

CONNECTED ACTIONS

(ECO SUBSTATION AND SWPL LOOP-IN)

4.1 ENVIRONMENTAL ANALYSIS OF CONNECTED ACTIONS

On August 11, 2009, SDG&E filed an application with the CPUC for a Permit to Construct the ECO Substation Project (CPUC Application A.09-08-003). The CPUC is in the process of evaluating the SDG&E ECO Substation Project under CEQA. CPUC and BLM published a NOI to prepare an EIR/EIS for the SDG&E ECO Substation Project on December 28, 2009 (74 FR 68860). It is anticipated that the EIR/EIS will provide a comprehensive analysis of potential impacts of these two actions. According to SDG&E, the purpose of the ECO Substation Project is to “provide an economical interconnection platform for renewable energy projects and to improve reliability to electric customers in southeastern San Diego County.” As discussed in Section 1.1.2, the ECO Substation switchyards and SWPL loop-in (two components of the SDG&E ECO Substation Project) are considered connected actions to the proposed ESJ U.S. Transmission Line project. Detailed descriptions of the ECO Substation switchyards and SWPL loop-in are provided in Section 2.8.

This section provides a discussion of the potential impacts of construction and operation of the ECO Substation switchyards and SWPL loop-in based on recently completed analyses conducted jointly by the CPUC and BLM, as well as SDG&E. The Sunrise Powerlink RDEIR/SDEIS included an assessment of potential impacts of the proposed ECO Substation and SWPL loop-in as connected actions to the Sunrise Powerlink project¹ based on conceptual plans for the two actions (CPUC/BLM 2008b). More recently, SDG&E conducted an evaluation of the potential impacts associated with construction and operation of the ECO Substation and SWPL loop-in in a PEA² as part of their permit application package submitted to the CPUC (SDG&E 2009b). That document was prepared based on a detailed project description and is therefore considered a more complete assessment of the potential impacts of the ECO Substation and SWPL loop-in. The relevant analyses from those documents are incorporated into this EIS by reference and summarized below by issue area, consistent with the organization of Section 3 (Affected Environment, Impacts, and Mitigation Measures).

4.1.1 Biological Resources

Potential impacts to biological resources associated with the construction and operation of the connected actions are addressed in Section 4.4 of the SDG&E PEA and Section 2.2.2, starting at

¹ The RDEIR/SDEIS for the Sunrise Powerlink Project refers to the ECO Substation as the “Jacumba Substation” and the ESJ Wind Project as the “La Rumorosa Wind Project.” The Sunrise RDEIR/SDEIS is available online at: <http://www.cpuc.ca.gov/Environment/info/aspen/sunrise/toc-rdeir.htm>.

² The ECO Substation application documents, including the PEA, are available online at: <http://www.cpuc.ca.gov/environment/info/dudek/ECOSUB/ECOSUB.htm>.

page 2-18, of the Sunrise Powerlink RDEIR/SDEIS. Associated mitigation measures listed in the Sunrise Powerlink RDEIR/SDEIS are provided in Appendix 12, beginning at page Ap.12-2. Potential impacts addressed in these analyses include:

- Temporary and permanent losses of native vegetation.
- Introduction of invasive, nonnative, or noxious plant species during construction activity.
- Creation of dust during construction activity that may result in degradation of plant species.
- Direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants.
- Disturbance to wildlife and potential wildlife mortality during construction and maintenance activities (including use of access roads).
- Direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife.
- Loss of nesting birds and violation of Migratory Bird Treaty Act during construction activity.
- Adverse impacts to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites during construction and operation activity.

According to the PEA, construction of the connected actions would result in the temporary removal of 8.3 acres (3.4 ha) of mixed desert scrub and 16.6 acres (6.7 ha) of juniper woodland as well as the permanent removal of 14.5 acres (9.3 ha) of mixed desert scrub and 74.3 acres (30.1 ha) of juniper woodland. The PEA states that all areas that are temporarily disturbed would be restored to pre-construction conditions³; however, permanent vegetation removal is not considered a significant impact because the vegetation proposed for removal is not a designated sensitive natural community, and the proposed activities would not conflict with any identified plans or policies.

In contrast, the RDEIR/SDEIS identifies the permanent removal of vegetation as significant and unavoidable even with the implementation of all recommended mitigation measures⁴. Based on our independent analysis of the two documents, permanent removal of particular vegetation communities (Sonoran Desert Mixed Scrub and Peninsular Juniper Woodland) would be considered a potentially major impact, as per the definition provided in Section 3.0, and hence, could require mitigation. As discussed in Section 3.1 (Biological Resources), County of San Diego Guidelines require mitigation of any impacts to the Sonoran Desert Mixed Scrub habitat

³ In contrast to the ESJ U.S. project which does not include restoration of disturbed areas because of fire safety restrictions at the site, the project description for the SDG&E ECO Substation Project provided in the PEA states that all temporary disturbance areas would be revegetated. No information is provided in the PEA regarding consultation with the County of San Diego Rural Fire Protection District; therefore, it is unknown if the ECO Substation Project would be subject to the same vegetation clearance requirements as the ESJ U.S. project.

⁴ The full text of CPUC and BLM's recommended mitigations related to ECO Substation Project are provided in Appendix 12 of Sunrise Powerlink Final EIR/EIS (CPUC/BLM 2008b). This document is available online at: http://www.cpuc.ca.gov/environment/info/aspen/sunrise/feir/apps/App_12.pdf.

type and Peninsular Juniper Woodland and Scrub habitat type on a 1:1 and 3:1 ratio, respectively (County of San Diego 2009a). Therefore, although not addressed in the PEA, SDG&E may be required by the County of San Diego to provide onsite or offsite compensatory mitigation for all permanent impacts to these vegetation communities. With the implementation of such mitigation, impacts with regard to temporary and permanent vegetation removal would be considered minor.

With regard to sensitive plant species, both documents state that rare plant surveys conducted in 2008 (RDEIR/SDEIS and PEA) and 2009 (PEA only) concluded that no special status plants occur at the proposed ECO Substation switchyard site. Based on our independent analysis of the two documents, no impacts to rare or sensitive plant species are anticipated to result from construction or operation of the ECO Substation switchyards and SWPL loop-in.

