological resources would be reduced to less than significant levels with monitoring. Potential impacts to paleontological resources would be reduced to a less than significant level with monitoring and the implementation of a recovery program.	Potential impacts to known cultural resources would be reduced to a less than significant level with monitoring. Potential impacts to paleontological resources would be reduced to a less than significant level with monitoring and the implementation of a recovery program.	Potential impacts to known cultural resources would be reduced to a less than significant level with monitoring. Potential impacts to paleontological resources would be reduced to a less than significant level with monitoring and the implementation of a recovery program.	There is potential for significant impacts to CA-ORA-825, and –826 located north of El Toro Road. Extensive mitigation measures, in addition to monitoring, would be required to reduce the potentially significant impacts. Extensive mitigation measures may include: standard test pits, testing for depth and extent of the archaeological deposit, or 100% data recovery. Implementation of these measures would not mitigate impacts to less than significant levels. Impacts to potential paleontological resources would be reduced to a less than significant level with monitoring and the implementation of a recovery program.
Geologic Resources	Control measures would be implemented during construction to minimize soil erosion. No impacts are anticipated.	Control measures would be implemented during construction to minimize soil erosion. No impacts are anticipated.	Same as described for Alternative 1A.	Same as described for Alternative 1A.
Hazards	No impact. Project design would ensure consistency with CEQA thresholds.	No impact. Project design would ensure consistency with CEQA thresholds.	No impact. Project design would ensure consistency with CEQA thresholds.	No impact. Project design would ensure consistency with CEQA thresholds.
Hydrology	No impact. Project design would ensure consistency with CEQA thresholds.	The proposed subtransmission line would span Aliso Creek. No construction would occur within or in proximity to the streambed or bank.	Same as described for Alternative 1A.	The line would be installed in a conduit attached to the Portola Parkway crossing of Aliso Creek. No impact would occur.

Environmental Factor	Viejo Substation Site Facilities	Subtransmission Line Alternative 1A	Subtransmission Line Alternative 1B	Subtransmission Line Alternative 1C
Land Use Planning	No impact. Project would be consistent with land use plans and regulations.	No impact. Project would be consistent with land use plans and regulations.	No impact. Project would be consistent with land use plans and regulations.	No impact. Project would be consistent with land use plans and regulations.
Mineral Resources	No impact. No mineral resources are present.	No impact. No mineral resources are present.	No impact. No mineral resources are present.	No impact. No mineral resources are present.
Noise	No significant impact.	No significant impact. An incremental increase in noise would occur. This would not be deemed significant and therefore no mitigation is required.	Same as described for Alternative 1A. for the overhead portion of the subtransmission line. The underground portion would have temporary construction impacts and no impacts resulting from operation.	Temporary impacts would result from construction noise. No permanent impacts would result from operation.
Population/Housing	No impact. Population and housing resources would not be affected.	No impact. Population and housing resources would not be affected.	No impact. Population and housing resources would not be affected.	No impact. Population and housing resources would not be affected.
Public Services	No impact. No public services would be affected.	No impact. No public services would be affected.	Adequate measures would be implemented to ensure ingress/egress conflicts with Fire State 31 locate at Olympiad Road and Melinda Road.	Same as described for Alternative 1B.
Recreation	No impact. No facilities are present.	Temporary access restrictions would occur during construction. Work safety measures in the Work Area Protection and Traffic Control Manual would be implemented to ensure public safety.	Same as described for Alternative 1A for the overhead portion. There would be no impacts resulting from the construction of the underground portion.	No impact. No facilities are present.

Environmental Factor	Viejo Substation Site Facilities	Subtransmission Line Alternative 1A	Subtransmission Line Alternative 1B	Subtransmission Line Alternative 1C
Traffic/Circulation	Truck traffic would temporarily increase from hauling soil and construction material to and from site.	No significant impact. No transportation facilities would be impacted.	Temporary lane closures would occur during construction of the underground portion. Impacts would be mitigated through implementation of measures in the Work safety measures in the Work Area Protection and Traffic Control Manual	Same as described for Alternative 1B.