With regard to sensitive wildlife species, based on the current distribution of the federally-endangered Peninsular bighorn sheep and their potential habitat, the RDEIR/SDEIS concluded that the species has a high potential to occur along the SWPL loop-in and at the ECO Substation switchyard site. The RDEIR/SDEIS states that the impact to vegetation communities that are part of peninsular bighorn sheep habitat is considered a significant and unavoidable impact, although mitigation measures are recommended to partially provide compensatory mitigation⁵. However, according to the PEA, both the ECO Substation switchyards and SWPL loop-in would be located approximately 600 feet (183 m) west of designated critical habitat and there are no CNDDDB records that indicate the presence of individuals within 1 mile (1.6 km) of either site. Further, surveys for Peninsular bighorn sheep were not recommended by the USFWS for the proposed sites. Based on our independent analysis of the two documents and the location of the connected actions south of an existing major wildlife movement barrier (I-8) and outside of designated critical habitat, no impacts to Peninsular bighorn sheep are expected. Furthermore, as stated in Section 3.1 (Biological Resources), as of May 14, 2009, the critical habitat area for Peninsular bighorn sheep is approximately 3 miles (4.8 km) east of the ECO Substation switchyards and SWPL loop-in.

With regard to the Quino checkerspot butterfly, both documents conclude that no impacts are anticipated to occur as a result of the connected actions. Protocol level surveys conducted for the RDEIR/SDEIS and PEA did not observe Quino checkerspot butterfly, host plants or nectar plants for the species at the connected action sites. According to the RDEIR/SDEIS, “because 2008 was a good year for the Quino checkerspot butterfly, the survey would have found Quino checkerspot butterfly or their host plants had they been present at the [ECO] Substation site.” Further, following completion of construction activities, the PEA states that SDG&E would utilize the existing Habitat Conservation Plan for Quino checkerspot butterfly during all maintenance activities. Based on our independent analysis of both documents, no impacts to Quino checkerspot butterfly are expected.

⁵ The Sunrise Powerlink RDEIR/SDEIS does not consider regulatory compliance measures or standard best management practices as part of the proposed Project and recommends such compliance measures as mitigation for identified significant impacts. In contrast, the PEA includes standard BMPs and APMs as part of the project description for the connected actions, and also considers compliance with federal, state, and local regulations as part of the project description. Therefore, many of the significant impacts identified in the Sunrise Powerlink RDEIR/SDEIS are considered less than significant in the PEA because recommended mitigation measures in the Sunrise Powerlink RDEIR/SDEIS are considered APMs or regulatory compliance in the PEA.

With regard to potential impacts to other sensitive species, a CNDDDB search conducted for the PEA indicated 8 special status wildlife species with the potential to occur at the ECO Substation switchyard or SWPL loop-in site, including one reptile, three avian species, and four mammals. The PEA notes that temporary and permanent vegetation removal would result in the loss of suitable foraging and denning habitat, which could impact other sensitive species if present on the project site (e.g., northern red-diamond rattlesnake, pallid bat, San Diego desert woodrat). In addition, construction activity would result in indirect and direct impacts to these species due to disturbance caused by an increase in vehicle activity, direct mortality by vehicles, disruption of hibernating, feeding and breeding as a result of increased human activity, and direct removal of active burrows. The PEA states that permanent construction impacts to habitat for sensitive and common species would be limited because the percentage of suitable habitat that would be removed during construction of the ECO Substation switchyard and structures for the SWPL loop-in would be small in comparison to the total amount of available habitat in the area. Further, impacts to sensitive mammal species would be minor with the implementation of APMs⁶, such as construction personnel training, pre-construction surveys, and construction monitoring. The PEA also notes that sensitive and common species of reptiles and mammals could potentially fall into and become trapped within ECO Substation switchyards retention basins; however, implementation of APMs that require escape ramps in the design and construction of the ponds would ensure that impacts to such species would be minor. Based on our independent evaluation of the two analyses, the potential for impacts to other sensitive wildlife species during construction and operation of the connected actions is considered minor.

With regard to sensitive bird species, large stick nests were observed on several transmission towers in the vicinity of the proposed ECO Substation switchyard site during reconnaissance surveys conducted for the PEA, indicating the potential for nesting raptors in the area that are protected under the Bald and Golden Eagle Protection Act. The PEA states that construction activities could result in disturbance of nesting raptors; however, with implementation of APMs such as pre-construction surveys and avoidance (e.g., maintaining a certain distance from identified nests and/or avoiding construction activities during nesting season), impacts would be reduced to minor levels. Similarly, the RDEIR/SDEIS concludes that potential impacts to nesting birds would be less than significant with the implementation of mitigation measures. Based on our independent review of both documents, as well as the conclusions of biological surveys conducted for the ESJ U.S. project, impacts to nesting bird species during construction of the connected actions are considered minor.

According to the PEA, operation of the ECO Substation switchyards would not require any new activities because SDG&E already operates other facilities in the area; therefore, operation of the ECO Substation switchyards would not impact any sensitive natural communities and would result in minor impacts to plant and animal species. Further, the PEA states that operation of the ECO Substation switchyards would not conflict with local policies or conservation plans. Based on our independent review of this analysis, it is anticipated that operation of the ECO Substation switchyards would result in minor impacts, if any, to biological resources and would not conflict with local policies or conservation plans.

⁶ A complete list of all APMs included in the PEA can be found on page 3-71 of the PEA: <http://www.cpuc.ca.gov/environment/info/dudek/ECOSUB/3%20Project%20Description.pdf>

4.1.2 Visual Resources

Potential impacts to aesthetics and visual resources associated with the construction and operation of the ECO Substation switchyards and SWPL loop-in are addressed in Section 4.1 of the PEA and Section 2.3.2 of the Sunrise Powerlink RDEIR/SDEIS, starting at page 2-44. Associated mitigation measures are provided in their Appendix 12, beginning at page Ap.12-57. Potential impacts addressed in those analyses include:

- Short-term visibility of construction activities, equipment, and night lighting.
- Long-term visibility of land scars and vegetation clearance in arid and semi-arid landscapes (RDEIR/SDEIS only).
- Increased structure contrast, industrial character, view blockage, skylining, and glare when viewing the ECO Substation switchyards (e.g., Old Highway 80) (RDEIR/SDEIS only).

Both the PEA and Sunrise Powerlink RDEIR/SDEIS conclude that construction of the ECO Substation switchyards and structures for the SWPL loop-in would result in less than significant impacts to visual resources with the implementation of mitigation measures (RDEIR/SDEIS) and APMs (PEA). Construction activities would be visible to motorists traveling on Old Highway 80 and I-8; however, the views would be brief. Construction activities would also be visible to recreationists at nearby recreation areas, including Anza Borrego Desert State Park, Table Mountain ACEC, and the Jacumba Wilderness Area. Construction equipment and activity would not be visible from residential areas. While night lighting may be required, lighting would not be visible from occupied residences. Based on our independent review of the two analyses, temporary impacts are considered minor with implementation of the recommended measures.

The PEA notes that, following the completion of construction activities, the ECO Substation switchyards and SWPL loop-in would not be visible from designated state scenic highways, although portions of the substation would be visible from Old Highway 80 (as discussed in Section 3.2 [Visual Resources], the segment of Old Highway 80 from State Route 79 [located 28 miles (45 km) northwest of Jacumba] to I-8 is proposed as a County of San Diego-designated scenic highway in the updated General Plan). Figure 4.2-1 provides a simulated view of the completed ECO Substation switchyards and SWPL loop-in, as viewed from Old Highway 80. According to the PEA, the historic designation of Old Highway 80 does not preclude development (the PEA does not indicate any further conclusion regarding the severity of visual impacts to motorists traveling on Old Highway 80). By comparison, the Sunrise Powerlink RDEIR/SDEIS concludes that, even with the implementation of recommended mitigation measures, the ECO Substation switchyards as viewed from an identified Key Viewing Point located on Old Highway 80 (approximately the same location as the simulated view shown in Figure 3.2-2), would result in significant and unavoidable impacts to visual resources; however, no visual simulations of the ECO Substation switchyards were conducted for the RDEIR/SDEIS. Based on our independent evaluation of both documents, including a review of visual simulations, the brief nature of views from Old Highway 80 and the current visibility of the SWPL transmission line from the roadway (as shown in Figure 3.2-2a), the incremental additional impact of the ECO Substation switchyards and SWPL loop-in, as viewed by motorists, is considered moderate.



The East County Substation is not a part of the ESJ U.S. Transmission Project, but it is a Connected Action for the purpose of this EIS.

The viewpoint in this simulation is on Interstate 8, northwest of the project site. Landscaping is depicted at 8 years maturity.

ENVIRONMENTAL VISION



PROJECT LOCATION
Source: SDG&E 2009.

ENERGIA SIERRA JUAREZ U.S. TRANSMISSION LINE EIS

**FIGURE 4.2-1
EAST COUNTY (ECO) SUBSTATION
VISUAL SIMULATION**

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Additional visual simulations conducted for the PEA determined that the ECO Substation switchyard would be visible from the Jacumba Wilderness Area to the east, particularly Nopal Peak which provides limited access to hikers and off-road vehicles. The PEA analysis concludes that given the viewing distances (approximately 0.75 mile [1.2 km]) and perspective from Nopal Peak, visible sections of the substation would include the substation pad and graded slopes but that the transmission poles would be nearly imperceptible. Implementation of APMs is expected to minimize the potential visual contrast and reduce impacts to minor levels. Based on our independent review of the PEA visual simulations and analysis, impacts to visual resources, as viewed by recreationists are considered minor, although such impacts would last for the duration of the project. No additional potential impacts to visual resources have been identified and no other mitigation measures are indicated.

4.1.3 Land Use

Potential impacts to land use associated with the construction and operation of the ECO Substation switchyards and SWPL loop-in are addressed in Section 4.9 of the PEA and Section 2.4.2, starting at page 2-63, of the Sunrise Powerlink RDEIR/SDEIS. Potential impacts addressed in these analyses include:

- Temporary disturbance of existing land uses during construction.
- Division of an established community.
- Conflicts with applicable land use plans, policies, and regulations (PEA only).
- Conflicts with applicable habitat conservation plan (PEA only).

Similar to the ESJ U.S. Transmission Line project, the ECO Substation switchyards and structures associated with the SWPL loop-in would be located on undeveloped, private land designated for Multiple Rural Use in the County of San Diego General Plan and zoned General Rural by the County of San Diego Zoning Ordinance. The nearest residence to the connected actions would be a single trailer residence located approximately 0.4 mile (0.64 km) southwest. Because the site proposed for the ECO Substation switchyard and structures for the SWPL loop-in is undeveloped and not located in close proximity to any established communities (e.g., Jacumba or Boulevard), both the RDEIR/SDEIS and PEA conclude that construction and operation of the connected actions would not result in the division of an established community or disturb existing land uses. In addition, the PEA states that construction and operation of the connected actions would not conflict with applicable land use or habitat conservation plans, including the County of San Diego General Plan (County of San Diego 2003), the Eastern San Diego County Management Framework Plan (BLM 1981), the Eastern San Diego County RMP (BLM 2008a), the Mountain Empire Subregional Plan (County of San Diego 1995; 2010), SDG&E Subregional Natural Community Conversion Plan (CDFG 1995), SDG&E - Quino Checkerspot Butterfly Low-Effect Habitat Conservation Plan (USFWS 2008), and the San Diego County Multiple Species Conservation Program (County of San Diego 1998).

Based on an independent review of these analyses, construction and operation of the ECO Substation switchyards and SWPL loop-in are not anticipated to result in any impacts to existing land uses and would not conflict with applicable land use or habitat conservation plans. No

additional potential impacts related to land use have been identified and no mitigation measures are indicated.

4.1.4 Recreation

Potential impacts to recreation associated with the construction and operation of the ECO Substation switchyards and SWPL loop-in are addressed in Section 4.13 of the PEA and Section 2.5.2, starting at page 2-69, in the Sunrise Powerlink RDEIR/SDEIS. Associated mitigation measures are provided in Appendix 12, beginning at page Ap.12-57. Potential impacts addressed in these analyses include:

- Temporary reduction in access and visitation to recreation and wilderness areas during construction.
- Change in the character of a recreation area and diminishment of its recreational value.

Similar to the ESJ U.S. Transmission Line project, the ECO Substation switchyards and structures associated with the SWPL loop-in would be located on undeveloped, private land approximately 0.5 mile (0.8 km) from the nearest recreational area (Jacumba Mountains Wilderness Area to the east, described in Section 3.4 [Recreation]). Therefore, both the RDEIR/SDEIS and PEA concluded that no major impacts to recreation areas would result from construction, operation, or maintenance of the two actions. The same mitigation measures identified for visual resources are recommended in the RDEIR/SDEIS to reduce impacts to the character of nearby recreation areas. Based on an independent review of these analyses, potential impacts to nearby recreation areas are considered minor. No additional potential impacts related to recreation have been identified and no mitigation measures are indicated.

4.1.5 Cultural Resources

Potential impacts to cultural resources associated with the construction and operation of the ECO Substation switchyards and SWPL loop-in are addressed in Section 4.5 of the PEA and Section 2.7.2, starting at page 2-80, in the Sunrise Powerlink RDEIR/SDEIS. Associated mitigation measures are provided in Appendix 12, beginning at page Ap.12-78 of the Sunrise Powerlink RDEIR/SDEIS. Potential impacts addressed in these analyses include:

- Adverse changes to known historic properties, unknown significant buried prehistoric and historic archaeological sites, buried Native American remains, or Traditional Cultural Properties during construction activity.
- Adverse changes to known historic properties, unknown significant buried prehistoric and historic archaeological sites, buried Native American remains, or Traditional Cultural Properties during operation and maintenance activities.

Although the RDEIR/SDEIS states that one cultural resource located in the eastern portion of the ECO Substation switchyard site and three cultural resources located along the SWPL loop-in are potentially eligible for listing in the NRHP (Sites CA-SDI-2720, CA-SDI-6115, CA-SDI-7083, and CA-SDI-8307), according to the PEA, a review of archival information and survey results indicates that no known historical resources are located at the site proposed for the ECO

Substation switchyards and structures associated with the SWPL loop-in⁷. However, based on the density of prehistoric and historic resources in the vicinity, both documents state that there is a high potential for cultural resources to be encountered during construction of the ECO Substation switchyards and SWPL loop-in, and ground-disturbing construction activities could impact such resources. Both documents conclude that with the implementation of APMs (PEA) and recommended mitigation measures (RDEIR/SDEIS), including demarcation of known resources, training construction personnel, and compensatory mitigation (as discussed in Section 3.5 [Cultural Resources]), impacts to known and unknown cultural resources would be minor.

With regard to potential impacts to Native American cultural resources and human remains, the PEA states that, based on consultation with the NAHC⁸, no known cemeteries or Native American remains are located on the site proposed for the ECO Substation switchyards and structures associated with the SWPL loop-in; therefore, the potential for encountering human remains during construction and operation is low. If any human remains are discovered during operation and maintenance activities, both documents conclude that direct impacts would be significant. However, in the event that human remains are discovered during construction, SDG&E would be required by the Native Graves Protection and Repatriation Act to halt all work and implement appropriate notification procedures; therefore, direct impacts are not anticipated.

Based on our independent analysis of the two documents and our own Native American tribal consultative process (Appendix D.1), as well as applicable laws and regulations, potential impacts to known and unknown cultural resources, including Native American resources, during construction of the ECO Substation switchyards and SWPL loop-in are considered minor. No additional potential impacts related to cultural resources have been identified and no additional mitigation measures are indicated.

4.1.6 Noise

Potential noise impacts associated with construction and operation of the ECO Substation switchyards and SWPL loop-in are addressed in Section 4.10 of the PEA and Section 2.8.2, starting at page 2-94, of the Sunrise Powerlink RDEIR/SDEIS. Associated mitigation measures in the Sunrise Powerlink RDEIR/SDEIS are provided in Appendix 12, beginning at page Ap.12-89. Potential impacts addressed in these analyses include:

- Construction-phase noise from on-road and off-road vehicle traffic and off-road construction equipment.
- Corona effects from ECO Substation switchyard equipment.
- Groundborne vibration during construction activity.
- Substantial temporary and permanent increase in ambient noise levels in the project vicinity (PEA only).

⁷ The proposed location of the ECO Substation switchyard was shifted to the east after the publication of the Sunrise Powerlink RDEIR/SDEIS accounting for the difference in records search results.

⁸ The PEA states that letters to initiate consultation were sent to representatives of the Campo Kumeyaay Nation, Manzanita Band of Kumeyaay Nation, Ewiiapaay Tribal Office, and Kumeyaay Cultural Heritage Preservation Committee. At the time of writing the PEA, only one response had been received (from Campo Kumeyaay Nation requesting to be informed of progress).

Similar to the ESJ U.S. Transmission Line project, the nearest sensitive receptor to the ECO Substation switchyards would be a single mobile home residence located approximately 0.4 mile (0.64 km) to the southwest. The next closest receptor would be located north of I-8, approximately 1.4 miles (2.25 km) northeast of the ECO Substation switchyards. According to the noise study conducted for the PEA, existing average daytime and nighttime noise levels at the ECO Substation switchyard site are 46 and 37 dBA, respectively. Noise contours prepared for construction of the ECO Substation switchyard and structures associated with the SWPL loop-in indicate that noise levels at the property line would remain below the County of San Diego noise ordinance threshold (75 dBA). Similarly, noise contours depicting noise levels during operation of the ECO Substation switchyards and SWPL loop-in show that noise levels would remain below the County of San Diego Noise Ordinance threshold for lands zoned Rural Use (45 dBA). In addition, the PEA modeled anticipated groundborne vibration during construction activity and determined that because no residents or other receptors are within 100 feet (30 m) of the proposed site, no impacts would occur. Therefore, the PEA concludes that construction and operation of the ECO Substation switchyards and SWPL loop-in would not result in substantial temporary or permanent increases in ambient noise levels in the project vicinity. Although less quantitative than the PEA, the Sunrise Powerlink RDEIR/SDEIS also concludes that construction and operation of the ECO Substation switchyards and SWPL loop-in would not result in temporary or permanent noise impacts to sensitive receptors. Based on an independent review of the two analyses, impacts with regard to noise during construction and operation of the connected actions are expected to be minor.

With regard to corona noise, the PEA and Sunrise Powerlink RDEIR/SDEIS determined that because noise levels generally decrease in intensity by 6 dBA for each doubling of distance from the source, corona noise during poor weather conditions is expected to be less than 34 dBA at the nearest sensitive receptor and the associated increase in ambient noise would be less than 5 dBA; therefore, both documents conclude that impacts associated with corona noise would be minor and no mitigation measures (RDEIR/SDEIS) or APMs (PEA) are required. Based on an independent review of these analyses, corona noise impacts are considered minor. No additional potential impacts related to noise have been identified and no additional mitigation measures are indicated.

4.1.7 Transportation and Traffic

Potential impacts to transportation and traffic are addressed in Section 4.14 of the PEA and Section 2.9.2, starting at page 2-101, of the Sunrise Powerlink RDEIR/SDEIS. Associated mitigation measures are provided in Appendix 12, beginning at page Ap.12-91 of the Sunrise Powerlink RDEIR/SDEIS. Potential impacts addressed in these analyses include:

- Generation of additional traffic on vicinity roadways during construction.
- Temporary lane and/or road closures during construction activity (RDEIR/SDEIS only).
- Temporary disruptions to the operations of emergency service providers or result in inadequate emergency access.
- Increases in hazards due to design features and/or incompatible uses (PEA only).

- Physical damage to roadways from construction vehicles (RDEIR/SDEIS only).
- Conflicts with planned transportation projects.

Since the project sites are located in the same area in the southeastern corner of San Diego County, existing roadway conditions in the vicinity of the ECO Substation switchyards and SWPL loop-in would be identical to those described for the ESJ U.S. Transmission Line project. As described in the PEA, construction of the ECO Substation switchyards and structures associated with the SWPL loop-in would result in the daily addition of approximately 50 to 60 personal vehicle trips and 60 to 70 construction vehicle trips (including haul truck trips and water truck trips) on I-8 and the local roadway network for the duration of construction activity (approximately 5 months). In comparison to existing conditions (described in Section 3.7, Transportation and Traffic), the additional vehicles would result in estimated increase of average daily traffic by 0.5 and 0.2 percent in San Diego and Imperial Counties, respectively. Therefore, based on the expected scale of the ECO Substation switchyards (including the SWPL loop-in) and the short duration of construction activity, both the PEA and RDEIR/SDEIS conclude that impacts with regard to the generation of additional traffic on vicinity roadways would be minor. Based on an independent review of the two analyses, no major impacts to transportation or traffic are expected during construction of the connected actions.

The PEA further states that construction of the ECO Substation switchyards and structures associated with the SWPL loop-in would not require the closure of any vicinity roads, and any temporary lane closures would be brief (e.g., 10-15 minutes while pulling a conductor across a roadway). No road and lane closures would occur during operation or maintenance of the ECO Substation switchyards or SWPL loop-in. Therefore, both the PEA and RDEIR/SDEIS conclude that construction of the ECO Substation switchyards and structures associated with the SWPL loop-in would not result in disruptions to the operations of emergency service providers or result in inadequate emergency access. In the event that lane or road closures are required, the RDEIR/SDEIS recommends a mitigation measure to ensure advance coordination with emergency service providers in order to prevent emergency service disruptions. Based on an independent review of the two analyses, with implementation of the recommended mitigation measures, impacts with regard to emergency access are considered minor.

In addition to the impacts discussed above, the RDEIR/SDEIS states that construction activity associated with the ECO Substation switchyards and structures associated with the SWPL loop-in could potentially result in significant physical damage to vicinity roadways, including increased wear or deterioration; however, with the implementation of a recommended mitigation measure to repair damaged roads, the RDEIR/SDEIS concludes that impacts would be reduced to less than significant levels. As discussed in Section 3.7, such a measure would be included as a condition of the Major Use Permit, if required by the County of San Diego. Based on an independent review of this analysis, impacts with regard to roadway damage are considered minor.

With regard to planned transportation projects, as stated in Section 3.7 (Transportation and Traffic), no major transportation projects are planned in the vicinity of the ECO Substation switchyards or SWPL loop-in during the proposed schedule for construction. Prior to construction, SDG&E would obtain an encroachment permit to conduct work in the public right-

of-way; this permit process would ensure that no impacts or conflicts would occur. Based on our independent review of these analyses, no impacts with regard to planned transportation projects are anticipated. No additional potential impacts related to transportation and traffic have been identified, and no additional mitigation measures are indicated.

4.1.8 Public Health and Safety

Potential impacts to public health and safety are addressed in Section 4.7 of the PEA and Section 2.10.2 of the Sunrise Powerlink RDEIR/SDEIS, beginning on page 2-112. Associated mitigation measures identified in the Sunrise Powerlink Final EIR/EIS are described in Appendix 12, page Ap.12-94. Potential impacts addressed include:

- Accidental spill or release of hazardous materials during construction and/or operation which could contaminate soil and groundwater.
- Induced currents and shock hazards in joint use corridors (RDEIR/SDEIS only).
- Effects on cardiac pacemakers (RDEIR/SDEIS only).
- Hazards associated with wind and earthquake impacts to proposed structures.

SDG&E conducted a Phase I Environmental Site Assessment for the proposed ECO Substation Project site and included the results in the PEA. The assessment found no hazardous material sites within 2 miles (3.2 km) of the ECO Substation Project; however, three informal shooting ranges were identified on the ECO Substation switchyard parcel that may present concerns to environmental health and human safety and were identified as recognized environmental conditions. The RDEIR/SDEIS also conducted a database search of hazardous sites in the vicinity of the proposed site and reported the same results. Based on the ECO Substation switchyard site's remote location away from any sensitive receptors (see Section 4.6), and with the implementation of APMs (PEA) and recommended mitigation measures (RDEIR/SDEIS) regarding proper handling and disposal of hazardous materials, both documents conclude that any impacts associated with potential releases of hazardous materials during construction and operation would be minor and would not pose a major threat to public health or safety. Based on an independent review of these analyses and the results of the database search, impacts with regard to hazardous materials, if any, are considered minor.

With regard to potential safety issues associated with the potential for structure failure during high winds or earthquakes, the PEA states that the ECO Substation switchyards would be configured according to the Institute of Electrical and Electronics Engineers' "Recommended Practices for Seismic Design of Substations" (Standard 693-2005; IEEE 2005) in order to withstand anticipated ground motion. In addition, the RDEIR/SDEIS states that such structures must meet the requirements of CPUC General Order 95, "Rules for Overhead Electric Line Construction." Therefore, both documents conclude that any potential hazards to human health and safety resulting from wind or earthquake impacts to the proposed structures would be minor. In addition, the RDEIR/SDEIS addresses potential safety impacts of the electrical field at the ECO Substation switchyards to cardiac pacemakers and increased hazards of induced currents and shocks. The RDEIR/SDEIS concludes that while exposure to the electric fields may result in asynchronous pacing in older model pacemakers, such effects are not a problem to modern pacemakers and no impacts to human health are anticipated. Similarly, the potential for induced

currents and shocks would be minimal if all electrical structures are properly grounded; therefore, with the implementation of the recommended mitigation measure to implement grounding measures, the RDEIR/SDEIS concludes that no impacts to public health or safety would result from operation of the ECO Substation switchyards. Based on an independent review of these analyses, with the implementation of recommended mitigation measures, no impacts to public safety are anticipated. No additional impacts related to public health and safety have been identified and no additional mitigation measures are indicated.

4.1.9 Fire and Fuels Management

Potential impacts related to fire and fuels management are addressed in Section 4.7 and 4.12 of the PEA and Section 2.15.2 of the Sunrise Powerlink RDEIR/SDEIS, beginning on page 2-158. Appendix 12 of the Sunrise Final EIR/EIS, starting at page Ap.12-118 provides the full text of mitigation measures recommended in the Sunrise Powerlink RDEIR/SDEIS. Potential impacts addressed in these analyses include:

- Increased probability of a wildfire due to equipment used during construction and maintenance activities.
- Introduction of non-native plants that would contribute to an increased ignition potential and rate of fire spread (RDEIR/SDEIS only).
- Reduction in the effectiveness of firefighting efforts.
- Exposure of people or structures to a risk of loss, injury, or death related to wildland fires.

Similar to the ESJ U.S. Transmission Line project, the ECO Substation switchyard would be located in an area classified as a very high fire threat by the California Fire and Resource Assessment Program. Available fire fighting services in the vicinity would be the same as those described for the proposed project in Section 3.9 (Fire and Fuels Management). Both the RDEIR/SDEIS and the PEA indicate that construction of the ECO Substation switchyards could result in potentially major fire hazards and increased wildfire probability as a result of increased vehicle and human presence and heat or sparks from construction equipment. However, both documents conclude that impacts would be reduced to minor levels with implementation of APMs (PEA) and recommended mitigation measures (RDEIR/SDEIS) including development and implementation of a Construction Fire Prevention Plan and implementation of Sempra Utilities' Wildfire Prevention and Fire Safety Guide. Based on an independent analysis of these documents, with implementation of the recommended measures, impacts are considered minor.

In addition to potential ignitions from construction vehicles, the RDEIR/SDEIS addressed the potential for activities associated with the construction and operation of the ECO Substation switchyards to result in the spread of non-native invasive weeds. In particular, the RDEIR/SDEIS notes that certain invasive plants that are common in the region (such as cheatgrass, medusa head, and Saharan mustard) are highly flammable and contribute to changes in wildfire frequency, timing and spread. The introduction of such plants as a result of construction and operation activities could exacerbate wildfire risks in the vicinity of the ECO Substation switchyards. However, the RDEIR/SDEIS concludes that the potential for wildfire risks associated with invasive plants would be reduced to minor levels with the implementation

of the recommended mitigation measure to develop and implement a Weed Control Plan. Based on an independent review of this analysis, with implementation of the recommended measure, impacts are considered minor.

With regard to fire risks during operation of the ECO Substation switchyards, the PEA states that operation and maintenance would include regular vegetation clearing to provide fire breaks that would reduce the probability of wildfire and reduce the exposure of people and structures to wildland fires and the ECO Substation switchyards would have no impact on firefighting services. Therefore, the PEA concludes that operational impacts associated with fire and fuels management would be minor. As stated above in Section 4.2.1, the PEA does not provide any further details on vegetation clearing or consultation with the San Diego Rural Fire Protection Department (although the PEA project description does state that such consultation would take place prior to construction); therefore, it is unknown if the ECO Substation switchyards would require the same amount of vegetation clearance as the ESJ U.S. project (30-foot [9.1-m] radius around all structures). In contrast, the RDEIR/SDEIS states that the presence of the ECO Substation switchyards would create an ongoing source of potential ignitions due to line faults caused by unpredictable events such as conductor contact by floating debris; therefore, even following implementation of a recommended mitigation measure to maintain adequate vegetation clearance, the Sunrise RDEIR/SDEIS concludes that operational impacts associated with fire and fuels management would be significant and unavoidable.

The RDEIR/SDEIS also states that operation of the ECO Substation switchyards would result in the creation of indefensible space between the Substation and adjacent transmission lines. As discussed in Section 3.9 (Fire and Fuels Management), general fire-fighting guidelines recommend that ground attacks not be made within at least 500 feet (152 m) of a power line conductor and that ground-based firefighters maintain a clearance from downed, energized power lines equal to the distance between two towers in order to ensure firefighter safety (NIOSH 2002; CPUC/BLM 2008b). Maintaining a minimum 500-foot (152-m) safety buffer greatly reduces the risk of electrical structure contact; however, it also reduces the effectiveness of ground-based frontal attacks. Therefore, the RDEIR/SDEIS concludes that the proposed transmission line would create an obstacle to firefighting and wildfire containment thereby reducing the effectiveness of firefighting efforts in the immediate vicinity of the ECO Substation switchyards.

Based on an independent review of both analyses and the existing fire hazards in the area, even with implementation of recommended mitigation measures (RDEIR/SDEIS) and APMs (PEA), impacts with regard to potential ignitions and hazards to firefighting are considered major and unavoidable. No additional impacts related to fire and fuels management have been identified and no additional mitigation measures are indicated.

4.1.10 Air Quality and Climate Change

Potential impacts to air quality associated with construction and operation of the ECO Substation switchyards and SWPL loop-in are addressed in Section 4.3 of the ECO Substation PEA and Section 2.12.2, starting at page 2-122, of the Sunrise Powerlink RDEIR/SDEIS. The full text of the mitigation measures related to air quality impacts at the ECO Substation switchyards as proposed by the Sunrise Powerlink RDEIR/SDEIS are included in Appendix 12, at page Ap.12-101. Potential impacts addressed in these analyses include:

- Construction-phase and operations-phase fugitive dust and other pollutant emissions from on-road vehicles, off-road vehicles, and off-road equipment use.
- Greenhouse gas emissions from ECO Substation switchyard operations, including the GHG SF₆, which is used as a dielectric medium in high-voltage switchgear and circuit breakers at substations.

Similar to the ESJ U.S. Transmission Line project, construction emissions would vary substantially from day to day, depending on the level of activity, the specific type of operation, and the prevailing weather conditions; however, air emissions are anticipated to be greater than described for the ESJ U.S. Transmission Line project due to the larger area of land disturbance associated with the ECO Substation switchyards. The PEA concludes that air emissions during construction of the ECO Substation switchyards would be minor for all criteria pollutants. The PEA analysis calculated the predicted emissions of pollutants using the URBEMIS model, based on actual construction days, equipment required, and area disturbed. The model results indicate that the pounds per day emission rate during construction activity would remain below SDAPCD and ICAPCD significance thresholds (Table 4.2-1; see Section 3.10 [Air Quality and Climate Change] for a list of the thresholds). In contrast, the RDEIR/SDEIS concludes that air quality emissions during construction of the ECO Substation switchyards and SWPL loop-in would result in significant and unavoidable impacts with regard to dust and exhaust emissions, even with incorporation of recommend mitigation measures including implementation of dust suppression methods, use of low-emission construction equipment, carpooling and limited idling of vehicles.

Project Component	Criteria Pollutant	Emissions (lbs per day)
ECO Substation Switchyards	PM _{2.5}	26.92
	PM ₁₀	99.36
	NO _x	208.74
	SO _x	0.19
	CO	247.95
	VOC	38.69

Project Component	Criteria Pollutant	Emissions (lbs per day)
SWPL Loop-In	PM _{2.5}	2.51
	PM ₁₀	4.50
	NO _x	76.55
	SO _x	0.01
	CO	33.49
	VOC	8.35

Based on an independent analysis of the PEA model assumptions, the calculated emissions for PM₁₀ and NO_x are considered questionable (i.e., the calculated PM₁₀ emission is 99 lb/day compared to the threshold of 100 lb/day and the calculated NO_x emission is 240 lb/day compared to the 250 lb/day threshold). Although a detailed reassessment of construction emissions was not performed for this EIS, the conservative assessment is that air quality impacts during construction could at least marginally exceed agency thresholds for determining significant impacts. The calculated emissions for all other criteria pollutants are considered reasonable and are not expected to exceed agency thresholds.

With regard to operational emissions, both the RDEIR/SDEIS and the PEA concluded that there would be no major impacts to air quality or GHG emissions. Although not discussed in the RDIR/SDEIS, the PEA provides a discussion of SF₆ which is used as a dielectric medium in high-voltage switchgear and circuit breakers at substations and is typically associated only with facilities which are connected to transmission lines, such as the ECO Substation switchyards. The PEA states that the ECO Substation switchyards would emit 0.03 metric tons per year SF₆ (approximately 684 metric tons CO_{2eqv} per year). To minimize fugitive SF₆ losses, the PEA states that SDG&E would implement a monitoring plan which would include measuring SF₆ in its equipment, identifying and repairing or replacing leaky equipment in a timely fashion, training employees on the effects of SF₆, and including design elements to reduce energy consumption. The PEA also calculates potential CO emissions during operation and maintenance of the ECO Substation switchyards. Our preliminary independent analysis of potential CO emissions based on the information provided in the PEA Project Description and using current emission factors (using the EMFAC program which is based on federal emission factors described in 40 CFR 86 and 40 CFR 89.112 [see Section 3.10 for further explanation]) indicates that CO emissions would be approximately 37.04 lb/day; therefore, the anticipated emissions would be well below the SDAPCD threshold, and therefore a minor impact. No additional potential air quality impacts have been identified and no additional mitigation measures are indicated.

4.1.11 Water Resources

Potential impacts to water resources associated with construction and operation of the ECO Substation switchyards and SWPL loop-in are addressed in Section 4.8 of the ECO Substation

PEA and in Section 2.12.2, beginning on page 2-128, of the Sunrise Powerlink RDEIR/SDEIS. Associated mitigation measures are described in Appendix 12, page Ap.12-104 of the Sunrise Powerlink RDEIR/SDEIS. Potential impacts addressed in these analyses include:

- Depletion of local water supplies due to water required for dust suppression (PEA only).
- Degradation of water quality due to erosion and sedimentation during construction activity or substantial changes to the existing drainage of the site.
- Degradation of water quality due to accidental spills of potentially hazardous materials.
- Degradation of water quality due to accidental releases of contaminants during operation of the substation.
- Creation of new impervious surface areas.
- Alteration of existing drainage patterns.

The ECO Substation switchyards would permanently fill three, small desert swales (total of approximately 0.5 acre [0.2 ha]) that could potentially fall under the jurisdiction of the USACE, the RWQCB, and/or the CDFG. As described in the PEA, potential impacts to these drainages would be reduced to minor levels by obtaining permits from the appropriate regulatory agency and complying with applicable compensation requirements specified by the agency. Similar to the ESJ U.S. Transmission Line project, the ECO Substation switchyards and SWPL loop-in would not be located within the boundaries of a designated groundwater basin as defined by DWR. Further, the ECO Substation switchyards and SWPL loop-in would not be located within any FEMA-designated 100-year or 500-year floodplains. According to the PEA, construction activities associated with the ECO Substation switchyards and SWPL loop-in would require approximately 92 acre-feet (115,000 cubic meters) of water for dust control for the duration of construction activity; water would be provided by either a well installed at the ECO Substation switchyard site or purchased from the City of El Centro or the Imperial Irrigation District. The PEA concludes that water use during construction would result in minor impacts to local water supply. An independent analysis of proposed water use and the recharge rate of the Jacumba Valley Groundwater Basin (approximately 2,700 acre-feet per year [3.3 million cubic meters per year], as discussed in Section 3.11 [Water Resources]) confirms that if this volume of water is obtained from local groundwater sources, this use would result in minor and short-term impacts to the area's groundwater resources. Based on an independent review of this analysis, impacts with regard to local water supplies are considered minor.

Both the PEA and RDEIR/SDEIS state that the implementation of APMs (PEA) and recommended mitigation measures (RDEIR/SDEIS), including compliance with NPDES regulations, and proper disposal and cleanup of hazardous materials would ensure that any potential water quality impacts resulting from construction and operation activities would be minimal. Both documents address the creation of new impervious surfaces which could reduce groundwater recharge rates and affect stormwater drainage onsite. According to the PEA, construction of the ECO Substation switchyards would require substantial grading and the installation of an approximately 62-acre (25-ha) concrete building pad which would alter the natural drainage pattern of the proposed site and potentially reduce groundwater recharge; however, a drainage plan would be developed as part of the project and swales would be

installed to control stormwater (such controls are also recommended as mitigation measures in the RDEIR/SDEIS). The RDEIR/SDEIS and the PEA conclude that impacts to stormwater drainage and associated erosion would be minimal. Based on an independent review of these analyses, impacts to surface water resources are considered minor. No additional potential impacts to water resources have been identified and no additional mitigation measures are indicated.

4.1.12 Geology and Soils

Potential impacts to geology and soils associated with construction and operation of the ECO Substation switchyards and SWPL loop-in are addressed in Section 4.6 of the ECO Substation PEA and in Section 2.13.2, beginning on page 2-142, of the Sunrise Powerlink RDEIR/SDEIS. Associated mitigation measures as proposed in the Sunrise Powerlink RDEIR/SDEIS are described in Appendix 12, at page Ap.12-112. Potential impacts addressed in these analyses include:

- Triggering or accelerating erosion due to construction activity.
- Exposure of people and/or structures to adverse effects as a result of problematic soils, slope instability, or significant groundshaking.

Similar to the ESJ U.S. Transmission Line project, the ECO Substation switchyards and SWPL loop-in would be located on flat to gently sloping terrain. Geological mapping of the area indicates that the central portion of the ECO Substation switchyard site is crossed by two buried inactive faults (Brooks and Roberts 2003). Although these faults are relatively short and are not expected to generate large, significantly damaging earthquakes, fault rupture can occur along their traces as a result of stress or from sympathetic movement related to large earthquakes on the distant Elsinore Fault.

Soil types and soil hazards would be as described in Section 3.12 (Geology and Soils) of the EIS. Both the RDEIR/SDEIS and PEA also discuss the potential for soil erosion resulting from construction activities and conclude that impacts would be minor with the implementation of APMs (PEA) and recommended mitigation measures (RDEIR/SDEIS) including an Erosion Control and Sedimentation Plan, Stormwater Pollution Prevention Plan and associated best management practices. In addition, both documents conclude that with the implementation of APMs and recommended mitigation measures, including implementation of recommendations from a project-specific geotechnical report, impacts associated with exposing people and/or structures to adverse effects as a result of problematic soils or slope instability would be minor. Further, although the PEA notes that two inactive faults cross the proposed ECO Substation switchyard site, as discussed in Section 4.8 (Public Health and Safety), structures would be designed to withstand significant groundshaking; therefore, with the incorporation of standard engineering practices, both documents conclude that impacts would be minor. Based on an independent review of these analyses, with the implementation of the recommended measures, potential impacts with regard to geology and soils are considered minor. No additional potential impacts have been identified and no additional mitigation measures are indicated.

4.1.13 Socioeconomics

Potential impacts to socioeconomics associated with construction and operation of the ECO Substation switchyards and SWPL loop-in are addressed in Section 4.11 of the ECO Substation PEA and in Section 2.14.2, beginning on page 2-150, of the Sunrise Powerlink RDEIR/SDEIS. Potential impacts addressed in these analyses include:

- Housing requirements in excess of the local housing supply. (PEA only).
- Increases in local population. (PEA only).
- Changes in revenue for businesses, tribes, or governments due to the presence of the transmission line (RDEIR/SDEIS only).
- Property tax revenues and/or fees (RDEIR/SDEIS only).
- Property values (RDEIR/SDEIS only).

Similar to the ESJ U.S. Transmission Line project, the PEA states that construction personnel associated with the ECO Substation switchyards and SWPL loop-in would be drawn from the local region (about 35 workers would be required during peak construction) and no additional employees would be required for operation of the Substation. Therefore, the PEA concludes that the majority of construction workers associated with the ECO Substation switchyards would be expected to commute to the site and no temporary increases in local population or demand for local housing are expected. Once operational, the PEA notes that the majority of operational activities would be unmanned and no permanent jobs would be created; therefore, the PEA concludes that operation of the ECO Substation switchyards would not result in permanent impacts to population or housing supply. Based on an independent review of these analyses, no impacts with regard to population and housing would result from construction or operation of the ECO Substation switchyards or SWPL loop-in.

The RDEIR/SDEIS addresses the potential economic impacts of the ECO Substation switchyards, including county revenue and property value. The analysis provided indicates that property taxes at the ECO Substation switchyard site would increase as a result of the construction and operation of the ECO Substation switchyards, which would generate additional county revenue. In addition, employment of construction personnel would be beneficial to local businesses through increased expenditure of wages for goods and services, including local hotel rooms, food, and beverages. Therefore, the RDEIR/SDEIS concludes that similar to the ESJ U.S. Transmission Line project, construction of the ECO Substation switchyards would result in minor beneficial impacts with regard to increased government revenue and spending at local businesses. With regard to property value, the Sunrise Powerlink RDEIR/SDEIS indicates that, similar to the ESJ U.S. Transmission Line project, the presence of the connected actions may incrementally reduce property values; however, such effects would be very small and diminish over time. Therefore, the Sunrise Powerlink RDEIR/SDEIS concludes that any potential impacts would be less than significant. Based on an independent review of this analysis, potential economic impacts of the connected actions are considered minor. No additional potential impacts related to socioeconomics have been identified and no additional mitigation measures are indicated.

4.1.14 Environmental Justice

Potential impacts associated with construction and operation of the ECO Substation switchyards and SWPL loop-in, and related to environmental justice, are addressed in Section F.1.2.4 of the Sunrise Powerlink RDEIR/SDEIS, starting at page F-17. The ECO Substation PEA does not address potential impacts related to environmental justice. Environmental justice is the consideration of any identified impacts that would result in disproportionately high or adverse impacts to minority or low-income populations.

Similar to the ESJ U.S. Transmission Line project, the ECO Substation switchyards would be located on undeveloped, private land. The nearest residence is a single mobile home located approximately 0.4 mile (0.64 km) north. As described in Section 3.14 (Environmental Justice), a total of two census block groups are located within 0.5 mile (0.8 km) of the proposed ECO Substation switchyard site. One of the groups is classified as medium-minority, medium-income and other is classified as low-minority, high-income. Since neither block group is classified as high minority or low income, no disproportionately high or adverse impacts to minority or low-income populations would occur. No mitigation measures are indicated.

4.1.15 Services and Utilities

Potential services and utilities impacts associated with construction and operation of the ECO Substation switchyards and SWPL loop-in are addressed in Section 4.12 and 4.15 of the ECO Substation PEA and in Section 2.14.2, beginning on page 2-148, of the Sunrise Powerlink RDEIR/SDEIS. Potential impacts addressed in these analyses include:

- Increased need for public services and utilities in the project area.
- Disruption of existing utility systems due to collocation accidents.

Since the ECO Substation switchyards and SWPL loop-in would be located in the same general area as the ESJ U.S. Transmission Line project, the existing setting for public services and utilities is the same as described in Section 3.15 (Services and Utilities). As discussed in the PEA, construction and operation of the ECO Substation switchyards and SWPL loop-in would not generate wastewater and would generate minimal amounts of solid waste. In addition, construction and operation of the ECO Substation switchyards or SWPL loop-in would not result in any temporary or permanent increases in local populations. Therefore, the RDEIR/SDEIS and the PEA conclude that construction and operation of the ECO Substation switchyards or SWPL loop-in would not result in an increased demand on public services (e.g., law enforcement, schools, or hospitals) and utilities. Although no major impacts to public services are identified, mitigation measures are recommended in the RDEIR/SDEIS to ensure maximum recycling activities would occur. In addition, given the remote location of the ECO Substation switchyards and SWPL loop-in, both the PEA and RDEIR/SDEIS conclude that disruptions to existing utility systems are unlikely and no APMs or mitigation measures are recommended. Based on an independent review of these analyses, impacts to utilities and services during construction and operation of the ECO Substation switchyards and SWPL loop-in are considered minor; however, similar to the ESJ U.S. project, security of the ECO Substation switchyards and SWPL loop-in construction sites may require additional security measures (see Section 3.15 for more information on these measures). No additional potential impacts have been identified and no additional mitigation measures are indicated.